



STATE MATCH

Delaware Standards

English Language Arts,
Mathematics, and Science
Grades 8–12

and

EXPLORE[®], PLAN[®],
the ACT[®], and
WorkKeys[®]

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About This Report

EXECUTIVE SUMMARY

(pp. 1–5)

This portion summarizes the findings of the alignment between Delaware’s Standards and ACT’s Educational Planning and Assessment System (EPAS®) tests—EXPLORE® (8th and 9th grades), PLAN® (10th grade), and the ACT® (11th and 12th grades)—and ACT’s WorkKeys® assessments (*Reading for Information*, *Applied Mathematics*, and *Locating Information*). It also presents ACT’s involvement in meeting NCLB requirements and includes additional information about the unique programs and services ACT can provide to Delaware.

SECTION A

(pp. 7–10)

This section provides tables by content area (English Language Arts, Mathematics, and Science), listing the precise number of Delaware Standards measured by ACT’s EPAS tests and/or WorkKeys assessments by grade level.

SECTION B

(pp. 11–88)

All Delaware Standards are listed here; each one highlighted is measured by ACT’s EPAS tests and/or WorkKeys assessments. Underlined science content indicates that the content topics are included in, but not directly measured by, ACT’s EPAS Science tests. Delaware standards listed here are from the Delaware Standards as presented on the Delaware Department of Education website in October 2010:

Delaware Standards	Publication Date
English Language Arts	January 2010
Mathematics	April 2010
Science	2006

SECTION C

(pp. 89–100)

ACT’s College Readiness Standards™ appear here. Highlighting indicates that a statement reflects one or more statements in the Delaware Standards. College Readiness Standards not highlighted are not addressed in the Delaware Standards.



SECTION D
(pp. 101–102)

WorkKeys skills appear here. Highlighting indicates that a statement reflects one or more statements in the Delaware Standards. Skills not highlighted are not addressed in the Delaware Standards.

A supplement that identifies the specific ACT College Readiness Standard(s) and WorkKeys Skill(s) corresponding to each Delaware Grade-Level Expectation in a side-by-side format is available at www.act.org/education/statematch.



Executive Summary

We at ACT believe our programs offer many advantages to Delaware students and educators, and this report offers strong evidence for this belief. This alignment analysis clearly answers four critical questions:

1. To what extent do ACT's Educational Planning and Assessment System (EPAS®) tests—EXPLORE® (8th and 9th grades), PLAN® (10th grade), and the ACT® (11th and 12th grades)—and ACT's WorkKeys® assessments (*Reading for Information*, *Applied Mathematics*, and *Locating Information*) measure Delaware's Standards?
2. Can the results from ACT's testing programs be used to meet Delaware's NCLB requirement?
3. Why should Delaware choose EPAS?
4. Why choose to include WorkKeys assessments?

ACT'S TESTS MEASURE
MANY IMPORTANT
DELAWARE
STANDARDS IN
ENGLISH LANGUAGE
ARTS, MATHEMATICS,
AND SCIENCE.

1. Match Results: Comparisons conducted by our content specialists show that ACT's English, Reading, Writing, Mathematics, and Science tests and WorkKeys *Reading for Information* and *Applied Mathematics* assessments measure many important Delaware English Language Arts, Mathematics, and Science Standards. The WorkKeys *Locating Information* assessment measures those skills contained in Delaware's Science Standards that are associated with a student's ability to interpret and analyze graphic material.

- English Language Arts Grade 8: 3 out of 4 Standards
High School: 3 out of 4 Standards

Many important Delaware English Language Arts Standards in Written Communication and Reading are covered by ACT's English, Reading, and Writing tests and WorkKeys *Reading for Information* (RI) assessment, particularly at grades 11 and 12.

- Mathematics Grade 8: 8 out of 8 Standards
High School: 8 out of 8 Standards

Most Delaware Mathematics Standards are covered by ACT's Mathematics tests and WorkKeys *Applied Mathematics* (AM) assessment.

- Science: Process Standards: 1 out of 1
(Content Standards: 7 out of 7)

All Delaware Science Standards are covered by ACT's Science tests and WorkKeys *Locating Information* (LI) assessment.

(A note about science content: ACT's Science tests present content from biology, chemistry, physics, and Earth/space sciences. Although content knowledge in these content areas is needed to answer some of the test questions, the test questions emphasize scientific reasoning and are based in experimental science contexts. Factual content knowledge, although needed to answer some of the test questions, is not systematically sampled from the full content knowledge domain. Therefore, each ACT Science Test covers some, but not all, of the discrete science content knowledge specifically described in the Delaware Science Standards.



To emphasize the point that content is included, but not necessarily covered in its entirety on every test form, science content match results appear in parentheses in Section A of this document (which describes the number of Delaware standards measured by ACT's tests), and are underlined rather than highlighted in Section B. Our goal here is to clearly communicate that science content will be included, but each specific content topic will not be covered consistently enough for inferences to be made about student proficiency in all areas. The same approach applies to match results for the WorkKeys *Locating Information* test, which measures a student's ability to interpret and analyze graphic material and may present science content in the figures or tables used as the basis for assessing these skills.)

Most exceptions to a match between ACT's tests and the Delaware Standards arise from standards not being assessable in group settings, standards that are personal in nature, and standards requiring measurement over extended time. If additional testing is deemed necessary, ACT would be interested in working with Delaware on developing any necessary augmentation.

2. NCLB requirement? Yes; states such as Illinois and Michigan use ACT's tests as integral components of their statewide academic assessment systems under NCLB for Grade 11 students and submit evidence of compliance with NCLB to the U.S. Department of Education (ED) for approval. Through the peer review process, the ED determines whether such evidence demonstrates that a given state's assessment system meets NCLB requirements. The more closely a state's standards align with its assessments, the more likely it is that the outcome of the NCLB peer review will be favorable. With so much at stake, states must be rigorous both in developing their academic standards and in choosing assessment instruments that will help achieve the common goal of preparing students for life after high school.

3. Why implement EXPLORE, PLAN and the ACT? ACT's EPAS tests provide a longitudinal, systematic approach to educational and career planning, assessment, instructional support, and evaluation. The system focuses on the integrated, higher-order thinking skills students develop in grades K–12 that are important for success both during and after high school.

Unlike many other large-scale assessments of academic ability, EXPLORE, PLAN, and the ACT are first and foremost achievement tests. They are measures whose tasks correspond to recognized high school learning experiences, but which at the same time do not precisely duplicate the high school curriculum. EXPLORE, PLAN, and the ACT measure not an abstract quality, such as intelligence or aptitude, but rather what students are able to do with what they have learned in school.

States and school districts choose the EPAS system because student motivation is high, and EPAS is the *only curriculum-based assessment system that measures student readiness along a continuum of empirically derived college readiness benchmarks*. ACT's College Readiness Standards are precise descriptors of the essential skills and knowledge that students need to become ready for college and career, beginning in grade 8 and continuing through grade 12. Various groups claim to describe what students truly need to know and be able to do for college and/or workplace readiness. Such groups typically ask individual

STATES CHOOSE ACT BECAUSE:

- **STUDENT MOTIVATION IS HIGH.**
- **ACT'S IS THE ONLY CURRICULUM-BASED ASSESSMENT SYSTEM THAT MEASURES STUDENT READINESS ALONG A CONTINUUM OF EMPIRICALLY DERIVED COLLEGE READINESS BENCHMARKS.**
- **EPAS DATA PROVIDE HELPFUL FEEDBACK FOR TEACHERS, STUDENTS, AND POLICYMAKERS TO MAKE EDUCATIONAL DECISIONS AND IDENTIFY WAYS TO IMPROVE.**



experts in education to gather and discuss what they feel is important for students to understand. Not surprisingly, the answers vary. In contrast, ACT defines college readiness through a unique and rigorous empirical process:

ACT BUILDS ITS
DEFINITION OF COLLEGE
READINESS ON A
SOUND EMPIRICAL
BASE:

1. THE ACT NATIONAL CURRICULUM SURVEY
2. ACT'S COLLEGE READINESS BENCHMARK SCORES
3. ACT'S COLLEGE READINESS STANDARDS

- **The knowledge and skills necessary for students to be ready for college-level work are empirically identified via the ACT National Curriculum Survey®.**

ACT surveys thousands of secondary and postsecondary instructors across the nation to determine which skills and knowledge are most important at each course level and for college and work readiness. The responses drive the test specifications for EXPLORE, PLAN, and the ACT.

- **The empirically derived performance levels necessary for students to be ready to succeed in college-level work are defined in ACT's College Readiness Benchmark Scores.**

ACT analyzed thousands of student records to identify the ACT scores associated with success in postsecondary coursework (i.e., a 50% chance of earning a B or better in credit-bearing first-year college courses): 18 for English, 22 for Math, 21 for Reading, and 24 for Science.

- **Skills and knowledge a student currently has and areas for improvement can be identified by the empirically derived ACT College Readiness Standards.**

Using thousands of student records and responses, content and measurement experts at ACT have developed detailed statements that describe what students typically know and are able to do at different levels of test performance. These data-driven, empirically derived score descriptors articulate student achievement within various score ranges on the English, Reading, Writing, Mathematics, and Science tests on EXPLORE, PLAN, and the ACT. These statements provide specific details about students' college readiness and can be used to identify next steps for improvement.

ACT research has shown that, whether planning to enter college or workforce training programs after graduation, high school students need to be educated to a comparable level of readiness in reading and mathematics. Graduates need this level of readiness if they are to succeed in college-level courses without remediation and to enter workforce training programs ready to learn job-specific skills.

Early planning based on sound information is a key factor in helping students reach their academic and career goals. **EXPLORE** provides baseline information on the academic preparation of students that can be used to plan high school coursework. ACT's research has shown that eighth-grade academic achievement is the best predictor of college and career readiness by high school graduation. Further, improvement in eighth-grade academic achievement and being on target for college and career readiness in eighth grade are more beneficial than any high school-level achievement enhancement.



PLAN helps tenth-grade students build a foundation for future academic and career success and provides information needed to address school districts' high-priority issues. It is a comprehensive guidance resource that helps students measure their current academic development, explore career/training options, and make plans for the remaining years of high school and post-graduation years. PLAN provides a midpoint review of students' progress toward their education and career goals while there is still time to make necessary interventions.

The ACT test assesses high school students' general educational development and provides unparalleled information about a student's readiness for entry-level college coursework and ability to make successful transitions to college and work after high school.

Each test in ACT's EPAS system also includes noncognitive measures and surveys that allow students to build relationships between their academic development, their backgrounds, and their plans.

4. Why choose to include WorkKeys assessments? Students can use WorkKeys to help determine the skill levels and education required for various jobs. Educators can use WorkKeys to ensure that students enter the work world with the foundational skills needed in any field they choose.

Further, the WorkKeys scores offer a clear way for students to demonstrate their knowledge and skills to prospective employers. WorkKeys is at the center of the nationwide Career Readiness System that links qualified individuals with employers who recognize the value of skilled job applicants. ACT's National Career Readiness Certificate (NCRC) ensures that an individual has certain foundational skills that are important across a range of positions. The NCRC is a portable credential that employees can use anywhere in the nation. Individuals seeking employment gain a competitive edge with an NCRC because they are able to provide prospective employers with clear evidence that their knowledge and skills align with the requirements of the job they are applying for. The NCRC offers job seekers, employers, and educators an easily understood, conveniently attained, and universally valued credential.

The NCRC, composed of three WorkKeys assessments (*Reading for Information*, *Applied Mathematics*, and *Locating Information*) measures skills critical to on-the-job success. Higher scores qualify students for more jobs than do lower scores. New Jersey, Virginia, Louisiana, Kentucky, North Carolina, and New Mexico have already initiated certificate programs, and many other states are in the process of developing similar programs.

If the goal of high school education is to prepare students for college and career readiness, then we should be educating all high school students according to a common academic expectation, one that prepares them for both postsecondary education and the workforce. Only then—whether they are among the two-thirds who enter college directly after graduation or those who enter workforce training programs—will they be ready for life after high school.



ACT's EPAS system and WorkKeys would not only provide important information regarding students' academic achievement relative to the Delaware Standards, but EPAS offers what no other testing program can: an empirically based, time-honored measure of college and career readiness that can help Delaware students reach their educational and career goals and help provide Delaware High Schools with the information they need to prepare their students for college and career.



**Section A: Number of Delaware Standards
Measured by EXPLORE, PLAN, the ACT, and WorkKeys**

**Table A-1. Number of Delaware English Language Arts Standards
Measured by EXPLORE, PLAN, the ACT, and WorkKeys**

Delaware Standards*	Number of Delaware GLEs Measured by ACT's tests	Aspects of Delaware Standards that are Not Measured
Standard 1: Written and Oral Communication	Grade 8: 24 out of 88 Grade 9: 24 out of 88 Grade 10: 27 out of 92 Grade 11: 35 out of 95 Grade 12: 35 out of 96	Students self-select appropriate forms and/or respond to assignments for a variety of occasions Orally communicate information, opinions, and ideas Comprehend oral communications Develop vocabulary as a means of improving communication Participate effectively in a discussion
Standard 2: Reading	Grade 8: 36 out of 98 Grade 9: 37 out of 99 Grade 10: 37 out of 99 Grade 11: 71 out of 99 Grade 12: 72 out of 99	Read orally with accuracy and prosody Evaluate the literary merit of various texts
Standard 3: Research	Grade 8: 0 out of 45 Grade 9: 0 out of 45 Grade 10: 0 out of 44 Grade 11: 9 out of 46 Grade 12: 9 out of 46	Identify and locate a variety of sources Use technology to synthesize information into a meaningful format Present information to achieve a specific purpose, avoiding plagiarism
Standard 4: Reading—Literary	Grade 8: 14 out of 32 Grade 9: 13 out of 36 Grade 10: 13 out of 38 Grade 11: 18 out of 41 Grade 12: 17 out of 42	Connect own experiences to those of literary characters Understand the differences between genres Respond to literary texts and media representing the diversity of American cultural heritage Use literature as a resource for shaping decisions Understand social and political issues
TOTALS 3 out of 4 Standards	Grade 8: 74 out of 263 Grade 9: 74 out of 268 Grade 10: 77 out of 273 Grade 11: 133 out of 281 Grade 12: 133 out of 283	

*Refer to Delaware's English Language Arts Standards on pages 11–59



Table A-2. Number of Delaware Mathematics Standards Measured by EXPLORE, PLAN, the ACT, and WorkKeys

Delaware Standards*	Number of Delaware GLEs Measured by ACT's tests	Aspects of Delaware Standards that are Not Measured
Standard 1: Numeric Reasoning	Grade 8: 10 out of 11 Grade 9: 8 out of 8 Grade 10: 5 out of 5 Grade 11: 7 out of 7 Grade 12: 3 out of 3	Use meaningful relationships between addition, subtraction, multiplication, and division of integers to justify the rules of operations
Standard 2: Algebraic Reasoning	Grade 8: 13 out of 15 Grade 9: 14 out of 17 Grade 10: 11 out of 11 Grade 11: 12 out of 12 Grade 12: 6 out of 6	Demonstrate the equivalence of two algebraic expressions using physical models Use physical models to develop and write exponential and power models Demonstrate and apply recursive thinking to classify linear and exponential functions Analyze data sets using technology to find an appropriate linear or exponential mathematical model
Standard 3: Geometric Reasoning	Grade 8: 7 out of 8 Grade 9: 5 out of 6 Grade 10: 12 out of 15 Grade 11: 7 out of 8 Grade 12: 5 out of 5	Develop and evaluate mathematical arguments to demonstrate geometric relationships such as similarity, congruence, or symmetry Classify 3-dimensional figures according to the shapes of their base(s) and faces Develop the conceptual understanding of a radian
Standard 4: Quantitative Reasoning	Grade 8: 8 out of 11 Grade 9: 7 out of 8 Grade 10: 3 out of 4 Grade 11: 6 out of 7 Grade 12: 5 out of 6	Describe and explain how the validity of predictions are affected by number of trials, sample size, and the population Interpret least squares regression line as the line that minimizes the sum of the squared errors
Standard 5: Problem Solving	Grade 8: 3 out of 4 Grade 9: 3 out of 4 Grade 10: 3 out of 4 Grade 11: 3 out of 4 Grade 12: 3 out of 4	Build new mathematical knowledge
Standard 6: Reasoning and Proof	Grade 8: 4 out of 4 Grade 9: 4 out of 4 Grade 10: 4 out of 4 Grade 11: 4 out of 4 Grade 12: 4 out of 4	



Table A-2. Number of Delaware Mathematics Standards Measured by EXPLORE, PLAN, the ACT, and WorkKeys

Delaware Standards*	Number of Delaware GLEs Measured by ACT's tests	Aspects of Delaware Standards that are Not Measured
Standard 7: Communication	Grade 8: 2 out of 4 Grade 9: 2 out of 4 Grade 10: 2 out of 4 Grade 11: 2 out of 4 Grade 12: 2 out of 4	Organize and consolidate their mathematical thinking through communication Communicate mathematical thinking coherently and clearly to peers, teachers, and others
Standard 8: Connections	Grade 8: 2 out of 3 Grade 9: 2 out of 3 Grade 10: 2 out of 3 Grade 11: 2 out of 3 Grade 12: 2 out of 3	Understand how mathematical ideas interconnect and build on one another to produce a coherent whole
TOTALS 8 out of 8 Standards	Grade 8: 49 out of 60 Grade 9: 45 out of 54 Grade 10: 42 out of 50 Grade 11: 43 out of 49 Grade 12: 30 out of 35	

*Refer to Delaware's Mathematics Standards on pages 60–68



Table A-3. Number of Delaware Science Standards Measured by EXPLORE, PLAN, the ACT, and WorkKeys

Delaware Standards*	Number of Delaware GLEs Measured by ACT's tests	Aspects of Delaware Standards that are Not Measured
Standard 1: Nature and Application of Science and Technology	Grade 8: 6 out of 6 Grade 9: 6 out of 6 Grade 10: 6 out of 6 Grade 11: 6 out of 6 Grade 12: 6 out of 6	
TOTALS 1 out of 1 Process Standards	Grade 8: 6 out of 6 Grade 9: 6 out of 6 Grade 10: 6 out of 6 Grade 11: 6 out of 6 Grade 12: 6 out of 6	
Standard 2: Materials and Their Properties	Grade 8: (3) out of (3) Grade 9: (31) out of (31) Grade 11: (25) out of (25)	
Standard 3: Energy and Its Effects	Grade 8: (38) out of (38) Grade 9: (37) out of (37) Grade 11: (53) out of (53) Grade 12: (5) out of (5)	
Standard 4: Earth in Space	Grade 8: (12) out of (12) Grade 9: (2) out of (2) Grade 12: (12) out of (12)	
Standard 5: Earth's Dynamic Systems	Grade 8: (16) out of (16) Grade 9: (18) out of (19)	Explain how data from Global Positioning Systems can be used to predict and determine the direction and rate of movement of Earth's plates and sea floor spreading
Standard 6: Life Processes	Grade 8: (2) out of (2) Grade 10: (35) out of (35)	
Standard 7: Diversity and Continuity of Living Things	Grade 8: (10) out of (10) Grade 10: (37) out of (37)	
Standard 8: Ecology	Grade 8: (11) out of (11) Grade 12: (27) out of (27)	
TOTALS 7 out of 7 Content Standards	Grade 8: (92) out of (92) Grade 9: (88) out of (89) Grade 10: (72) out of (72) Grade 11: (78) out of (78) Grade 12: (44) out of (44)	

*Refer to Delaware's Science Standards on pages 69–88



Section B: Delaware's Grades 8–12 Standards Measured by EXPLORE, PLAN, the ACT, and WorkKeys

English Language Arts

DELAWARE Grade 8 English Language Arts Standards and Grade-Level Expectations

Standard 1: Use written and oral English appropriate for various purposes and audiences.

WRITTEN COMMUNICATION

1.1. Writers will produce texts that exhibit the following text features, all of which are consistent with the genre and purpose of the writing: development, organization, style, and word choice.

1.2. Writers will produce texts that exhibit the following language conventions at all grade levels: sentence formation, conventions.

1.3. Writers will produce examples that illustrate the following discourse classifications: by the completion of the grade, writers will be able to write persuasive, informative, and expressive pieces.

Purpose

- Students understand that persuasive writing is audience-centered; the needs of the intended audience are the most important consideration. Students understand that persuasive writing involves taking a position on a debatable issue to convince an audience.
- Students understand that informative writing is subject-centered; the need to communicate information clearly so that the audience can understand the content/subject is the most important consideration.
- Students understand that expressive writing is author-centered; the most important consideration is the writer's intent to tell a story or make meaning of an experience (reflection, self-discovery), to achieve personal goals, or to create literary pieces.

Audience

- Students understand that writing has an intended audience. In order to meet the needs of that audience, students
 - write in a manner that demonstrates an awareness of the audience (e.g., prior knowledge, motivation)
 - communicate necessary background information and/or definitions
 - acknowledge reader's positions or beliefs about ideas or issues and understand implication for the writer
 - write to audiences that can be increasingly distant (e.g., unknown but familiar personalities/roles such as local politicians, in addition to more familiar "others" from previous grades)

Form

- Students self-select appropriate forms and/or respond to assignments for a variety of occasions. Appropriate forms include but are not limited to the following:

Persuasive

Letters to appropriate individuals/organizations (e.g., editor, boards, business, personnel)

Persuasive essay

Advertisements

Editorials

Reviews

Proposals

Informative

Letters to appropriate individuals/organizations (e.g., editor, boards, businesses, personnel)

Summaries

Reports (e.g., book report, research reports)

Essays

Articles (e.g., newspaper article, magazine)

Messages/memos and notices

Biography and autobiography

Reviews

Proposals

Expressive

Stories

Journals

Poems

Memoirs

Personal essays

Development

Persuasive Writing

- Present a clear defensible position that supports or opposes a debatable issue or question
- Support the position with reasons that could include relevant facts, statistics, credible personal and expert opinions, examples, and/or insightful commentary
- Acknowledge and evaluate readers' anticipated position(s) on the issue and/or anticipated opposition (e.g., acknowledge alternative view points, propose solutions, make concessions)
- Choose an original (e.g., beyond the obvious) and effective title, when appropriate
- Use rhetorical devices (e.g., rhetorical question, repetition, direct address) when appropriate
- Avoid unsupported reasons (e.g., begging, "it's not fair," circular reasoning, partial truths, jumping to conclusions, jargon, faulty cause/effect statements)
- Use persuasive and propaganda techniques (e.g. appeal to emotion, name calling, exaggeration/hyperbole, bandwagon, transfer, testimonial) when appropriate
- Identify and use primary and secondary sources when appropriate, avoiding plagiarism

- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer’s depth of understanding of the issue

Informative Writing

- Select an interesting, yet manageable, subject for writing or one that meets the requirements of the assignment
- Write an effective title, when appropriate
- **Provide relevant information, reasons, and/or details to elaborate or clarify the subject** (e.g., personal opinion based on experience/observation, verifiable facts, examples, explanations, definitions)
- Analyze and use information from multiple primary and secondary sources to support theses and to generate new ideas and/or perspectives, avoiding plagiarism
- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer’s depth of understanding of the topic

Expressive Writing

- Develop increasingly more abstract and interesting ideas for writing that are fresh and original
- Create a title that reflects the subject and engages the reader
- **Use dialogue, description, and narration when appropriate**
- **Use vivid sensory images** (e.g., feelings, sight, smell) and figurative language (e.g., metaphor, simile) **to elaborate details that will convey feelings and/or illustrate events and characters**
- Use rhetorical devices (e.g., rhetorical question, repetition, direct address) when appropriate
- Use strategies such as humor, non-literal language (e.g., idioms, puns, double-meanings) to engage the reader
- Text-based writing: use text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer’s depth of understanding of the topic

Organization

Persuasive Writing

- **Present reasons in a logical order** (weakest to strongest argument, strongest to weakest argument)
- **Organize writing** by selecting text structures that strengthen the argument
- **Develop an introduction** that presents a simple thesis and
 - takes a clear position
 - clarifies the issue in a way that clearly
 - establishes a need for solution/action
 - provides necessary background
 - commands readers’ attention (e.g., invokes or appeals to reader) when appropriate
- **Use subtle transition words/phrases that show increasingly more abstract relationships and make connections**

- **Develop a conclusion** that moves beyond summary (e.g., “call to action” or “next step”, answers the “so what?” question about the significance of the issue, raises related issues or consequence of non-action)

Informative Writing

- **Present information in a logical order** (e.g., most important to least important information, general to specific)
- **Organize writing** by selecting text structures that clarify or explain the subject
- **Develop an introduction/hook** that presents a thesis that goes beyond the obvious and provides necessary background
- **Use subtle transition words/phrases that show increasingly more abstract relationships and make connections**
- **Develop a conclusion** that moves beyond summary (e.g., reinforcing the importance of the information, raising related issues)

Expressive Writing

- **Organize writing to engage the reader** using a variety of forms and genres
- **Use paragraphs to transition between ideas and control and enhance message**
- **Develop an introduction** that hooks the reader and establishes the mood
- **Use transition words/phrases that show increasingly more complex relationships and make connections**
- Use order other than chronological (e.g., flashback, foreshadow, flash-forward)
- **Develop a conclusion** that moves beyond summary (e.g., provide resolution/closure, pose purposeful questions to the reader to keep the reader thinking)

Sentence Structure (& Style/Voice)

- In order to capture the audience’s attention and establish a distinctive style, tone, and voice:
 - **use complete sentences to express thoughts**
 - vary sentence structure (e.g., simple, compound, complex, compound-complex sentences)
 - vary kinds of sentences (declarative, explanatory, interrogative, imperative)
 - vary sentence lengths
 - vary sentence beginnings (experiment with placement of phrases and clauses in sentences)
 - write sentences that create purpose-specific rhythm and flow naturally

Word Choice (& Style/Voice)

- **Use vivid and precise words with the audience’s needs and writer’s purpose, style and voice in mind.** The writer will:
 - **use more specific, concrete language, and phrasing**
 - use adjectives and adverbs to describe, illustrate, and modify (clarify meaning)
 - use action verbs when possible

- use words that convey appropriate voice (e.g., attitude, emotion, point of view, commitment)
- use a variety of accurate words and phrases that avoid repetition
- use a purposeful range of formal/informal language depending on the audience
- use non-literal language (e.g., idioms, slang, figurative language, pun, dialect)
- use words that have denotations or connotations appropriate for the writing purpose
- use words that create appropriate mood for the writing occasion

Conventions (& Style/Voice)

- Use Standard Written English conventions (and when appropriate, variations thereof) to achieve purpose and create effective style and voice. Deviations from SWE (e.g., dialect, slang) should have a specific rhetorical function
- Use standard punctuation (commas, colons, hyphens, dashes, and italics) correctly
- In addition to using standard punctuation students will
 - use punctuation to show increasingly abstract relationships (e.g., comma for clarity such as to set off phrases, clauses, colon for lists, parentheses, appositives, semicolon)
 - use punctuation for rhetorical effect (e.g., dash)
- In addition to standard grammar and usage rules,
 - control agreement of subject/verb, pronoun/antecedent
 - control verb and pronoun use (e.g., consistency with verb tense, number, pronoun gender)
- Use conventional spellings with
 - commonly misspelled words
 - homophones, homographs, homonyms
 - frequently used words

ORAL COMMUNICATION

- 1.4.** Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes.
- Choose words and use voice appropriate to audience and purpose (e.g., inform, persuade, entertain)
 - Speak and listen for a variety of audiences (e.g., classroom, real-life) and purposes (e.g., awareness, enjoyment, information, problem solving)
 - Identify and discuss criteria for effective oral presentations (e.g., eye contact, projection, tone, volume, rate, articulation)
 - Use visual techniques appropriately
 - Share brief impromptu remarks about topics of interest to oneself and others
 - Speaking from notes or an outline, relate an experience in descriptive detail, with a sense of timing and etiquette appropriate to the occasion
 - Perform expressive oral readings of prose, poetry, and drama
 - Prepare and conduct interviews

- Present a coherent, comprehensive report on differing viewpoints on an issue, evaluating the content of the material presented, and organizing the presentation in a manner appropriate to the audience
- Differentiate between formal and informal contexts and employ an appropriate style of speaking, adjusting language, gestures, rate, and volume according to audience and purpose

1.5. Listen to and comprehend oral communications.

- Follow basic directions
- Listen attentively by making eye contact, facing the speaker, asking questions, and paraphrasing what is said and organizing for clarity
- Ask and respond to questions from teachers and other group members
- Summarize and explain information conveyed in an oral communication accounting for key ideas, structure, and relationship of parts to the whole
- Distinguish among purposes for listening (e.g., gaining information, being entertained) and take notes as appropriate
- Recall significant details and sequence accurately
- Follow a speaker's argument and represent it in notes
- Evaluate the reliability of information in oral communication using criteria based on
 - the topic
 - the context
 - analysis of logic, evidence, propaganda devices (e.g., bandwagon, double speak, name-calling)
 - style

1.6. Develop vocabulary and the ability to use words, phrases, idioms, and various grammatical structures as a means of improving communication.

- Use words that reflect a growing range of interests and knowledge
- Clarify and explain words and ideas
- Give and follow oral directions
- Use complex sentence structure
- Use appropriate noun/verb agreement, verb tense, pronouns, prefixes and suffixes
- Consult dictionaries, thesauruses, and other resources to find and compare definitions, choose among synonyms, and spell words correctly
- Use knowledge of roots, prefixes, and suffixes to interpret and convey the meaning of words
- Identify common figures of speech and use them appropriately in oral communication
- Identify common figures of speech (e.g., similes, metaphors, personification) and describe how writers use them to achieve specific effects
- Use punctuation marks that distinguish statements, questions, exclamations, and commands

1.7. Participate effectively in a discussion.

- Initiate conversation with peers and adults

- Follow rules for conversation
- Participate in a variety of roles in group discussions (e.g., active listener, contributor, discussion leader)
- Listen attentively, demonstrating respect for the opinion of others
- Respond responsibly and courteously to other's remarks
- Explain opinions by citing evidence and referring to sources
- Evaluate the stated ideas and opinions of others, seeking clarification through questions
- Invite ideas and opinions of others into the discussion
- Accept and use helpful criticism
- Summarize the main points of a discussion orally, and in writing, specifying areas of agreement and disagreement
- Participate in discussion without dominating

Standard 2: Construct, examine, and extend the meaning of literary, informative, and technical texts through listening, reading, and viewing.

2.1. Using appropriate texts, students will be able to select and apply efficient, effective decoding skills and other word recognition strategies to comprehend printed texts.

- Vocabulary: Apply and use the meanings of high frequency Greek and Latin derived roots and affixes to determine the meaning of unknown words (e.g.: bio, derm, anti, graph, tele)
- Fluency: Read orally from familiar text at an appropriate rate, with accuracy and prosody

2.2a. Students will be able to develop an increasingly extensive vocabulary and actively seek the meaning of unknown words as an important facet of comprehending texts and messages by using context clues to determine the meanings of words.

- Use prior knowledge in conjunction with the following strategies to determine the meaning of unknown words by
 - reading and rereading other sentences in the text to identify and use words that help unlock the meaning of unknown words
 - analyzing illustrations to clarify meanings of abstract words and concepts
 - looking for and using context clues provided by synonyms and antonyms
 - using knowledge of homonyms and homographs to avoid reading confusion
 - using word cues (e.g., metaphors, similes)
 - using appositives
 - selecting the correct definition of words that have multiple meanings

2.3a. Students will be able to self-monitor comprehension while reading by (a) generating a purpose for reading.

- Use "During Reading" strategies by
 - assimilating prior knowledge
 - making and revising predictions
 - generating and answering questions
 - summarizing
 - rereading to clarify information

- adjusting reading rate
- inferring information
- using mental imagery
- seeking the meaning of unknown vocabulary
- analyzing story/literary elements and text structure

2.3c. Using appropriate texts, students will be able to self-monitor comprehension while reading by (c) taking appropriate actions (e.g., rereading to make sense, adjusting rate of reading, seeking the meaning of unknown vocabulary) to enhance understanding of oral and written text.

- Use illustrations to construct meaning from text
- Visualize what was read for a deeper understanding
- Make, confirm, adjust predictions
- Reread difficult parts slowly and carefully
- Explain personal connections to the ideas or information in the text(s)
- Skim text to search for connections between and among ideas
- Restate in own words the main events in the text
- Periodically summarize while reading
- Periodically paraphrase important ideas or information
- Use a graphic organizer or other note taking technique to record important ideas or information

2.4a. Students will be able to demonstrate an overall understanding of printed texts by (a) making predictions as needed.

- Predict likely outcomes based on clues in a text, knowledge of text structure, and knowledge of a variety of genres
- Adjust previous predictions based on new information in a text
- Identify logical, additional and/or complementary information (e.g., "next" chapter or section) for a text

2.4b (I/T). Students will be able to demonstrate an overall understanding of technical and informative texts by (b) identifying text features and text structures.

- Apply essential information from text features (e.g., title, author, cover, pictures, captions, maps, chapter headings, information from charts and graphs, illustrations, glossaries, indices) to enhance understanding of text
- Analyze text structures in informative/technical texts (sequence/chronological order, classification, definition, process, description, comparison, problem/solution, simple cause/effect) to make meaning of text
- Analyze the unique features of various informative texts (e.g., newspapers, magazines, product information, consumer materials, manuals, editorials) to enhance understanding of the text

2.4b (L). Students will be able to demonstrate an overall understanding of literary texts by (b) identifying the story elements (e.g., characters, setting, and plot) and story structures (conflict, resolution, cause/effect).

- Identify character(s) in a literary text or speaker(s) in a poem

- Describe the roles (e.g., protagonist/hero, antagonist/villain) characters play in a literary text
- Describe the changes in setting (flashback, foreshadowing)
- Identify various types of conflict (man vs. man, man vs. nature, man vs. self, man vs. society)
- Identify conflict(s), climax(s)/turning point(s) and resolution(s)
- Identify significant details related to the plot to analyze the pattern of organization (compare/contrast, problem/solution, sequence, cause/effect)
- Distinguish between main plot and multiple subplots
- Identify point of view (first person, third person limited, third person objective, omniscient)

2.4c. Students will be able to demonstrate an overall understanding of printed texts by (c) recognizing and interpreting figurative language and literary devices (e.g., simile, metaphor, allusion) and (e) differentiating between literal and non-literal meanings.

- Identify and interpret figurative language and literary devices (e.g., alliteration, repetition, rhythm, dialogue, rhyme, idioms, simile, metaphor, personification, exaggeration or hyperbole, humor, double meanings, puns, symbols, imagery, mood, allusion, puns, and irony)
- Analyze how figurative language and literary devices extend meaning
- Differentiate between literal and non-literal meaning

2.4d. Students will be able to demonstrate an overall understanding of printed texts by (d) retelling a story or restating an informative text through speaking and/or writing.

- Summarize a literary text, identifying the main and supporting characters, events, setting, and problem/solution
- Summarize the strongly implied reasons for why or how events happen in a literary text
- Summarize the main ideas and supporting details in an informative/technical text
- Retell/restate in order the important events in a text
- Restate in order the steps of a task in an informative/technical text

2.4e. Students will be able to demonstrate an overall understanding of printed texts by (e) organizing the important points of the text via summaries, outlines, and/or graphic organizers.

- Create graphic organizers to assist in comprehension of a text
- Use an appropriate organizer based on the structure of the text (e.g., sequence/chronological order, classification, definition, process, description, comparison, problem/solution, cause/effect)
- Create an outline
- Summarize a text capturing the most important parts of the original piece

2.4f. Students will be able to demonstrate an overall understanding of printed texts by (f) identifying the author's purpose.

- Analyze the author's overall purpose(s) for writing (e.g., persuade, entertain, inform, describe, explain how) a text
- Identify the intended messages of advertisements, entertainment programs, and news sources
- Describe how the author's purposes shape the content
- Describe the difference between a stated purpose and an underlying reason in TV commercials and advertisements
- Create meaning from a variety of media

2.4g. Students will be able to demonstrate an overall understanding of printed texts by (g) comparing information between and within texts.

- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, or characters within a single text
- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, purposes, plots, settings, or characters presented in two or more texts
- Analyze subtle changes in characters (e.g., change in attitude, situation)

2.4h. Students will demonstrate an overall understanding of printed texts by (h) discriminating between fact and opinion.

- Discriminate between facts and/or subtle opinions in text(s)
- Identify facts in a text and determine their relevance to the issue
- Identify implied opinions in a text
- Use word clues (believe, feel, think, worst, best, least, most, never, always) to determine that a statement is an opinion
- Question information in a text to determine if it is factual

2.4i. Students will be able to demonstrate an overall understanding of informative and technical printed texts by (i) making inferences.

- Make strongly implied inferences about content and concrete ideas in a text and identify appropriate text support
- Make inferences about author's decisions (e.g., paragraphing, quotations, organization of text, formatting devices, mode of development used)
- Make reasonable predictions as they read
- Test and revise predictions as they read further
- Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
- Make connections between conclusions they draw and other beliefs or knowledge
- Make critical or analytical judgments about what they read
- Use texts to make generalizations
- Create self-motivated interpretations of text that are adapted as they continue to read and after they read

2.4j. Students will be able to demonstrate an overall understanding of printed texts by (j) accepting or rejecting the validity of the information and giving supporting evidence.

- Use criteria to evaluate the validity and reliability of primary and secondary source information
- Use criteria to evaluate author's credibility in order to determine validity and reliability of a source
- Use criteria to evaluate author's perspective in order to determine validity and reliability of a source
- Use date of publication to evaluate the validity and reliability of a source
- Use criteria to evaluate the author's use of
 - logic
 - propaganda
 - bias
 - language
 - motivesin order to determine validity and reliability of a source

2.4k/2.6b. Students will be able to demonstrate an overall understanding of printed texts by (k) relating the content of the text to real-life situations and (b) applying information from printed, electronic, and oral texts to complete authentic tasks.

- Draw on prior knowledge and experience to connect personally to text (text-to-self connections)
- Draw on prior knowledge of the world (other books, television, movies) to make text-to-world connections
- Analyze how connections (text-to-self, text-to-world) are contributing to their understanding of the text
- Employ reading strategies (e.g., skimming, scanning) to locate and apply information in varied print and non-print (e.g., computers, electronic media, interviews) sources for inquiry projects and other authentic tasks

2.5a. Students will be able to critically analyze and evaluate information and messages presented through print by (a) connecting and synthesizing information from many sources.

- Connect and synthesize information from many sources to generate new information/new ideas or expand prior knowledge (text-to-text and text-to-self connections)
- Synthesize information by comparing, eliminating and merging disparate pieces into one coherent whole

2.5b. Students will be able to critically analyze and evaluate information and messages presented through print by (b) formulating and expressing opinions.

- Synthesize experience and knowledge of the world (text-to-world connections) to make, support and apply judgments (that may not be dichotomous) about issues in:
 - literary text (e.g., character's actions, morals of narratives or poems)
 - nonfiction
- Use information in a text to develop a logical opinion

2.5d. Students will be able to critically analyze and evaluate information and messages presented through print using

critical and divergent thinking, and assimilating prior knowledge to draw conclusions.

- Use prior knowledge of a concept along with information in a text to:
 - draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - evaluate the author's viewpoint or attitude toward a topic or idea when strongly implied
 - evaluate the effect of an author's use of formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices)

2.5e. Students will be able to critically analyze and evaluate information and messages presented through print and by (e) recognizing the impact of non-literal expressions in informative and technical texts and interpret the effect of literary devices.

- Analyze how an author's use of literary devices (figurative language, dialogue and description) and non-literal expressions (idioms, double meanings, puns) in a text affects readers
- Evaluate the impact of specific figurative and non-literal (idiomatic) expressions on the meaning of a text
- Evaluate an author's decision to use specific figurative and non-literal (idiomatic) expressions in a text

2.5f. Students will be able to critically analyze and evaluate information and messages presented through print by (i) evaluating texts and media presentations for bias and misinformation, by (k) evaluating texts for their completeness, accuracy, and clarity of communication (e.g., overcome problems of ambiguity), and by (a) evaluating how the content, techniques, and form of texts and media affect them.

- Evaluate the fairness and trustworthiness of author's message (author's bias)
- Evaluate how persuasive techniques and author's choices (e.g., word choices) shape readers' understandings
- Evaluate the strengths and weaknesses of multiple text(s), sources, format, and argument
- Analyze the completeness, accuracy, and/or clarity of the information in a complex text
- Identify and evaluate information that needs to be checked for accuracy (e.g., data, statistics, sources) and evaluate the credibility of sources
- Evaluate the credibility of messages (e.g., thoroughness, depth, breadth, balance, use of fact and opinion, inclusion of logical and/or emotional arguments)
- Analyze ambiguous information in complex texts

2.5g. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (g) (h) acknowledging the possibility of a variety of interpretations of the same text; proposing other interpretations as valid if supported by the text.

- Analyze texts by reading and reacting to passages from a piece of text and critical interpretations of that same work

- Listen to and critique opposing interpretations of the same piece of text and consider, through classroom dialogue and independent reading, how these opinions were formed
- Compare and contrast opposing interpretations of the same reading and consider how these opinions were formed through classroom dialogue and independent writing
- Practice critical thinking by defending the validity of an assigned point of view even if it opposes their personal interpretation of the reading

2.5i, 2.5j. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (i) recognizing a variety of persuasive and propaganda techniques and how they are used in a variety of forms (advertising, campaigns, news formats, etc.).

- Identify and describe propaganda techniques (e.g., name calling, exaggeration/hyperbole, bandwagon, testimonial, broad generalization, red herring)
- Identify persuasive techniques (e.g., appeal to emotion, appeal to authority, cause/effect, repetition, rhetorical question)
- Recognize and identify how propaganda and persuasive techniques are used in a variety of forms (e.g., television, commercials, movies, advertisements, newspapers, billboards, magazines, catalogues and packaging) to enhance the meaning of a text

2.5l. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (l) evaluating the literary merit of various texts and media presentations (d) recognizing literary merit.

- Read a variety of texts and evaluate them using these criteria to determine their literary merit:
 - has a unique writing style
 - has details
 - has a purpose
 - has clear, distinctive characters
 - is understandable
 - has an expressive vocabulary
 - has an unpredictable plot
 - has a variety of episodes/action
 - has an expressive vocabulary

2.6a. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech and mass media and extend meaning by (a) offering a personal response to texts.

- Revisit text to search for connections between and among ideas
- Find and explain personal connections to the topics, events, characters, actions, ideas or information in text(s)

2.7b. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (b) identifying the underlying purposes of media messages

(e.g., profit vs. nonprofit, humanitarianism, support of artistry).

- Identify underlying purposes (e.g., profit vs. nonprofit, humanitarianism, support of artistry) of media messages
- Analyze the difference between a stated purpose and an underlying purpose in media messages (e.g., TV commercials, radio, Internet, video games, advertisements)

Standard 3: Access, organize, and evaluate information gained through listening, reading, and viewing.

3.1a1. Identify and locate a variety of sources including printed materials, personal interviews, oral reporting, forums, and technological forms of information.

- Locate information using appropriate sources and strategies
- Determine valid resources for researching a topic, including primary and secondary resources
- Evaluate the importance and quality of sources
- Use multiple sources of information (books, television, videos/DVDs, resource people, cassettes, dictionaries, recordings, encyclopedias, and available databases)
- Select essential sources (e.g., dictionaries, encyclopedias, interviews, observations, electronic media, computer databases) appropriate to topic
- Use text features (e.g., guide words, indices, glossaries, key words, table of contents, cross references, appendices) to access information
- Use traditional and electronic search tools
- Use teacher-selected Internet sites and data bases to access information

3.1a2. Develop and use procedures to gather information and ideas; (a1) (a) developing and following a process for research completion.

- Formulate a research question or thesis statement
- Determine a clear purpose, topic and audience for research
- Gather information from more than one source
- Locate information using appropriate sources and strategies
- Read, view, listen or interact with information and decide what is valuable for research
- Extract information (e.g., take notes, make copies)
- Organize and interpret gathered information using various graphic organizers (e.g., outlining, webbing)
- Record sources in a standard bibliographic format
- Relay facts from research
- Summarize ways in which the research process and product can be improved

3.1b. Independently extract information to achieve a specific purpose; extract information relevant to a specific purpose.

- Use various technologies (e.g., appropriate word processing functions, photocopier, audiovisual equipment, scanner) to extract needed information

- Determine the most appropriate form of technology for the task of extracting needed information
 - Decide what information is valuable for a particular situation
 - Select and use various methods (e.g., web, chart) to manage information
 - Create own system for organizing information
- 3.2a.** Use technology to synthesize information into a meaningful format to express ideas and experiences, and to create text, drawings, graphs, diagrams, photographs, videos and graphics.
- Use technology to synthesize information by
 - making a graphic organizer
 - making an outline
 - using a meaningful format (text, drawings, graphs, diagrams, and graphics) to express ideas
 - producing a video production
 - Use various forms of technology
 - word processing
 - presentation programs
 - digital cameras
 - scanners
 - multimedia
 to formulate writing and/or communicate knowledge of products
- 3.2b.** Independently present information which is sufficient in quantity and depth to achieve a specific purpose, avoiding plagiarism.
- Decide how the information fits together
 - Decide how the information would best be presented
 - Recognize the need to put information from sources in their own words
 - List sources of information in bibliographic form
 - Present gathered information in an oral or written format, which
 - uses sentences organized in paragraph form to tell about a designated topic
 - incorporates information from more than one source
 - includes information relevant to topic and purpose
 - identifies source of information
 - fulfills the identified purpose as clearly indicated in the topic sentence
 - utilizes an organizational plan for combining paragraphs to address a designated purpose and topic
 - incorporates information from multiple sources
 - summarizes and/or paraphrases information from sources
- 3.3a2.** Establish criteria by which sources and information can be analyzed for accuracy, bias, stereotypes, and validity.
- Differentiate between primary and secondary sources
 - Independently select sources which are authoritative from teacher selected data bases (e.g., UD Library Search)
- Independently analyze source and information for accuracy, bias, stereotypes, and validity
 - Formulate conclusions based upon information relevant to a specific purpose
 - Use information to express ideas relevant to specific purpose
 - Demonstrate how information retrieved does or does not address original problem
 - Evaluate information in terms of credibility and accuracy
 - Use technology to facilitate evaluation
- 3.3b1.** Independently interpret information as appropriate to a specific purpose.
- Use retrieved information to accomplish a specific purpose
 - Prioritize sources based on relevance
 - Reevaluate their position on the topic and your research strategy
 - Consider whether they have uncovered any worthwhile information that might take their research in a different direction
 - Consider whether they have uncovered any worthwhile information that has caused them to see their topic from a new perspective
 - Consider whether research needs to be redirected in any way based on material uncovered based on relevance
- 3.3b2.** Independently draw conclusions based upon information relevant to a specific purpose; independently formulate logical conclusions based upon information relevant to a specific purpose.
- Use prior knowledge of a concept along with information in a text to
 - Draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - Evaluate the author's viewpoint or attitude toward a topic or idea when strongly implied
 - Evaluate the effect of an author's use of basic formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices
- Standard 4: Use literary knowledge accessed through print and visual media to connect self to society and culture.
- 4.1a.** Connect their own experience to those of literary characters; **explain the reasons for a character's actions;** identify with characters.
- **Describe the reasons for a character's actions in a literary text, critically analyzing the text**
 - Make and support relevant connections between the reader's personal situations and motivations of characters in a text
- 4.1b.** Connect their own experience to those of literary characters by responding to the sensory, intellectual, and emotional elements.
- Evaluate the effect of the author's use of imagery and figurative language on a reader

- Use ideas from the text to evaluate personal responses to literature (text-to-self connections)

4.1c. Connect their own experience to those of literary characters by relating to the feelings of characters or varying ages, genders, nationalities, races, cultures, religions, and disabilities.

- Read and analyze stories from different cultures and eras to broaden cultural awareness
- Demonstrate an understanding of the experiences and feelings of fictional characters (e.g., show empathy for, disagree with, compare to personal or other familiar experiences) based on age, gender, nationalities, races, cultures, and/or disabilities
- Compare works of literature from the same historical period written by authors from different (cultural, generational and gender) perspectives

4.1e. Connect own experiences to those of literary characters by seeking other literary texts and media as the result of literary experience.

- As a result of reading a literary text, students will connect to other texts using the following as guides for connections:
 - What does this remind me of in another book I've read?
 - How is this text similar to other things I've read?
 - How is this different to other books I've read?
 - Have I read about something like this before?
 - Seek other texts and media with similar themes and connections

4.2a. Respond to literary text by making inferences about content, events, characters, setting, and author's decisions.

- Make strongly implied inferences about content and abstract ideas in a text and identify appropriate text support
- Make inferences about author's decisions (e.g., paragraphing, quotations, organization of text, formatting devices, mode of development used)
- Make reasonable predictions as they read
- Test and revise predictions as they read further
- Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
- Make connections between conclusions they draw and other beliefs or knowledge
- Make critical or analytical judgments about what they read
- Analyze texts to make generalizations
- Create self-motivated interpretations of text that are adapted as they continue to read and after they read
- Identify how author's choices affect theme
- Draw conclusions about characters and events in a text

4.2b. Understand the differences between genres.

- Use knowledge of distinctive characteristics of various genres including but not limited to

- fiction (e.g., short story, poetry, folk tale, mystery, tall tale, fairy tales, novels, fable, myth, fantasy, science fiction, historic fiction, and realistic fiction)
- literary nonfiction (e.g., letter, magazine, biography, speeches, autobiography)
- drama (e.g., classic and/or contemporary multi-act plays) to analyze the meaning of the text

4.2c. Interpret the impact of the author's decisions such as word choice, style, content, and literary elements;

understand the author's intent in choosing a particular genre.

- Analyze the effect of author's choices (word and content) on the reader
- Analyze how the author's writing style influences the reader
- Analyze how an author creates mood by choosing words with specific connotations
- Compare styles among texts to determine effects of author's choices
- Compare characteristics and elements of various literary forms including short stories, poetry, essays, plays, speeches and novels
- Analyze the most likely reason an author uses a particular genre in a given situation

4.2f. Identify the effect of point of view.

- Analyze how point of view affects a literary text (e.g., how a story would be different if told from a different point of view)
- Analyze how point of view impacts the reader

4.3a. Respond to literary texts and media representing the diversity of American cultural heritage inclusive of ages, genders, nationalities, races, religions, and disabilities; respond to literary text and media representative of various nations and cultures.

- Read and evaluate complex stories from different cultures and eras to broaden cultural awareness
- Begin to empathize with experiences and feelings of fictional characters based on age, gender, nationalities, races, cultures, and/or disabilities
- Compare works of literature from the same historical period written by authors from different (cultural, generational, and gender) perspectives

4.4a. Use literature as a resource for shaping decisions.

- Read stories and relate characters' experiences to shape own decisions by asking questions:
 - I felt like that character when I....
 - If that happened to me, I would....
 - I can relate to that character because one time....

4.4b. Understand social and political issues.

No GLEs at this grade level

DELAWARE Grade 9 English Language Arts Standards and Grade-Level Expectations

Standard 1: Use written and oral English appropriate for various purposes and audiences.

WRITTEN COMMUNICATION

1.1. Writers will produce texts that exhibit the following text features, all of which are consistent with the genre and purpose of the writing: development, organization, style, and word choice.

1.2. Writers will produce texts that exhibit the following language conventions at all grade levels: sentence formation, conventions.

1.3. Writers will produce examples that illustrate the following discourse classifications: by the completion of the grade, writers will be able to write persuasive, informative, and expressive pieces.

Purpose

- Students understand that persuasive writing is audience-centered; the needs of the intended audience are the most important consideration. Students understand that persuasive writing involves taking a position on a debatable issue to convince an audience.
- Students understand that informative writing is subject-centered; the need to communicate information clearly so that the audience can understand the content/subject is the most important consideration.
- Students understand that expressive writing is author-centered; the most important consideration is the writer's intent to tell a story or make meaning of an experience (reflection, self-discovery), to achieve personal goals, or to create literary pieces.

Audience

- Students understand that writing has an intended audience. In order to meet the needs of that audience, students
 - write in a manner that demonstrates an awareness of the audience (e.g., prior knowledge, motivation)
 - communicate necessary background information and/or definitions for a given audience
 - acknowledge reader's positions or beliefs about ideas or issues and understand implication for the writer
 - write to audiences that can be increasingly distant (e.g., unknown but familiar personalities/roles such as local politicians, in addition to more familiar "others" from previous grades)

Form

- Students self-select appropriate forms and/or respond to assignments for a variety of occasions. Appropriate forms include but are not limited to the following:

Persuasive

Letters to appropriate individuals/organizations (e.g., editor, boards, business, personnel)

Persuasive essay

Advertisements

Editorials

Reviews

Proposals

Debate briefs

Position papers

Informative

Letters to appropriate individuals/organizations (e.g., editor, boards, businesses, personnel)

Summaries

Reports (e.g., book report, research reports)

Essays

Articles (e.g., newspaper feature article, specialized magazine article)

Messages/memos and notices

Biography and autobiography

Reviews

Proposals

Expressive

Stories

Journals

Poems

Memoirs

Personal essays

Development

Persuasive Writing

- Present a clear defensible position that supports or opposes a debatable issue or question
- Support position with reasons that could include relevant facts, statistics, credible personal and expert opinions, examples, and/or insightful commentary
- Acknowledge and evaluate readers' anticipated position(s) on the issue and/or anticipated opposition (e.g., recognize alternative view points, propose solutions, make concessions, present a rebuttal)
- Create an original (e.g., beyond the obvious) and effective title, when appropriate
- Use rhetorical devices (e.g., rhetorical question, repetition, direct address) when appropriate
- Avoid unsupported reasons/logical fallacies (e.g., begging, "it's not fair," circular reasoning, partial truths, jumping to conclusions, jargon, faulty cause/effect statements)
- Use persuasive and propaganda techniques (e.g., appeal to emotion, name calling, exaggeration/hyperbole, bandwagon, transfer, testimonial) when appropriate
- Identify and use primary and secondary sources when appropriate, avoiding plagiarism
- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the issue

Informative Writing

- Select an interesting, yet manageable, subject for writing or one that meets the requirements of the assignment
- Write an effective title, when appropriate
- Provide relevant information, reasons, and/or details to elaborate or clarify the subject (e.g., personal opinion based on experience/observation, verifiable facts, examples, explanations, definitions)
- Analyze and use information from multiple primary and secondary sources to support obvious generalizations and theses and to generate new ideas and/or perspectives, avoiding plagiarism
- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the topic

Expressive Writing

- Develop increasingly more abstract and interesting ideas for writing that are fresh and original
- Create a title that reflects the subject and engages the reader
- Use dialogue, description, and narration when appropriate
- Use vivid sensory images, figurative language, monologue and allusion to elaborate details that will convey feelings and/or illustrate events and characters
- Use rhetorical devices (e.g., rhetorical question, repetition, direct address) when appropriate
- Use strategies such as humor, non-literal language (e.g., idioms, puns, double-meanings) to engage the reader
- Text-based writing: use text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the topic

Organization

Persuasive Writing

- Present reasons in a logical order (weakest to strongest argument, strongest to weakest argument, inductive or deductive reasoning)
- Organize writing by selecting text structures that strengthen the argument
- Develop an introduction that presents a thesis and
 - takes a clear position
 - clarifies the issue in a way that clearly establishes a need for solution/action
 - provides necessary background
 - commands readers' attention (e.g., invokes or appeals to reader) when appropriate
 - provides criteria for evaluation of opposition
- Use subtle transition words/phrases that show increasingly more abstract relationships and make connections (e.g., controlling the pace, tracing development of the perspective)
- Develop a conclusion that moves beyond summary (e.g., "call to action" or "next step", answers the "so what?")

question about the significance of the issue, raises related issues or consequence of non-action, provides perspective)

Informative Writing

- Plan how to present information in a logical order (e.g., most important to least important information, general to specific)
- Organize writing by selecting text structures that clarify or explain the subject
- Develop an introduction/hook that presents a thesis that goes beyond the obvious and provides necessary background
- Use subtle transition words/phrases that show increasingly more abstract relationships and make connections
- Develop a conclusion that moves beyond summary (e.g., reinforcing the importance of the information, raising related issues, and/or generating a new hypothesis)

Expressive Writing

- Organize writing to engage the reader using a variety of forms and genres
- Use paragraphs to transition between ideas and control and enhance message
- Develop an introduction that hooks the reader and establishes the mood and tone
- Use transition words/phrases that show increasingly more complex relationships and make connections
- Use order other than chronological (e.g., flashback, foreshadow, flash-forward)
- Develop a conclusion that moves beyond summary (e.g., provide resolution/closure, pose purposeful questions to the reader to keep the reader thinking, refers back to the introduction/hook for circular endings)

Sentence Structure (& Style/Voice)

- In order to capture the audience's attention and establish a distinctive style, tone and voice:
 - use complete sentences to express thoughts
 - vary sentence structure (e.g., simple, compound, complex, compound-complex sentences)
 - vary kinds of sentences (declarative, explanatory, interrogative, imperative)
 - vary sentence lengths
 - vary sentence beginnings (experiment with placement of phrases and clauses in sentences)
 - write sentences that create purpose-specific rhythm and flow naturally

Word Choice (& Style/Voice)

- Use vivid and precise words with the audience's needs and writer's purpose, style and voice in mind. The writer will:
 - use more specific, concrete language and phrasing
 - use adjectives and adverbs to describe, illustrate, and modify (clarify meaning)
 - use action verbs when possible

- use words that convey appropriate voice (e.g., attitude, emotion, point of view, commitment) and add depth to writing
- use a variety of accurate words and phrases that avoid repetition
- use a purposeful range of formal/informal language depending on the audience
- use non-literal language (e.g., idioms, slang, figurative language, pun, dialect)
- use words that have denotations or connotations appropriate for the writing purpose
- use words that create consistent style and tone for the writing occasion
- purposely use active and passive voice

Conventions (& Style/Voice)

- Use Standard Written English conventions (and when appropriate, variations thereof) to achieve purpose and create effective style and voice. Deviations from SWE (e.g., dialect, slang) should have a specific rhetorical function
- Use standard punctuation (commas, colons, hyphens, dashes, and italics) correctly
- In addition to using standard punctuation students will
 - use punctuation to show increasingly abstract relationships (e.g., comma for clarity such as to set off phrases, clauses, colon for lists and to show relationships, parentheses, appositives, semicolon)
 - use punctuation for rhetorical effect (e.g., dash)
- In addition to standard grammar and usage rules,
 - control agreement of subject/verb, more complex pronoun/antecedent (e.g., indefinite pronouns)
 - control verb and pronoun use (e.g., consistency with verb tense, number, pronoun gender)
 - use active and passive voice to achieve purpose
- Use conventional spellings with
 - commonly misspelled words
 - homophones, homographs, homonyms
 - frequently used words

ORAL COMMUNICATION

- 1.4.** Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes.
- Choose words and use voice appropriate to audience and purpose (e.g., inform, persuade, entertain)
 - Speak and listen for a variety of audiences (e.g., classroom, real-life) and purposes (e.g., awareness, enjoyment, information, problem solving)
 - Identify and discuss criteria for effective oral presentations (e.g., eye contact, projection, tone, volume, rate, articulation)
 - Use visual techniques appropriately
 - Share impromptu remarks about topics of interest to oneself and others
 - Speaking from notes or an outline, relate an experience in descriptive detail, with a sense of timing and etiquette appropriate to the occasion

- Perform expressive oral readings of prose, poetry, and drama
- Prepare and conduct interviews
- Present a coherent, comprehensive report on differing viewpoints on an issue, evaluating the content of the material presented, and organizing the presentation in a manner appropriate to the audience
- Differentiate between formal and informal contexts and employ an appropriate style of speaking, adjusting language, gestures, rate, and volume according to audience and purpose
- Present a coherent, comprehensive report on differing viewpoints on an issue, evaluating the content of the material presented, and organizing the presentation in a manner appropriate to the audience

1.5. Listen to and comprehend oral communications.

- Follow basic directions
- Listen attentively by making eye contact, facing the speaker, asking questions, and paraphrasing what is said
- Ask and respond to questions from teachers and other group members
- Summarize and explain information conveyed in an oral communication accounting for key ideas, structure, and relationship of parts to the whole
- Distinguish among purposes for listening (e.g., gaining information, being entertained) and take notes as appropriate
- Recall significant details and sequence accurately
- Follow a speaker's argument and represent it in notes
- Evaluate the reliability of information in oral communication using criteria based on
 - the topic
 - the context
 - analysis of logic, evidence, propaganda devices (e.g., bandwagon, double speak, name-calling)
 - style

1.6. Develop vocabulary and the ability to use words, phrases, idioms, and various grammatical structures as a means of improving communication.

- Use words that reflect a growing range of interests and knowledge
- Clarify and explain words and ideas
- Give and follow oral directions
- Use complex sentence structure
- Use appropriate noun/verb agreement, verb tense, pronouns, prefixes and suffixes
- Consult dictionaries, thesauruses, and other resources to find and compare definitions, choose among synonyms, and spell words correctly
- Use knowledge of roots, prefixes, and suffixes to interpret and convey the meaning of words
- Identify common figures of speech and use them appropriately in oral communication

- Identify common figures of speech (e.g., similes, metaphors, personification, hyperbole, allusion) and describe how writers use them to achieve specific effects
 - Use them appropriately
- Use punctuation marks that distinguish statements, questions, exclamations, and commands

1.7. Participate effectively in a discussion.

- Initiate conversation with peers and adults
- Participate in a variety of roles in group discussions (e.g., active listener, contributor, discussion leader)
- Listen attentively, demonstrating respect for the opinion of others
- Respond responsibly and courteously to other's remarks
- Explain opinions by citing evidence and referring to sources
- Evaluate the stated ideas and opinions of others, seeking clarification through questions
- Invite ideas and opinions of others into the discussion
- Accept and use helpful criticism
- Summarize the main points of a discussion orally, and in writing, specifying areas of agreement and disagreement
- Participate in discussion without dominating

Standard 2: Construct, examine, and extend the meaning of literary, informative, and technical texts through listening, reading, and viewing.

2.1. Using appropriate texts, students will be able to select and apply efficient, effective decoding skills and other word recognition strategies to comprehend printed texts.

- Vocabulary: Apply and use the meanings of high frequency Greek and Latin derived roots and affixes to determine the meaning of unknown words (e.g.: bio, derm, anti, graph, tele)
- Fluency: Read orally from familiar text at an appropriate rate, with accuracy and prosody

2.2a. Students will be able to develop an increasingly extensive vocabulary and actively seek the meaning of unknown words as an important facet of comprehending texts and messages by using context clues to determine the meanings of words.

- Use prior knowledge in conjunction with the following strategies to determine the meaning of unknown words by
 - reading and rereading other sentences in the text to identify and use words that help unlock the meaning of unknown words
 - analyzing illustrations to clarify meanings of abstract words and concepts
 - looking for and using context clues provided by synonyms and antonyms
 - using knowledge of homonyms and homographs to avoid reading confusion
 - using word cues (e.g., metaphors, similes)
 - using appositives
 - selecting the correct definition of words that have multiple meanings

2.3a. Students will be able to self-monitor comprehension while reading by (a) generating a purpose for reading.

- Use "During Reading" strategies by
 - assimilating prior knowledge
 - making and revising predictions
 - generating and answering questions
 - summarizing
 - rereading to clarify information
 - adjusting reading rate
 - inferring information
 - using mental imagery
 - seeking the meaning of unknown vocabulary
 - analyzing story/literary elements and text structure

2.3c. Using appropriate texts, students will be able to self-monitor comprehension while reading by (c) taking appropriate actions (e.g., rereading to make sense, adjusting rate of reading, seeking the meaning of unknown vocabulary) to enhance understanding of oral and written text.

- Use illustrations to construct meaning from text
- Visualize what was read for a deeper understanding
- Make, confirm, adjust predictions
- Reread difficult parts slowly and carefully
- Explain personal connections to the ideas or information in the text(s)
- Skim text to search for connections between and among ideas
- Restate in own words the main events in the text
- Frequently summarize while reading
- Frequently paraphrase important ideas or information
- Use a graphic organizer or other note taking technique to record important ideas or information

2.4a. Students will be able to demonstrate an overall understanding of printed texts by (a) making predictions as needed.

- Predict likely outcomes based on clues in a text, knowledge of text structure, and knowledge of a variety of genres
- Adjust previous predictions based on new information in a text
- Identify logical, additional and/or complementary information (e.g., "next" chapter or section) for a text

2.4b (I/T). Students will be able to demonstrate an overall understanding of technical and informative texts by (b) identifying text features and text structures.

- Apply essential information from text features (e.g., title, author, cover, pictures, captions, maps, chapter headings, information from charts and graphs, illustrations, glossaries, indices) to enhance understanding of text
- Analyze text structures in informative/technical texts (sequence/chronological order, classification, definition, process, description, comparison, problem/solution, cause/effect) to make meaning of text

- Analyze the unique features of various informative texts (e.g., newspapers, magazines, product information, consumer materials, manuals, editorials) to enhance understanding of the text

2.4b (L). Students will be able to demonstrate an overall understanding of literary texts by (b) identifying the story elements (e.g., characters, setting, and plot) and story structures (conflict, resolution, cause/effect).

- Identify character(s) in a literary text or speaker(s) in a poem
- Describe the roles (e.g., protagonist/hero, antagonist/villain) characters play in a literary text
- Describe the changes in setting (flashback, foreshadowing)
- Identify various types of conflict (man vs. man, man vs. nature, man vs. self, man vs. society)
- Identify conflict(s), climax(s)/turning point(s) and resolution(s)
- Identify significant details related to the plot to analyze the pattern of organization (compare/contrast, problem/solution, sequence, cause/effect)
- Distinguish between main plot and multiple subplots
- Identify point of view (first person, third person limited, third person objective, omniscient)
- Identify the story structure/organizational pattern in a literary text (e.g., time order, geographic order, order of importance, cause/effect, classification)

2.4c. Students will be able to demonstrate an overall understanding of printed texts by (c) recognizing and interpreting figurative language and literary devices (e.g., simile, metaphor, allusion) and (e) differentiating between literal and non-literal meanings.

- Identify and interpret figurative language and literary devices (e.g., alliteration, repetition, rhythm, dialogue, rhyme, idioms, simile, metaphor, personification, exaggeration or hyperbole, humor, double meanings, symbols, imagery, mood, allusion, puns, irony, and tone)
- Analyze how figurative language and literary devices extend meaning
- Differentiate between literal and non-literal meaning

2.4d. Students will be able to demonstrate an overall understanding of printed texts by (d) retelling a story or restating an informative text through speaking and/or writing.

- Summarize a literary text, identifying the main and supporting characters, events, setting, and problem/solution
- Summarize the strongly implied reasons for why or how events happen in a literary text
- Summarize the main ideas and supporting details in an informative/technical text
- Retell/restate in order the important events in a text
- Restate in order the steps of a task in an informative/technical text

2.4e. Students will be able to demonstrate an overall understanding of printed texts by (e) organizing the

important points of the text via summaries, outlines, and/or graphic organizers.

- Create graphic organizers to assist in comprehension of a text
- Use an appropriate organizer based on the structure of the text (e.g., sequence/chronological order, classification, definition, process, description, comparison, problem/solution, cause/effect)

• Create an outline

- Summarize a text capturing the most important parts of the original piece

2.4f. Students will be able to demonstrate an overall understanding of printed texts by (f) identifying the author's purpose.

- Analyze the author's overall purpose(s) for writing (e.g., persuade, entertain, inform, describe, explain how) a text
- Identify the intended messages of advertisements, entertainment programs, and news sources
- Analyze how the author's purposes shape the content
- Analyze the difference between a stated purpose and an underlying reason in TV commercials and advertisements
- Create meaning from a variety of media

2.4g. Students will be able to demonstrate an overall understanding of printed texts by (g) comparing information between and within texts.

- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, or characters within a single text
- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, purposes, plots, settings, or characters presented in two or more texts
- Analyze subtle changes in characters (e.g., change in attitude, situation)

2.4h. Students will demonstrate an overall understanding of printed texts by (h) discriminating between fact and opinion.

- Discriminate between facts and/or subtle opinions in text(s)
- Identify facts in a text and determine their relevance to the issue
- Identify implied opinions in a text and determine their relevance to the issue
- Use word clues (e.g., believe, feel, think, worst, best, least, most, never, always) to determine that a statement is an opinion

- Question information in a text to determine if it is factual

2.4i. Students will be able to demonstrate an overall understanding of informative and technical printed texts by (i) making inferences.

- Make strongly implied inferences about content and concrete ideas in a text and identify appropriate text support
- Explain inferences about author's decisions (e.g., paragraphing, quotations, organization of text, formatting devices, mode of development used)

- **Make reasonable predictions as they read**
- **Test** and revise **predictions as they read further**
- Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
- Make connections between conclusions they draw and other beliefs or knowledge
- **Make critical or analytical judgments about what they read**
- **Analyze texts to make generalizations**
- Create interpretations of text that are adapted as they continue to read and after they read

2.4j. Students will be able to demonstrate an overall understanding of printed texts by (j) accepting or rejecting the validity of the information and giving supporting evidence.

- Use criteria to evaluate the validity and reliability of primary and secondary source information
- Use criteria to evaluate author's credibility in order to determine validity and reliability of a source
- Use criteria to evaluate author's perspective in order to determine validity and reliability of a source
- Use date of publication to evaluate the validity and reliability of a source
- Use criteria to evaluate the author's use of
 - logic
 - propaganda
 - bias
 - language
 - motives
 in order to determine validity and reliability of a source

2.4k/2.6b. Students will be able to demonstrate an overall understanding of printed texts by (k) relating the content of the text to real-life situations and (b) applying information from printed, electronic, and oral texts to complete authentic tasks.

- Draw on prior knowledge and experience to connect personally to text (text-to-self connections)
- Draw on prior knowledge of the world (other books, television, movies) to make text-to-world connections
- Analyze how connections (text-to-self, text-to-world) are contributing to their understanding of the text
- Employ reading strategies (e.g., skimming, scanning) to locate and apply information in varied print and non-print (e.g., computers, electronic media, interviews) sources for inquiry projects and other authentic tasks

2.5a. Students will be able to critically analyze and evaluate information and messages presented through print by (a) connecting and synthesizing information from many sources.

- Connect and synthesize information from increasingly different sources to generate new information/new ideas or expand prior knowledge (text-to-text and text-to-self connections)
- Synthesize information by comparing, eliminating and merging disparate pieces into one coherent whole

2.5b. Students will be able to critically analyze and evaluate information and messages presented through print by (b) formulating and expressing opinions.

- Synthesize experience and knowledge of the world (text-to-world connections) to make, support and apply judgments (that may not be dichotomous) based on the evaluation of complex issues in:
 - literary text (e.g., character's actions, morals of narratives or poems)
 - nonfiction
- Analyze information in a text to develop a logical opinion

2.5d. Students will be able to critically analyze and evaluate information and messages presented through print using critical and divergent thinking, and assimilating prior knowledge to draw conclusions.

- Use prior knowledge of a concept along with information in a text to:
 - draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - evaluate the author's viewpoint or attitude toward a topic or idea
 - evaluate the effect of an author's use of formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices)

2.5e. Students will be able to **critically analyze and evaluate information** and messages **presented through print and by (e) recognizing the impact of non-literal expressions in informative and technical texts and interpret the effect of literary devices.**

- **Evaluate how an author's use of literary devices (figurative language, dialogue and description) and non-literal expressions (idioms, double meanings, puns, irony) in a text affects readers**
- **Evaluate the impact of specific figurative and non-literal (idiomatic) expressions on the meaning of text**
- Evaluate an author's decision to use specific figurative and non-literal (idiomatic) expressions in a text

2.5f. Students will be able to **critically analyze and evaluate information** and messages **presented through print by (i) evaluating texts** and media presentations **for bias** and misinformation, by (k) evaluating texts for their completeness, accuracy, and clarity of communication (e.g., overcome problems of ambiguity), **and by (a) evaluating how the content, techniques, and form of texts and media affect them.**

- **Evaluate** the fairness and trustworthiness of author's message (**author's bias**)
- **Evaluate how** persuasive techniques and **author's choices** (e.g., word choices) **shape readers' understandings**
- Evaluate the strengths and weaknesses of multiple text(s), sources, format, and argument
- Analyze the completeness, accuracy, and/or clarity of the information in a complex text
- Identify and evaluate information that needs to be checked for accuracy (e.g., data, statistics, sources) and evaluate the credibility of sources

- Evaluate the credibility of messages (e.g., thoroughness, depth, breadth, balance, use of fact and opinion, inclusion of logical and/or emotional arguments)

• **Analyze ambiguous information in complex texts**

2.5g. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (g) (h) acknowledging the possibility of a variety of interpretations of the same text; proposing other interpretations as valid if supported by the text.

- Analyze texts by reading and reacting to passages from a piece of text and critical interpretations of that same work
- Listen to and critique opposing interpretations of the same reading and consider how these opinions were formed through classroom dialogue and independent writing
- Synthesize diverse interpretations of the same reading and compare and contrast them through classroom dialogue and independent writing
- Practice critical thinking by defending the validity of an assigned point of view even if it opposes their personal interpretation of the reading

2.5i, 2.5j. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (i) recognizing a variety of persuasive and propaganda techniques and how they are used in a variety of forms (advertising, campaigns, news formats, etc.).

- Identify and describe propaganda techniques (e.g., name calling, exaggeration/hyperbole, bandwagon, testimonial, broad generalization, red herring, circular thinking, parallelism)
- Identify persuasive techniques (e.g., appeal to emotion, appeal to authority, cause/effect, repetition, rhetorical question)
- Recognize and identify how propaganda and persuasive techniques are used in a variety of forms (e.g. television, commercials, movies, advertisements, newspapers, billboards, magazines, catalogues and packaging) to enhance the meaning of a text

2.5l. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (l) evaluating the literary merit of various texts and media presentations (d) recognizing literary merit.

- Read a variety of texts and evaluate them using these criteria to determine their literary merit:
 - has a unique writing style that is appropriate
 - has details
 - has a purpose
 - has clear, distinctive characters
 - is understandable
 - has an expressive vocabulary
 - has an unpredictable plot that is developed
 - has a variety of episodes/action
 - has an expressive vocabulary
 - interpretation of the theme or concept

- presentation of information including accuracy, clarity, and organization
- delineation of setting

2.6a. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech and mass media and extend meaning by (a) offering a personal response to texts.

- Revisit text to search for connections between and among ideas
- Find and explain personal connections to the topics, events, characters, actions, ideas or information in text(s)

2.7b. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (b) identifying the underlying purposes of media messages (e.g., profit vs. nonprofit, humanitarianism, support of artistry).

- Identify underlying purposes (e.g., profit vs. nonprofit, humanitarianism, support of artistry) of media messages
- Analyze the difference between a stated purpose and an underlying purpose in media messages (e.g., TV commercials, radio, Internet, video games, advertisements)

Standard 3: Access, organize, and evaluate information gained through listening, reading, and viewing.

3.1a1. Identify and locate a variety of sources including printed materials, personal interviews, oral reporting, forums, and technological forms of information.

- Locate information using appropriate sources and strategies
- Determine valid resources for researching a topic, including primary and secondary sources
- Evaluate the importance and quality of sources
- Use multiple sources of information (books, television, videos/DVDs, resource people, cassettes, dictionaries, recordings, encyclopedias, and available databases)
- Select essential sources (e.g., dictionaries, encyclopedias, interviews, observations, electronic media, computer databases) appropriate to topic
- Use text features (e.g., guide words, indices, glossaries, key words, table of contents, cross references, appendices) to access information
- Use traditional and electronic search tools
- Use teacher-selected Internet sites and data bases to access information

3.1a2. Develop and use procedures to gather information and ideas; (a1) (a) developing and following a process for research completion.

- Formulate a research question or thesis statement
- Determine a clear purpose, topic and audience for research
- Gather information from more than one source
- Locate information using appropriate sources and strategies

- Read, view, listen or interact with information and decide what is valuable for research
- Extract information (e.g., take notes, make copies)
- Organize and interpret gathered information using various graphic organizers (e.g., outlining, webbing)
- Record sources in a standard bibliographic format
- Relay facts from research
- Summarize ways in which the research process and product can be improved

3.1b. Independently extract information to achieve a specific purpose; extract information relevant to a specific purpose.

- Use various technologies (e.g., appropriate word processing functions, photocopier, audiovisual equipment, scanner) to extract needed information
- Determine the most appropriate form of technology for the task of extracting needed information
- Decide what information is valuable for a particular situation
- Select and use various methods (e.g., web, chart) to manage information
- Create own system for organizing information

3.2a. Use technology to synthesize information into a meaningful format to express ideas and experiences, and to create text, drawings, graphs, diagrams, photographs, videos and graphics.

- Use technology to synthesize information by
 - making a graphic organizer
 - making an outline
 - using a meaningful format (text, drawings, graphs, diagrams, and graphics) to express ideas
 - producing a video production
- Use various forms of technology
 - word processing
 - presentation programs
 - digital cameras
 - scanners
 - multimedia
 to formulate writing and/or communicate knowledge of products

3.2b. Independently present information which is sufficient in quantity and depth to achieve a specific purpose, avoiding plagiarism.

- Decide how the information fits together
- Decide how the information would best be presented
- Recognize the need to put information from sources in their own words
- List sources of information in bibliographic form that follows a designated format (MLA, APA)
- Present gathered information in an oral or written format, which
 - uses sentences organized in paragraph form to tell about a designated topic
 - incorporates information from more than one source

- includes information relevant to topic and purpose
- identifies source of information
- fulfills the identified purpose as clearly indicated in the thesis statement
- utilizes an organizational plan for combining paragraphs to address a designated purpose and topic
- incorporates information from multiple sources
- summarizes and/or paraphrases information from sources

3.3a2. Establish criteria by which sources and information can be analyzed for accuracy, bias, stereotypes, and validity.

- Differentiate between primary and secondary sources
- Independently select sources which are authoritative including UD Library Search
- Independently analyze source and information for accuracy, bias, stereotypes, and validity
- Formulate conclusions based upon information relevant to a specific purpose
- Use information to express ideas relevant to specific purpose
- Demonstrate how information retrieved does or does not address original problem
- Evaluate information in terms of credibility, accuracy, and social, economic, political, legal and ethical issues that may impact it
- Use technology to facilitate evaluation

3.3b1. Independently interpret information as appropriate to a specific purpose.

- Use retrieved information to accomplish a specific purpose
- Prioritize sources based on relevance
- Reevaluate their position on the topic and your research strategy
- Consider whether they have uncovered any worthwhile information that might take their research in a different direction
- Consider whether they have uncovered any worthwhile information that has caused them to see their topic from a new perspective
- Consider whether research needs to be redirected in any way based on material uncovered based on relevance

3.3b2. Independently draw conclusions based upon information relevant to a specific purpose; independently formulate logical conclusions based upon information relevant to a specific purpose.

- Use prior knowledge of a concept along with information in a text to:
 - Draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - Evaluate the author's viewpoint or attitude toward a topic or idea when strongly implied

- Evaluate the effect of an author's use of basic formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices)

Standard 4: Use literary knowledge accessed through print and visual media to connect self to society and culture.

4.1a. Connect their own experience to those of literary characters; explain the reasons for a character's actions; identify with characters.

- Evaluate a character's actions in a literary text, critically analyzing the text
- Make and support insightful connections between the reader's personal situations and motivations of characters in a text

4.1b. Connect their own experience to those of literary characters by responding to the sensory, intellectual, and emotional elements.

- Evaluate the effect of the author's use of imagery and figurative language on a reader
- Use ideas from the text to evaluate personal responses to literature (text-to-self connections)

4.1c. Connect their own experience to those of literary characters by relating to the feelings of characters or varying ages, genders, nationalities, races, cultures, religions, and disabilities.

- Read and analyze stories from different cultures and eras to broaden cultural awareness
- Demonstrate an understanding of the experiences and feelings of fictional characters (e.g., show empathy for, disagree with, compare to personal or other familiar experiences) based on age, gender, nationalities, races, cultures, and/or disabilities
- Compare works of literature from the same historical period written by authors from different (cultural, generational and gender) perspectives

4.1e. Connect own experiences to those of literary characters by seeking other literary texts and media as the result of literary experience.

- As a result of reading a literary text, students will connect to other texts using the following as guides for connections:
 - What does this remind me of in another book I've read?
 - How is this text similar to other things I've read?
 - How is this different to other books I've read?
 - Have I read about something like this before?
 - Seek other texts and media with similar themes and connections

4.2a. Respond to literary text by making inferences about content, events, characters, setting, and author's decisions.

- Make strongly implied inferences about content, abstract ideas, events, characters, setting, and mood in a text and identify appropriate text support
- Make inferences about author's decisions (e.g., paragraphing, quotations, organization of text, formatting devices, mode of development used)

- Make reasonable predictions as they read
- Test and revise predictions as they read further
- Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
- Make connections between conclusions they draw and other beliefs or knowledge
- Make critical or analytical judgments about what they read
- Analyze texts to make generalizations
- Create self-motivated interpretations of text that are adapted as they continue to read and after they read
- Analyze connections between self and literary themes
- Draw conclusions about characters and events in a text

4.2b. Understand the differences between genres.

- Use knowledge of distinctive characteristics of various genres including but not limited to
 - fiction (e.g., short story, poetry, folk tale, mystery, tall tale, fairy tales, novels, fable, myth, fantasy, science fiction, historic fiction, and realistic fiction)
 - literary nonfiction (e.g., letter, magazine, biography, speeches, autobiography)
 - drama (e.g., classic and/or contemporary multi-act plays)

to analyze the meaning of the text

4.2c. Interpret the impact of the author's decisions such as word choice, style, content, and literary elements; understand the author's intent in choosing a particular genre.

- Evaluate the effect of author's choices (word and content) on the reader
- Analyze how the author's writing style influences the reader
- Evaluate the effectiveness of an author's choice of words with specific connotations to create mood
- Compare styles among texts to determine effects of author's choices
- Compare characteristics and elements of various literary forms including short stories, poetry, essays, plays, speeches and novels
- Evaluate an author's decision to use a particular genre in a given situation

4.2f. Identify the effect of point of view.

- Analyze how point of view affects a literary text (e.g., how a story would be different if told from a different point of view)
- Analyze how point of view impacts the reader
- Evaluate the effect of an author's use of point of view such as first vs. third, limited vs. omniscient, and subjective vs. objective

4.3a. Respond to literary texts and media representing the diversity of American cultural heritage inclusive of ages, genders, nationalities, races, religions, and disabilities; respond to literary text and media representative of various nations and cultures.

- Read and evaluate complex stories from different cultures and eras to broaden cultural awareness
 - Empathize with experiences and feelings of fictional characters based on age, gender, nationalities, races, cultures, and/or disabilities
 - Compare works of literature from the same historical period written by authors from different (cultural, generational, and gender) perspectives
- 4.4a.** Use literature as a resource for shaping decisions.
- Read stories and relate characters' experiences to shape own decisions by asking questions:

- I felt like that character when I....
- If that happened to me, I would....
- I can relate to that character because one time....

4.4b. Understand social and political issues.

- Compare works of literature from the same historical period written by authors from different cultural, generational, and gender perspectives
- Analyze an author's viewpoint and message in relation to the historical and cultural context of the author's work
- Identify social, historical, cultural and biographical influences on literary works

DELAWARE Grade 10 English Language Arts Standards and Grade-Level Expectations

Standard 1: Use written and oral English appropriate for various purposes and audiences.

WRITTEN COMMUNICATION

1.1. Writers will produce texts that exhibit the following text features, all of which are consistent with the genre and purpose of the writing: development, organization, style, and word choice.

1.2. Writers will produce texts that exhibit the following language conventions at all grade levels: sentence formation, conventions.

1.3. Writers will produce examples that illustrate the following discourse classifications: by the completion of the grade, writers will be able to write persuasive, informative, and expressive pieces.

Purpose

- Students understand that persuasive writing is audience-centered; the needs of the intended audience are the most important consideration. Students understand that persuasive writing involves taking a position on a debatable issue to convince an audience.
- Students understand that informative writing is subject-centered; the need to communicate information clearly so that the audience can understand the content/subject is the most important consideration.
- Students understand that expressive writing is author-centered; the most important consideration is the writer's intent to tell a story or make meaning of an experience (reflection, self-discovery), to achieve personal goals, or to create literary pieces.

Audience

- Students understand that writing has an intended audience. In order to meet the needs of that audience, students
 - write in a manner that demonstrates an awareness of the audience (e.g., prior knowledge, motivation)
 - communicate necessary background information and/or definitions for a given audience
 - acknowledge reader's positions or beliefs about ideas or issues, understand implications for the writer, and adjust content accordingly
 - write to audiences that can be increasingly distant and abstract (e.g., unknown audiences such as politicians, leaders/owners of businesses [CEOs], in addition to more familiar "others" from previous grades)

Form

- Students self-select appropriate forms and/or respond to assignments for a variety of occasions. Appropriate forms include, but are not limited to the following:

Persuasive

Letters to appropriate individuals/organizations (e.g., editor, boards, business, personnel)

Persuasive essays

Advertisements

Editorials

Reviews

Proposals

Debate briefs

Position papers

Legislative/legal documents

Informative

Letters to appropriate individuals/organizations (e.g., editor, boards, businesses, personnel)

Summaries

Reports (e.g., book reports, research reports)

Essays

Articles (feature and/or specialized)

Messages/memos and notices

Biography and autobiography

Reviews/literary criticism

Proposals

Character analyses

Expressive

Stories

Journals

Poems

Memoirs

Personal essays

Development

Persuasive Writing

- Present a clear defensible position that supports, opposes, or qualifies the issue/question
- Support position with reasons that could include relevant facts, statistics, credible personal and expert opinions, examples, and/or insightful commentary
- Acknowledge and evaluate readers' anticipated position(s) on the issue and/or anticipated opposition (e.g., recognize alternative view points, propose solutions, make concessions, present a rebuttal)
- Acknowledge assumptions within arguments and recognize unstated assumptions in opposition
- Write an original (e.g., beyond the obvious) and effective title, when appropriate
- Avoid unsupported reasons/logical fallacies (e.g., begging, "it's not fair," circular reasoning, partial truths, jumping to conclusions, jargon, faulty cause/effect statements, inadequately warranted claims)
- Use (when appropriate) persuasive and propaganda techniques (e.g., appeal to emotion, name calling, exaggeration/hyperbole, bandwagon, transfer, testimonial, parallelism, analogy) when appropriate
- Identify and use primary and secondary sources when appropriate, avoiding plagiarism
- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the issue

Informative Writing

- Select an interesting, manageable and thought-provoking subject or focus for writing and one that meets the requirements of the assignment
- Write an effective title, when appropriate
- **Provide relevant information, reasons, and/or details to elaborate or clarify the subject** (e.g., personal opinion based on experience/observation, verifiable facts, examples, explanations, definitions)
- Analyze and use information from multiple primary and secondary sources to support generalizations and theses, and to generate new ideas and/or perspectives, avoiding plagiarism
- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the topic

Expressive Writing

- Develop increasingly more abstract and interesting ideas for writing that are fresh and original
- Create a title that reflects the subject and engages the reader
- **Use dialogue, description, and narration when appropriate**
- **Use vivid sensory images, figurative language, monologue, and/or allusion to elaborate details that will convey feelings and/or illustrate events and characters**
- Use rhetorical devices (e.g., rhetorical question, repetition, direct address) when appropriate
- Use strategies such as humor, non-literal language (e.g., puns, double-meanings, purposeful use of ambiguity), alternative narrative techniques (e.g., stream-of-consciousness) to engage the reader
- Text-based writing: combine information from text and prior knowledge, to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the topic

Organization

Persuasive Writing

- **Present reasons in a logical order** (e.g., weakest to strongest argument, strongest to weakest argument, inductive or deductive reasoning)
- **Organize writing** by selecting text structures that strengthen the argument
- **Develop an introduction** that presents a thesis and
 - takes a clear position and establishes self as authority
 - clarifies the issue in a way that clearly establishes a need for solution/action
 - provides necessary background
 - commands readers' attention (e.g., invokes or appeals to reader) when appropriate
 - provides criteria for evaluation of opposition
- **Use subtle transition words/phrases that show increasingly more abstract relationships and make**

connections (e.g., controlling the pace, tracing development of the perspective and/or logic of the argument)

- **Develop a conclusion** that moves beyond summary (e.g., "call to action" or "next step," answers the "so what?" question about the significance of the issue, raises related issues or consequence of non-action, provides perspective)

Informative Writing

- Plan how to **present information in a logical order** (e.g., most important to least important information, general to specific, inductive or deductive reasoning)
- **Organize writing** by selecting text structures that clarify or explain the subject
- **Develop an introduction**/hook that presents a thesis that goes beyond the obvious and provides necessary background
- **Use subtle transition words/phrases that show increasingly more abstract relationships and make connections**
- **Develop a conclusion** that moves beyond summary (e.g., reinforcing the importance of the information, raising related issues, and/or generating a new hypothesis)
- **Organize writing to engage the reader** (e.g., by using other forms and genres)
- **Use paragraphs to transition between ideas and control and enhance message**

Expressive Writing

- **Organize writing to engage the reader** (e.g., by using other forms and genres)
- **Use paragraphs to transition between ideas and control and enhance message**
- **Develop an introduction** that hooks the reader and establishes the mood and tone
- **Use transition words/phrases that show increasingly more complex relationships and make connections**
- Use order other than chronological (e.g., flashback, foreshadow, flash-forward)
- **Develop a conclusion** that moves beyond summary (e.g., provide resolution/closure, pose purposeful questions to the reader to keep the reader thinking, refer back to the introduction/hook for circular endings)

Sentence Structure (& Style/Voice)

- In order to capture the audience's attention and establish a distinctive style, tone and voice
 - **use complete sentences to express thoughts**
 - vary sentence structure (e.g., simple, compound, complex, compound-complex sentences)
 - vary kinds of sentences (declarative, explanatory, interrogative, imperative)
 - vary sentence lengths
 - vary sentence beginnings (experiment with placement of phrases and clauses in sentences)
 - write sentences that create purpose-specific rhythm and flow naturally

Word Choice (& Style/Voice)

- Use vivid and precise words with the audience's needs and writer's purpose, style and voice in mind:
 - use specific, concrete language and phrasing
 - use adjectives and adverbs to describe, illustrate, and modify (clarify meaning)
 - use action verbs when possible
 - use words that convey appropriate voice (e.g., attitude, emotion, point of view, commitment) and add depth to writing
 - use a variety of accurate words and phrases that avoid repetition
 - use a purposeful range of formal/informal language depending on the audience
 - use non-literal language (e.g., idioms, slang, figurative language, dialect, pun)
 - use words that have denotations or connotations appropriate for the writing purpose
 - use words that create consistent style and tone for the writing occasion
 - purposely use active and passive voice

Conventions (& Style/Voice)

- Use Standard Written English conventions (and when appropriate, variations thereof) to achieve purpose and create effective style and voice. Deviations from SWE (e.g., dialect, slang) should have a specific rhetorical function
- Use standard punctuation (commas, colons, hyphens, dashes, italics, and ellipses) correctly
- In addition to standard punctuation
 - use punctuation to show increasingly abstract relationships (e.g., comma for clarity such as to set off phrases, clauses, appositives; semi-colon; colon to show relationships, parentheses)
 - use punctuation for rhetorical effect (e.g., dash, colon, ellipses)
- Demonstrate control of grammar in sophisticated sentence structures (compound, complex, compound-complex)
 - agreement of subject/verb, pronoun/antecedent
 - verb use (tense)
 - pronoun use (number, gender)
- Use active and passive voice appropriately and consistently
- Spell frequently used words correctly, and use effective strategies for spelling unfamiliar words
- Use purposeful parallel structure

ORAL COMMUNICATION

- 1.4. Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes.
- Choose words and use voice appropriate to audience and purpose (e.g., inform, persuade, entertain)
 - Speak and listen for a variety of audiences (e.g., classroom, real-life) and purposes (e.g., awareness, enjoyment, information, problem solving)

- Identify and discuss criteria for effective oral presentations (e.g., eye contact, projection, tone, volume, rate, articulation)
- Use visual techniques appropriately
- Share impromptu remarks about topics of interest to oneself and others
- Speaking from notes or an outline, relate an experience in descriptive detail, with a sense of timing and etiquette appropriate to the occasion
- Perform expressive oral readings of prose, poetry, and drama
- Prepare and conduct interviews
- Present a coherent, comprehensive report on differing viewpoints on an issue, evaluating the content of the material presented, and organizing the presentation in a manner appropriate to the audience
- Differentiate between formal and informal contexts and employ an appropriate style of speaking, adjusting language, gestures, rate, and volume according to audience and purpose
- Present a coherent, comprehensive report on differing viewpoints on an issue, evaluating the content of the material presented, and organizing the presentation in a manner appropriate to the audience

1.5. Listen to and comprehend oral communications.

- Follow basic directions
- Listen attentively by making eye contact, facing the speaker, asking questions, and paraphrasing what is said
- Ask and respond to questions from teachers and other group members
- Summarize and explain information conveyed in an oral communication accounting for key ideas, structure, and relationship of parts to the whole
- Distinguish among purposes for listening (e.g., gaining information, being entertained) and take notes as appropriate
- Recall significant details and sequence accurately
- Follow a speaker's argument and represent it in notes
- Evaluate the reliability of information in oral communication using criteria based on
 - the topic
 - the context
 - analysis of logic, evidence, propaganda devices (e.g., bandwagon, double speak, name-calling)
 - style

1.6. Develop vocabulary and the ability to use words, phrases, idioms, and various grammatical structures as a means of improving communication.

- Use words that reflect a growing range of interests and knowledge
- Clarify and explain words and ideas
- Give and follow oral directions
- Use complex sentence structure

- Use appropriate noun/verb agreement, verb tense, pronouns, prefixes and suffixes
- Consult dictionaries, thesauruses, and other resources to find and compare definitions, choose among synonyms, and spell words correctly
- Use knowledge of roots, prefixes, and suffixes to interpret and convey the meaning of words
- Identify common figures of speech and use them appropriately in oral communication
- Identify common figures of speech (e.g., similes, metaphors, personification, hyperbole, allusion) and describe how writers use them to achieve specific effects
 - Use them appropriately
- Use punctuation marks that distinguish statements, questions, exclamations, and commands

1.7. Participate effectively in a discussion.

- Initiate conversation with peers and adults
- Participate in a variety of roles in group discussions (e.g., active listener, contributor, discussion leader)
- Listen attentively, demonstrating respect for the opinion of others
- Respond responsibly and courteously to other's remarks
- Explain opinions by citing evidence and referring to sources
- Evaluate the stated ideas and opinions of others, seeking clarification through questions
- Invite ideas and opinions of others into the discussion
- Accept and use helpful criticism
- Summarize the main points of a discussion orally, and in writing, specifying areas of agreement and disagreement
- Participate in discussion without dominating

Standard 2: Construct, examine, and extend the meaning of literary, informative, and technical texts through listening, reading, and viewing.

2.1. Using appropriate texts, students will be able to select and apply efficient, effective decoding skills and other word recognition strategies to comprehend printed texts.

- Vocabulary: Apply and use the meanings of high frequency Greek and Latin derived roots and affixes to determine the meaning of unknown words (e.g.: bio, derm, anti, graph, tele)
- Fluency: Read orally from familiar text at an appropriate rate, with accuracy and prosody

2.2a. Students will be able to develop an increasingly extensive vocabulary and actively seek the meaning of unknown words as an important facet of comprehending texts and messages by using context clues to determine the meanings of words.

- Use prior knowledge in conjunction with the following strategies to determine the meaning of unknown words by
 - reading and rereading other sentences in the text to identify and use words that help unlock the meaning of unknown words
 - analyzing illustrations to clarify meanings of abstract words and concepts

- looking for and using context clues provided by synonyms and antonyms
- using knowledge of homonyms and homographs to avoid reading confusion
- using word cues (e.g., metaphors, similes)
- using appositives
- selecting the correct definition of words that have multiple meanings

2.3a. Students will be able to self-monitor comprehension while reading by (a) generating a purpose for reading.

- Use "During Reading" strategies by
 - assimilating prior knowledge
 - making and revising predictions
 - generating and answering questions
 - summarizing
 - rereading to clarify information
 - adjusting reading rate
 - inferring information
 - using mental imagery
 - seeking the meaning of unknown vocabulary
 - analyzing story/literary elements and text structure

2.3c. Using appropriate texts, students will be able to self-monitor comprehension while reading by (c) taking appropriate actions (e.g., rereading to make sense, adjusting rate of reading, seeking the meaning of unknown vocabulary) to enhance understanding of oral and written text.

- Use illustrations to construct meaning from text
- Visualize what was read for a deeper understanding
- Make, confirm, adjust predictions
- Reread difficult parts slowly and carefully
- Explain personal connections to the ideas or information in the text(s)
- Skim text to search for connections between and among ideas
- Restate in own words the main events in the text
- Frequently summarize while reading
- Frequently paraphrase important ideas or information
- Use a graphic organizer or other note taking technique to record important ideas or information

2.4a. Students will be able to demonstrate an overall understanding of printed texts by (a) making predictions as needed.

- Predict likely outcomes based on clues in a text, knowledge of text structure, and knowledge of a variety of genres
- Adjust previous predictions based on new information in a text
- Identify logical, additional and/or complementary information (e.g., "next" chapter or section) for a text

2.4b (I/T). Students will be able to demonstrate an overall understanding of technical and informative texts by (b) identifying text features and text structures.

- Apply essential information from text features (e.g., title, author, cover, pictures, captions, maps, chapter headings, information from charts and graphs, illustrations, glossaries, indices) to enhance understanding of text
- Analyze text structures in informative/technical texts (sequence/chronological order, classification, definition, process, description, comparison, problem/solution, cause/effect) to make meaning of text
- Analyze the unique features of various informative texts (e.g., newspapers, magazines, product information, consumer materials, manuals, editorials) to enhance understanding of the text

2.4b (L). Students will be able to demonstrate an overall understanding of literary texts by (b) identifying the story elements (e.g., characters, setting, and plot) and story structures (conflict, resolution, cause/effect).

- Identify character(s) in a literary text or speaker(s) in a poem
- Describe the roles (e.g., protagonist/hero, antagonist/villain) characters play in a literary text
- Describe the changes in setting (flashback, foreshadowing)
- Identify various types of conflict (man vs. man, man vs. nature, man vs. self, man vs. society)
- Identify conflict(s), climax(s)/turning point(s) and resolution(s)
- Identify significant details related to the plot to analyze the pattern of organization (compare/contrast, problem/solution, sequence, cause/effect)
- Distinguish between main plot and multiple subplots
- Identify point of view (first person, third person limited, third person objective, omniscient)
- Identify the story structure/organizational pattern in a literary text (e.g., time order, geographic order, order of importance, cause/effect, classification)

2.4c. Students will be able to demonstrate an overall understanding of printed texts by (c) recognizing and interpreting figurative language and literary devices (e.g., simile, metaphor, allusion) and (e) differentiating between literal and non-literal meanings.

- Identify and interpret figurative language and literary devices (e.g., alliteration, repetition, rhythm, dialogue, rhyme, idioms, simile, metaphor, personification, exaggeration or hyperbole, humor, double meanings, symbols, imagery, mood, allusion, puns, irony, and tone)
- Analyze how figurative language and literary devices extend meaning
- Differentiate between literal and non-literal meaning

2.4d. Students will be able to demonstrate an overall understanding of printed texts by (d) retelling a story or restating an informative text through speaking and/or writing.

- Summarize a literary text, identifying the main and supporting characters, events, setting, and problem/solution
- Summarize the strongly implied reasons for why or how events happen in a literary text

- Summarize the main ideas and supporting details in an informative/technical text
- Retell/restate in order the important events in a text
- Restate in order the steps of a task in an informative/technical text

2.4e. Students will be able to demonstrate an overall understanding of printed texts by (e) organizing the important points of the text via summaries, outlines, and/or graphic organizers.

- Create graphic organizers to assist in comprehension of a text
- Use an appropriate organizer based on the structure of the text (e.g., sequence/chronological order, classification, definition, process, description, comparison, problem/solution, cause/effect)
- Create an outline
- Summarize a text capturing the most important parts of the original piece

2.4f. Students will be able to demonstrate an overall understanding of printed texts by (f) identifying the author's purpose.

- Analyze the author's overall purpose(s) for writing (e.g., persuade, entertain, inform, describe, explain how) a text
- Identify the intended messages of advertisements, entertainment programs, and news sources
- Analyze how the author's purposes shape the content
- Analyze the difference between a stated purpose and an underlying reason in TV commercials and advertisements
- Create meaning from a variety of media

2.4g. Students will be able to demonstrate an overall understanding of printed texts by (g) comparing information between and within texts.

- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, or characters within a single text
- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, purposes, plots, settings, or characters presented in two or more texts
- Analyze subtle changes in characters (e.g., change in attitude, situation)

2.4h. Students will demonstrate an overall understanding of printed texts by (h) discriminating between fact and opinion.

- Discriminate between facts and/or subtle opinions in text(s)
- Identify facts in a text and determine their relevance to the issue
- Identify implied opinions in a text and determine their relevance to the issue
- Use word clues (e.g., believe, feel, think, worst, best, least, most, never, always) to determine that a statement is an opinion
- Question information in a text to determine if it is factual

2.4i. Students will be able to demonstrate an overall understanding of informative and technical printed texts by (i) making inferences.

- Make strongly implied inferences about content and concrete ideas in a text and identify appropriate text support
- Explain inferences about author's decisions (e.g., paragraphing, quotations, organization of text, formatting devices, mode of development used)
- Make reasonable predictions as they read
- Test and revise predictions as they read further
- Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
- Make connections between conclusions they draw and other beliefs or knowledge
- Make critical or analytical judgments about what they read
- Analyze texts to make generalizations
- Create interpretations of text that are adapted as they continue to read and after they read

2.4j. Students will be able to demonstrate an overall understanding of printed texts by (j) accepting or rejecting the validity of the information and giving supporting evidence.

- Use criteria to evaluate the validity and reliability of primary and secondary source information
- Use criteria to evaluate author's credibility in order to determine validity and reliability of a source
- Use criteria to evaluate author's perspective in order to determine validity and reliability of a source
- Use date of publication to evaluate the validity and reliability of a source
- Use criteria to evaluate the author's use of
 - logic
 - propaganda
 - bias
 - language
 - motivesin order to determine validity and reliability of a source

2.4k/2.6b. Students will be able to demonstrate an overall understanding of printed texts by (k) relating the content of the text to real-life situations and (b) applying information from printed, electronic, and oral texts to complete authentic tasks.

- Draw on prior knowledge and experience to connect personally to text (text-to-self connections)
- Draw on prior knowledge of the world (other books, television, movies) to make text-to-world connections
- Analyze how connections (text-to-self, text-to-world) are contributing to their understanding of the text
- Employ reading strategies (e.g., skimming, scanning) to locate and apply information in varied print and non-print (e.g., computers, electronic media, interviews) sources for inquiry projects and other authentic tasks

2.5a. Students will be able to critically analyze and evaluate information and messages presented through print by (a) connecting and synthesizing information from many sources.

- Connect and synthesize information from increasingly different sources to generate new information/new ideas or expand prior knowledge (text-to-text and text-to-self connections)
- Synthesize information by comparing, eliminating and merging disparate pieces into one coherent whole

2.5b. Students will be able to critically analyze and evaluate information and messages presented through print by (b) formulating and expressing opinions.

- Synthesize experience and knowledge of the world (text-to-world connections) to make, support and apply judgments (that may not be dichotomous) based on the evaluation of complex issues in:
 - literary text (e.g., character's actions, morals of narratives or poems)
 - nonfiction
- Analyze information in a text to develop a logical opinion

2.5d. Students will be able to critically analyze and evaluate information and messages presented through print using critical and divergent thinking, and assimilating prior knowledge to draw conclusions.

- Use prior knowledge of a concept along with information in a text to:
 - draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - evaluate the author's viewpoint or attitude toward a topic or idea
 - evaluate the effect of an author's use of formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices)

2.5e. Students will be able to critically analyze and evaluate information and messages presented through print and by (e) recognizing the impact of non-literal expressions in informative and technical texts and interpret the effect of literary devices.

- Evaluate how an author's use of literary devices (figurative language, dialogue and description) and non-literal expressions (idioms, double meanings, puns, irony) in a text affects readers
- Evaluate the impact of specific figurative and non-literal (idiomatic) expressions on the meaning of text
- Evaluate an author's decision to use specific figurative and non-literal (idiomatic) expressions in a text

2.5f. Students will be able to critically analyze and evaluate information and messages presented through print by (i) evaluating texts and media presentations for bias and misinformation, by (k) evaluating texts for their completeness, accuracy, and clarity of communication (e.g., overcome problems of ambiguity), and by (a) evaluating how the content, techniques, and form of texts and media affect them.

- Evaluate the fairness and trustworthiness of author's message (author's bias)
- Evaluate persuasive techniques and author's choices (e.g., word choices) shape readers' understandings
- Evaluate the strengths and weaknesses of multiple text(s), sources, format, and argument
- Analyze the completeness, accuracy, and/or clarity of the information in a complex text
- Identify and evaluate information that needs to be checked for accuracy (e.g., data, statistics, sources) and evaluate the credibility of sources
- Evaluate the credibility of messages (e.g., thoroughness, depth, breadth, balance, use of fact and opinion, inclusion of logical and/or emotional arguments)
- Analyze ambiguous information in complex texts

2.5g. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (g) (h) acknowledging the possibility of a variety of interpretations of the same text; proposing other interpretations as valid if supported by the text.

- Analyze texts by reading and reacting to passages from a piece of text and critical interpretations of that same work
- Listen to and critique opposing interpretations of the same reading and consider how these opinions were formed through classroom dialogue and independent writing
- Synthesize diverse interpretations of the same reading and compare and contrast them through classroom dialogue and independent writing
- Practice critical thinking by defending the validity of an assigned point of view even if it opposes their personal interpretation of the reading

2.5i, 2.5j. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (i) recognizing a variety of persuasive and propaganda techniques and how they are used in a variety of forms (advertising, campaigns, news formats, etc.).

- Identify and describe propaganda techniques (e.g., name calling, exaggeration/hyperbole, bandwagon, testimonial, broad generalization, red herring, circular thinking, parallelism)
- Identify persuasive techniques (e.g., appeal to emotion, appeal to authority, cause/effect, repetition, rhetorical question)
- Recognize and identify how propaganda and persuasive techniques are used in a variety of forms (e.g. television, commercials, movies, advertisements, newspapers, billboards, magazines, catalogues and packaging) to enhance the meaning of a text

2.5i. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (l) evaluating the literary merit of various texts and media presentations (d) recognizing literary merit.

- Read a variety of texts and evaluate them using these criteria to determine their literary merit:

- has a unique writing style that is appropriate
- has details
- has a purpose
- has clear, distinctive characters
- is understandable
- has an expressive vocabulary
- has an unpredictable plot that is developed
- has a variety of episodes/action
- has an expressive vocabulary
- interpretation of the theme or concept
- presentation of information including accuracy, clarity, and organization
- delineation of setting

2.6a. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech and mass media and extend meaning by (a) offering a personal response to texts.

- Revisit text to search for connections between and among ideas
- Find and explain personal connections to the topics, events, characters, actions, ideas or information in text(s)

2.7b. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (b) identifying the underlying purposes of media messages (e.g., profit vs. nonprofit, humanitarianism, support of artistry).

- Identify underlying purposes (e.g., profit vs. nonprofit, humanitarianism, support of artistry) of media messages
- Analyze the difference between a stated purpose and an underlying purpose in media messages (e.g., TV commercials, radio, Internet, video games, advertisements)

Standard 3: Access, organize, and evaluate information gained through listening, reading, and viewing.

3.1a1. Identify and locate a variety of sources including printed materials, personal interviews, oral reporting, forums, and technological forms of information.

- Locate information using appropriate sources and strategies
- Determine valid resources for researching a topic, including primary and secondary sources
- Evaluate the importance and quality of sources
- Use multiple sources of information (books, television, videos/DVDs, resource people, cassettes, dictionaries, recordings, encyclopedias, and available databases)
- Select essential sources (e.g., dictionaries, encyclopedias, interviews, observations, electronic media, computer databases) appropriate to topic
- Use text features (e.g., guide words, indices, glossaries, key words, table of contents, cross references, appendices) to access information

- Use traditional and electronic search tools Use teacher-selected Internet sites and data bases to access information

3.1a2. Develop and use procedures to gather information and ideas; (a1) (a) developing and following a process for research completion.

- Formulate a research question or thesis statement
- Determine a clear purpose, topic and audience for research
- Gather information from more than one source
- Locate information using appropriate sources and strategies
- Read, view, listen or interact with information and decide what is valuable for research
- Extract information (e.g., take notes, make copies)
- Organize and interpret gathered information using various graphic organizers (e.g., outlining, webbing)
- Record sources in a standard bibliographic format
- Relay facts from research
- Summarize ways in which the research process and product can be improved

3.1b. Independently extract information to achieve a specific purpose; extract information relevant to a specific purpose.

- Use various technologies (e.g., appropriate word processing functions, photocopier, audiovisual equipment, scanner) to extract needed information
- Determine the most appropriate form of technology for the task of extracting needed information
- Decide what information is valuable for a particular situation
- Select and use various methods (e.g., web, chart) to manage information
- Create own system for organizing information

3.2a. Use technology to synthesize information into a meaningful format to express ideas and experiences, and to create text, drawings, graphs, diagrams, photographs, videos and graphics.

- Use technology to synthesize information by
 - making a graphic organizer
 - making an outline
 - using a meaningful format (text, drawings, graphs, diagrams, and graphics) to express ideas
 - producing a video production
- Use various forms of technology
 - word processing
 - presentation programs
 - digital cameras
 - scanners
 - multimedia
 to formulate writing and/or communicate knowledge of products

3.2b. Independently present information which is sufficient in quantity and depth to achieve a specific purpose, avoiding plagiarism.

- Decide how the information fits together
- Decide how the information would best be presented
- Recognize the need to put information from sources in their own words
- List sources of information in bibliographic form that follows a designated format (MLA, APA)
- Present gathered information in an oral or written format, which
 - uses sentences organized in paragraph form to tell about a designated topic
 - incorporates information from more than one source
 - includes information relevant to topic and purpose
 - identifies source of information
 - fulfills the identified purpose as clearly indicated in the thesis statement
 - utilizes an organizational plan for combining paragraphs to address a designated purpose and topic
 - incorporates information from multiple sources
 - summarizes and/or paraphrases information from sources

3.3a2. Establish criteria by which sources and information can be analyzed for accuracy, bias, stereotypes, and validity.

- Differentiate between primary and secondary sources
- Independently select sources which are authoritative including UD Library Search
- Independently analyze source and information for accuracy, bias, stereotypes, and validity
- Formulate conclusions based upon information relevant to a specific purpose
- Use information to express ideas relevant to specific purpose
- Demonstrate how information retrieved does or does not address original problem
- Evaluate information in terms of credibility , accuracy, and social, economic, political, legal and ethical issues that may impact it
- Use technology to facilitate evaluation

3.3b1. Independently interpret information as appropriate to a specific purpose.

- Use retrieved information to accomplish a specific purpose
- Prioritize sources based on relevance
- Reevaluate their position on the topic and your research strategy
- Consider whether they have uncovered any worthwhile information that might take their research in a different direction
- Consider whether they have uncovered any worthwhile information that has caused them to see their topic from a new perspective

- Consider whether research needs to be redirected in any way based on material uncovered based on relevance

3.3b2. Independently draw conclusions based upon information relevant to a specific purpose; independently formulate logical conclusions based upon information relevant to a specific purpose.

- Use prior knowledge of a concept along with information in a text to:
 - draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - evaluate the author's viewpoint or attitude toward a topic or idea when strongly implied
 - evaluate the effect of an author's use of basic formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices)

Standard 4: Use literary knowledge accessed through print and visual media to connect self to society and culture.

4.1a. Connect their own experience to those of literary characters; explain the reasons for a character's actions; identify with characters.

- Evaluate a character's actions in a literary text, critically analyzing the text
- Make and support insightful connections between the reader's personal situations and motivations of characters in a text

4.1b. Connect their own experience to those of literary characters by responding to the sensory, intellectual, and emotional elements.

- Evaluate the effect of the author's use of imagery and figurative language on a reader
- Use ideas from the text to evaluate personal responses to literature (text-to-self connections)

4.1c. Connect their own experience to those of literary characters by relating to the feelings of characters or varying ages, genders, nationalities, races, cultures, religions, and disabilities.

- Read and analyze stories from different cultures and eras to broaden cultural awareness
- Demonstrate an understanding of the experiences and feelings of fictional characters (e.g., show empathy for, disagree with, compare to personal or other familiar experiences) based on age, gender, nationalities, races, cultures, and/or disabilities
- Compare works of literature from the same historical period written by authors from different (cultural, generational and gender) perspectives

4.1e. Connect own experiences to those of literary characters by seeking other literary texts and media as the result of literary experience.

- As a result of reading a literary text, students will connect to other texts using the following as guides for connections:
 - What does this remind me of in another book I've read?
 - How is this text similar to other things I've read?

- How is this different to other books I've read?
- Have I read about something like this before?
- Seek other texts and media with similar themes and connections

4.2a. Respond to literary text by making inferences about content, events, characters, setting, and author's decisions.

- Make strongly implied inferences about content, abstract ideas, events, characters, setting, mood, theme, and tone in a text and identify appropriate text support
- Make inferences about author's choices (e.g., paragraphing, dialogue, organization of text, formatting devices, mode of development, notes to readers) and rhetorical strategies (e.g., persuasive words, anecdotes, figurative language, emotional words, humor, questions, repetition, irony) and identify appropriate support from the text
- Make reasonable predictions as they read
- Test and revise predictions as they read further
- Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
- Make connections between conclusions they draw and other beliefs or knowledge
- Make critical or analytical judgments about what they read
- Analyze texts to make generalizations
- Create self-motivated interpretations of text that are adapted as they continue to read and after they read
- Analyze connections between self and literary themes
- Draw conclusions about characters and events in a text

4.2b. Understand the differences between genres.

- Use knowledge of distinctive characteristics of various genres including but not limited to:
 - fiction (e.g., short story, poetry, folk tale, mystery, tall tale, fairy tales, novels, fable, myth, fantasy, science fiction, historic fiction, and realistic fiction)
 - literary nonfiction (e.g., letter, magazine, biography, speeches, autobiography)
 - drama (e.g., classic and/or contemporary multi-act plays)
- to analyze the meaning of the text

4.2c. Interpret the impact of the author's decisions such as word choice, style, content, and literary elements; understand the author's intent in choosing a particular genre.

- Evaluate the effect of author's choices (word and content) on the reader
- Analyze how the author's writing style influences the reader
- Evaluate the effectiveness of an author's choice of words with specific connotations to create mood
- Compare styles among texts to determine effects of author's choices
- Compare characteristics and elements of various literary forms including short stories, poetry, essays, plays, speeches and novels

- Evaluate an author’s decision to use a particular genre in a given situation

4.2f. Identify the effect of point of view.

- Analyze how point of view affects a literary text (e.g., how a story would be different if told from a different point of view)
- Analyze how point of view impacts the reader
- Evaluate the effect of an author’s use of point of view such as first vs. third, limited vs. omniscient, and subjective vs. objective

4.3a. Respond to literary texts and media representing the diversity of American cultural heritage inclusive of ages, genders, nationalities, races, religions, and disabilities; respond to literary text and media representative of various nations and cultures.

- Read and evaluate complex stories from different cultures and eras to broaden cultural awareness
- Empathize with experiences and feelings of fictional characters based on age, gender, nationalities, races, cultures, and/or disabilities
- Compare works of literature from the same historical period written by authors from different (cultural, generational, and gender) perspectives

4.4a. Use literature as a resource for shaping decisions.

- Read stories and relate characters’ experiences to shape own decisions by asking questions:
 - I felt like that character when I....
 - If that happened to me, I would....
 - I can relate to that character because one time....

4.4b. Understand social and political issues.

- Compare works of literature from the same historical period written by authors from different cultural, generational, and gender perspectives
- Analyze an author’s viewpoint and message in relation to the historical and cultural context of the author’s work
- Analyze and research social, historical, cultural and biographical influences on literary works
- Contrast the major periods, themes, styles, and trends and describe how works by members of different cultures relate to one another in each period.
- Evaluate the philosophical, political, religious, ethical, and social influences of the historical period that shaped the characters, plots, and settings

DELAWARE Grade 11 English Language Arts Standards and Grade-Level Expectations

Standard 1: Use written and oral English appropriate for various purposes and audiences.

WRITTEN COMMUNICATION

1.1. Writers will produce texts that exhibit the following text features, all of which are consistent with the genre and purpose of the writing: development, organization, style, and word choice.

1.2. Writers will produce texts that exhibit the following language conventions at all grade levels: sentence formation, conventions.

1.3. Writers will produce examples that illustrate the following discourse classifications: by the completion of the grade, writers will be able to write persuasive, informative, and expressive pieces.

Purpose

- Students understand that persuasive writing is audience-centered; the needs of the intended audience are the most important consideration. Students understand that persuasive writing involves taking a position on a debatable issue to convince an audience.
- Students understand that informative writing is subject-centered; the need to communicate information clearly so that the audience can understand the content/subject is the most important consideration.
- Students understand that expressive writing is author-centered; the most important consideration is the writer's intent to tell a story or make meaning of an experience (reflection, self-discovery), to achieve personal goals, or to create literary pieces.

Audience

- Students understand that writing has an intended audience. In order to meet the needs of that audience, students
 - write in a manner that demonstrates an awareness of the audience (e.g., prior knowledge, motivation)
 - communicate necessary background information and/or definitions for a given audience
 - acknowledge reader's positions or beliefs about ideas or issues, understand implications for the writer, and adjust content accordingly
 - write to audiences that can be increasingly distant and abstract (e.g., unknown audiences such as politicians, leaders/owners of businesses [CEOs], foreign entities [governing bodies, foreign leaders] in addition to more familiar "others" from previous grades)

Form

- Students self-select appropriate forms and/or respond to assignments for a variety of occasions. Appropriate forms include, but are not limited to the following:

Persuasive

Letters to appropriate individuals/organizations (e.g., editor, boards, business, personnel)

Persuasive essays

Advertisements

Editorials
Reviews
Proposals
Debate briefs
Position papers
Legislative/legal documents

Informative

Letters to appropriate individuals/organizations (e.g., editor, boards, businesses, personnel)

Summaries

Reports (e.g., book reports, research reports)

Essays

Articles (feature and/or specialized)

Messages/memos and notices

Biography and autobiography

Reviews/literary criticism

Proposals

Character analyses

Dépositions

Abstract

Expressive

Stories

Journals

Poems

Memoirs

Personal essays

Credos

Development

Persuasive Writing

- Develop and present a clear defensible position that supports, opposes, or qualifies the issue/question
- Support position with reasons that could include relevant facts, statistics, credible personal and expert opinions, examples, and/or insightful commentary
- Acknowledge and evaluate readers' anticipated position(s) on issues and/or anticipated opposition (e.g., recognize alternative view points, propose solutions, make concessions, present a rebuttal, construct an alternative argument)
- Acknowledge assumptions within argument; expose and respond to unstated assumptions in opposition
- Write an original (e.g., beyond the obvious) and effective title, when appropriate
- Avoid unsupported reasons/logical fallacies (e.g., begging, "it's not fair," circular reasoning, partial truths, jumping to conclusions, jargon, faulty cause/effect statements, inadequately warranted claims)
- Use (when appropriate) persuasive and propaganda techniques (e.g., appeal to emotion, name calling, exaggeration/hyperbole, bandwagon, transfer, testimonial, parallelism, analogy) when appropriate

- Identify and use primary and secondary sources when appropriate, avoiding plagiarism
- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the issue

Informative Writing

- Select an interesting, manageable, thought-provoking and mature subject or focus for writing and one that meets the requirements of the assignment
- Write an effective, thought-provoking title, when appropriate
- Provide relevant information, reasons, and/or details to elaborate or clarify the subject (e.g., personal opinion based on experience/observation, verifiable facts, examples, explanations, definitions)
- Analyze and use information from multiple primary and secondary sources to support generalizations and theses, and to generate new ideas and/or perspectives, avoiding plagiarism
- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the topic

Expressive Writing

- Develop increasingly more abstract and interesting ideas for writing that are fresh and original
- Create a title that reflects the subject and engages the reader
- Use dialogue, description, and narration when appropriate
- Use vivid sensory images, figurative language, monologue, and/or allusion to elaborate details that will convey feelings and/or illustrate events and characters
- Use rhetorical devices (e.g., rhetorical question, repetition, direct address) when appropriate
- Use strategies such as humor, non-literal language (e.g., puns, double-meanings, purposeful use of ambiguity), alternative narrative techniques (e.g., stream-of-consciousness, satire, and parody) to engage the reader
- Text-based writing: combine information from text and prior knowledge, to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the topic

Organization

Persuasive Writing

- Present reasons in a logical order (e.g., weakest to strongest argument, strongest to weakest argument, inductive or deductive reasoning)
- Organize writing by selecting text structures that strengthen the argument
- Develop an introduction that presents a thesis and
 - takes a clear position and establishes self as authority

- clarifies the issue in a way that clearly establishes a need for solution/action
- provides necessary background
- commands readers' attention (e.g., invokes or appeals to reader) when appropriate
- provides criteria for evaluation of opposition
- Use subtle transition words/phrases that show increasingly more abstract relationships and make connections (e.g., controlling the pace, tracing development of the perspective and/or logic of the argument)
- Develop a conclusion that moves beyond summary (e.g., "call to action" or "next step," answers the "so what?" question about the significance of the issue, raises related issues or consequence of non-action, provides perspective)

Informative Writing

- Plan how to present information in a logical order (e.g., most important to least important information, general to specific, inductive or deductive reasoning)
- Organize writing by selecting text structures that clarify or explain the subject
- Develop an introduction/hook that presents a thesis that goes beyond the obvious and provides necessary background
- Use subtle transition words/phrases that show increasingly more abstract relationships and make connections
- Develop a conclusion that moves beyond summary (e.g., reinforcing the importance of the information, raising related issues, and/or generating a new hypothesis)
- Organize writing to engage the reader (e.g., by using other forms and genres)
- Use paragraphs to transition between ideas and control and enhance message

Expressive Writing

- Organize writing to engage the reader (e.g., by using other forms and genres)
- Use paragraphs to transition between ideas and control and enhance message
- Develop an introduction that hooks the reader and establishes the mood and tone
- Use transition words/phrases that show and make connections
- Use order other than chronological (e.g., flashback, foreshadow, flash-forward)
- Develop a conclusion that moves beyond summary (e.g., provide resolution/closure, pose purposeful questions to the reader to keep the reader thinking, refer back to the introduction/hook for circular endings)

Sentence Structure (& Style/Voice)

- In order to capture the audience's attention and establish a distinctive style, tone and voice:
 - use complete sentences to express thoughts

- vary sentence structure (e.g., simple, compound, complex, compound-complex sentences)
- vary kinds of sentences (declarative, explanatory, interrogative, imperative)
- vary sentence lengths
- vary sentence beginnings (experiment with placement of phrases/clauses in sentences and inverted construction)
- write sentences that create purpose-specific rhythm and flow naturally

Word Choice (& Style/Voice)

- Use vivid and precise words with the audience's needs and writer's purpose, style and voice in mind:
 - use specific, concrete language and phrasing
 - use adjectives and adverbs to describe, illustrate, and modify (clarify meaning)
 - use action verbs when possible
 - use words that convey appropriate voice (e.g., attitude, emotion, point of view, commitment) and add depth to writing
 - use a variety of accurate words and phrases that avoid repetition
 - use a purposeful range of formal/informal language depending on the audience
 - use non-literal language (e.g., idioms, slang, figurative language, dialect, pun)
 - use words that have denotations or connotations appropriate for the writing purpose
 - use words that create consistent style and tone for the writing occasion
 - purposely use active and passive voice

Conventions (& Style/Voice)

- Use Standard Written English conventions (and when appropriate, variations thereof) to achieve purpose and create effective style and voice. Deviations from SWE (e.g., dialect, slang) should have a specific rhetorical function
- Precisely use standard punctuation (commas, colons, hyphens, dashes, italics, and ellipses)
- In addition to standard punctuation
 - use punctuation to show increasingly abstract relationships (e.g., comma for clarity such as to set off phrases, clauses, appositives; semi-colon; colon to show relationships, parentheses)
 - use punctuation for rhetorical effect (e.g., dash, colon, ellipses)
- Demonstrate control of grammar in sophisticated sentence structures (compound, complex, compound-complex)
 - agreement of subject/verb, pronoun/antecedent
 - verb use (tense)
 - pronoun use (number, gender)
- Use active and passive voice appropriately and consistently
- Spell frequently used words correctly, and use effective strategies for spelling unfamiliar words

- Use purposeful parallel structure

ORAL COMMUNICATION

1.4. Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes.

- Develop and deliver a speech that conveys information and ideas in logical fashion for a selected audience, using language and voice that clarify and reinforce meaning
- Identify and discuss criteria for effective oral presentations (e.g., eye contact, projection, tone, volume, rate, articulation)
- Use visual techniques appropriately
- Share impromptu remarks about topics of interest to oneself and others
- Prepare and conduct interviews
- Present a coherent, comprehensive report on differing viewpoints on an issue, evaluating the content of the material presented, and organizing the presentation in a manner appropriate to the audience
- Differentiate between formal and informal contexts and employ an appropriate style of speaking, adjusting language, gestures, rate, and volume according to audience and purpose
- Present a coherent, comprehensive report on differing viewpoints on an issue, evaluating the content of the material presented, and organizing the presentation in a manner appropriate to the audience
- Construct and present a coherent argument, summarizing then refuting opposing positions, and citing persuasive evidence
- Participate effectively in question-and-answer sessions following presentations
- Demonstrate confidence and poise during presentations, interacting effectively with the audience, and selecting language and gestures mindful of their effect
- Demonstrate the ability to debate an issue from either side
- Interpret literary works orally, citing textual data in support of assertions
- Synthesize and present results of research projects, accurately summarizing and illustrating the main ideas, using appropriate technological aids, and offering support for the conclusions
- Speak fluently with varied inflection and effective eye contact, enunciating clearly at an appropriate rate and volume

1.5. Listen to and comprehend oral communications.

- Ask and respond to questions from teachers and other group members
- Summarize and explain information conveyed in an oral communication accounting for key ideas, structure, and relationship of parts to the whole
- Distinguish among purposes for listening (e.g., gaining information, being entertained) and take notes as appropriate

- Evaluate the reliability of information in oral communication using criteria based on
 - the topic
 - the context
 - analysis of logic, evidence, propaganda devices (e.g., bandwagon, double speak, name-calling)
 - style
- Analyze both literal and connotative meanings
- Distinguish between relevant and irrelevant information
- Analyze messages for their accuracy and usefulness
- Evaluate a speaker's use of diction, tone, syntax, rhetorical structure, and conventions of language considering the purpose and context of the communication
- Relate a speaker's ideas and information to prior knowledge and experience
- Consider the specific situation and current conditions when responding to instructions

1.6. Develop vocabulary and the ability to use words, phrases, idioms, and various grammatical structures as a means of improving communication.

- Consult dictionaries, thesauruses, handbooks, and grammar texts when choosing words, phrases, and expressions for use in oral and written presentations
- Identify common figures of speech and use them appropriately in oral communication
- Explain how writers and speakers choose words and use figurative language (e.g., similes, metaphors, personification, hyperbole, allusion) to achieve specific effects
- Choose words purposefully and evaluate the use of words in communications designed to inform, explain and persuade
- Examine the origin, history, denotation, connotation, and usage of English words and phrases by consulting dictionaries, thesauruses, handbooks, and other sources of information about the language
- Evaluate the effects of different types of language, such as literary and technical, formal and informal, in communications designed to narrate, inform, explain, persuade, and entertain
- Use language appropriate to the background, knowledge, and age of an audience
- Recognize and exercise options in modes of expression and choice of words when speaking and writing, especially when revising written work

1.7. Participate effectively in a discussion.

- Demonstrate the ability to extend a discussion by adding relevant information or asking pertinent questions
- Perform various roles in a discussion, including leader, participant, and moderator
- Detect and evaluate a speaker's bias
- Consider the ideas and opinions of other speakers thoughtfully before responding
- Evaluate the validity and adequacy of ideas, arguments, hypotheses, and evidence

- Evaluate the purpose of discussions by examining their context and the motivation of participants
- Explain and advance opinions by citing evidence and referring to authoritative sources
- Employ strategies (e.g., summarizing main ideas, identifying areas of agreement) to solve problems, resolve conflicts, and conclude discussions
- Convey criticism in a respectful and supportive way

Standard 2: Construct, examine, and extend the meaning of literary, informative, and technical texts through listening, reading, and viewing.

2.1. Using appropriate texts, students will be able to select and apply efficient, effective decoding skills and other word recognition strategies to comprehend printed texts.

- Vocabulary: Apply and use the meanings of high frequency Greek and Latin derived roots and affixes to determine the meaning of unknown words (e.g.: bio, derm, anti, graph, tele)
- Fluency: Read orally from familiar text at an appropriate rate, with accuracy and prosody

2.2a. Students will be able to develop an increasingly extensive vocabulary and actively seek the meaning of unknown words as an important facet of comprehending texts and messages by using context clues to determine the meanings of words.

- Use prior knowledge in conjunction with the following strategies to determine the meaning of unknown words by
 - reading and rereading other sentences in the text to identify and use words that help unlock the meaning of unknown words
 - analyzing illustrations to clarify meanings of abstract words and concepts
 - looking for and using context clues provided by synonyms and antonyms
 - using knowledge of homonyms and homographs to avoid reading confusion
 - using word cues (e.g., metaphors, similes)
 - using appositives
 - selecting the correct definition of words that have multiple meanings

2.3a. Students will be able to self-monitor comprehension while reading by (a) generating a purpose for reading.

- Use "During Reading" strategies by
 - assimilating prior knowledge
 - making and revising predictions
 - generating and answering questions
 - summarizing
 - rereading to clarify information
 - adjusting reading rate
 - inferring information
 - using mental imagery
 - seeking the meaning of unknown vocabulary
 - analyzing story/literary elements and text structure

2.3c. Using appropriate texts, students will be able to self-monitor comprehension while reading by (c) taking appropriate actions (e.g., rereading to make sense,

adjusting rate of reading, seeking the meaning of unknown vocabulary) to enhance understanding of oral and written text.

- Use illustrations to construct meaning from text
- Visualize what was read for a deeper understanding
- Make, confirm, adjust predictions
- Reread difficult parts slowly and carefully
- Explain personal connections to the ideas or information in the text(s)
- Skim text to search for connections between and among ideas
- Restate in own words the main events in the text
- Frequently summarize while reading
- Frequently paraphrase important ideas or information
- Use a graphic organizer or other note taking technique to record important ideas or information

2.4a. Students will be able to demonstrate an overall understanding of printed texts by (a) making predictions as needed.

- Predict likely outcomes based on clues in a text, knowledge of text structure, and knowledge of a variety of genres
- Adjust previous predictions based on new information in a text
- Identify logical, additional and/or complementary information (e.g., “next” chapter or section) for a text

2.4b (I/T). Students will be able to demonstrate an overall understanding of technical and informative texts by (b) identifying text features and text structures.

- Apply essential information from text features (e.g., title, author, cover, pictures, captions, maps, chapter headings, information from charts and graphs, illustrations, glossaries, indices) to enhance understanding of text
- Analyze text structures in informative/technical texts (sequence/chronological order, classification, definition, process, description, comparison, problem/solution, cause/effect) to make meaning of text
- Analyze the unique features of various informative texts (e.g., newspapers, magazines, product information, consumer materials, manuals, editorials) to enhance understanding of the text

2.4b (L). Students will be able to demonstrate an overall understanding of literary texts by (b) identifying the story elements (e.g., characters, setting, and plot) and story structures (conflict, resolution, cause/effect).

- Identify character(s) in a literary text or speaker(s) in a poem
- Describe the roles (e.g., protagonist/hero, antagonist/villain) characters play in a literary text
- Describe the changes in setting (flashback, foreshadowing)
- Identify various types of conflict (man vs. man, man vs. nature, man vs. self, man vs. society)

- Identify conflict(s), climax(s)/turning point(s) and resolution(s)
- Identify significant details related to the plot to analyze the pattern of organization (compare/contrast, problem/solution, sequence, cause/effect)
- Distinguish between main plot and multiple subplots
- Identify point of view (first person, third person limited, third person objective, omniscient)
- Identify the story structure/organizational pattern in a literary text (e.g., time order, geographic order, order of importance, cause/effect, classification)

2.4c. Students will be able to demonstrate an overall understanding of printed texts by (c) recognizing and interpreting figurative language and literary devices (e.g., simile, metaphor, allusion) and (e) differentiating between literal and non-literal meanings.

- Identify and interpret figurative language and literary devices (e.g., alliteration, repetition, rhythm, dialogue, rhyme, idioms, simile, metaphor, personification, exaggeration or hyperbole, humor, double meanings, puns, symbols, imagery, mood, allusion, puns, irony, tone and satire)
- Analyze how figurative language and literary devices extend meaning
- Differentiate between literal and non-literal meaning

2.4d. Students will be able to demonstrate an overall understanding of printed texts by (d) retelling a story or restating an informative text through speaking and/or writing.

- Summarize a literary text, identifying the main and supporting characters, events, setting, and problem/solution
- Summarize the strongly implied reasons for why or how events happen in a literary text
- Summarize the main ideas and supporting details in an informative/technical text
- Retell/restate in order the important events in a text
- Restate in order the steps of a task in an informative/technical text

2.4e. Students will be able to demonstrate an overall understanding of printed texts by (e) organizing the important points of the text via summaries, outlines, and/or graphic organizers.

- Create graphic organizers to assist in comprehension of a text
- Use an appropriate organizer based on the structure of the text (e.g., sequence/chronological order, classification, definition, process, description, comparison, problem/solution, cause/effect)
- Create an outline
- Summarize a text capturing the most important parts of the original piece

2.4f. Students will be able to demonstrate an overall understanding of printed texts by (f) identifying the author’s purpose.

- Analyze the author’s overall purpose(s) for writing (e.g., persuade, entertain, inform, describe, explain how) a text

- Identify the intended messages of advertisements, entertainment programs, and news sources
- Analyze how the author's purposes shape the content
- Analyze the difference between a stated purpose and an underlying reason in TV commercials and advertisements
- Create meaning from a variety of media

2.4g. Students will be able to demonstrate an overall understanding of printed texts by (g) comparing information between and within texts.

- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, or characters within a single text
- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, purposes, plots, settings, or characters presented in two or more texts
- Analyze subtle changes in characters (e.g., change in attitude, situation)

2.4h. Students will demonstrate an overall understanding of printed texts by (h) discriminating between fact and opinion.

- Discriminate between facts and/or subtle opinions in text(s)
- Identify facts in a text and determine their relevance to the issue
- Identify implied opinions in a text and determine their relevance to the issue
- Use word clues (e.g., believe, feel, think, worst, best, least, most, never, always) to determine that a statement is an opinion
- Question information in a text to determine if it is factual

2.4i. Students will be able to demonstrate an overall understanding of informative and technical printed texts by (i) making inferences.

- Make strongly implied inferences about content and concrete ideas in a text and identify appropriate text support
- Explain inferences about author's decisions (e.g., paragraphing, quotations, organization of text, formatting devices, mode of development used)
- Make reasonable predictions as they read
- Test and revise predictions as they read further
- Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
- Make connections between conclusions they draw and other beliefs or knowledge
- Make critical or analytical judgments about what they read
- Analyze texts to make generalizations
- Create interpretations of text that are adapted as they continue to read and after they read

2.4j. Students will be able to demonstrate an overall understanding of printed texts by (j) accepting or rejecting the validity of the information and giving supporting evidence.

- Use criteria to evaluate the validity and reliability of primary and secondary source information
- Use criteria to evaluate author's credibility in order to determine validity and reliability of a source
- Use criteria to evaluate author's perspective in order to determine validity and reliability of a source
- Use date of publication to evaluate the validity and reliability of a source

• Use criteria to evaluate the author's use of

- logic
- propaganda
- bias
- language
- motives

in order to determine validity and reliability of a source

2.4k/2.6b. Students will be able to demonstrate an overall understanding of printed texts by (k) relating the content of the text to real-life situations and (b) applying information from printed, electronic, and oral texts to complete authentic tasks.

- Draw on prior knowledge and experience to connect personally to text (text-to-self connections)
- Draw on prior knowledge of the world (other books, television, movies) to make text-to-world connections
- Analyze how connections (text-to-self, text-to-world) are contributing to their understanding of the text
- Employ reading strategies (e.g., skimming, scanning) to locate and apply information in varied print and non-print (e.g., computers, electronic media, interviews) sources for inquiry projects and other authentic tasks

2.5a. Students will be able to critically analyze and evaluate information and messages presented through print by (a) connecting and synthesizing information from many sources.

- Connect and synthesize information from increasingly different sources to generate new information/new ideas or expand prior knowledge (text-to-text and text-to-self connections)
- Synthesize information by comparing, eliminating and merging disparate pieces into one coherent whole

2.5b. Students will be able to critically analyze and evaluate information and messages presented through print by (b) formulating and expressing opinions.

- Synthesize experience and knowledge of the world (text-to-world connections) to make, support and apply judgments (that may not be dichotomous) based on the evaluation of complex issues in:
 - literary text (e.g., character's actions, morals of narratives or poems)
 - nonfiction
- Analyze information in a text to develop a logical and insightful opinion

2.5d. Students will be able to critically analyze and evaluate information and messages presented through print using critical and divergent thinking, and assimilating prior knowledge to draw conclusions.

- Use prior knowledge of a concept along with information in a text to:
 - Draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - Evaluate the author's viewpoint or attitude toward a topic or idea
 - Evaluate the effect of an author's use of formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices)

2.5e. Students will be able to critically analyze and evaluate information and messages presented through print and by (e) recognizing the impact of non-literal expressions in informative and technical texts and interpret the effect of literary devices.

- Evaluate how an author's use of literary devices (figurative language, dialogue and description) and non-literal expressions (idioms, double meanings, puns, irony) in a text affects readers
- Evaluate the impact of specific figurative and non-literal (idiomatic) expressions on the meaning of text
- Evaluate an author's decision to use specific figurative and non-literal (idiomatic) expressions in a text

2.5f. Students will be able to critically analyze and evaluate information and messages presented through print by (i) evaluating texts and media presentations for bias and misinformation, by (k) evaluating texts for their completeness, accuracy, and clarity of communication (e.g., overcome problems of ambiguity), and by (a) evaluating how the content, techniques, and form of texts and media affect them.

- Evaluate the fairness and trustworthiness of author's message (author's bias)
- Evaluate how persuasive techniques and author's choices (e.g., word choices) shape readers' understandings
- Evaluate the strengths and weaknesses of multiple text(s), sources, format, and argument
- Analyze the completeness, accuracy, and/or clarity of the information in a complex text
- Identify and evaluate information that needs to be checked for accuracy (e.g., data, statistics, sources) and evaluate the credibility of sources
- Evaluate the credibility of messages (e.g., thoroughness, depth, breadth, balance, use of fact and opinion, inclusion of logical and/or emotional arguments)
- Analyze ambiguous information in complex texts

2.5g. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (g) (h) acknowledging the possibility of a variety of interpretations of the same text; proposing other interpretations as valid if supported by the text.

- Analyze texts by reading and reacting to passages from a piece of text and critical interpretations of that same work
- Listen to and critique opposing interpretations of the same reading and consider how these opinions were formed through classroom dialogue and independent writing

- Compare and contrast opposing interpretations of the same reading and consider how these opinions were formed through classroom dialogue and independent writing
- Practice critical thinking by defending the validity of an assigned point of view even if it opposes their personal interpretation of the reading

2.5i, 2.5j. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (i) recognizing a variety of persuasive and propaganda techniques and how they are used in a variety of forms (advertising, campaigns, news formats, etc.).

- Identify and describe propaganda techniques (e.g., name calling, exaggeration/hyperbole, bandwagon, testimonial, broad generalization, red herring, circular thinking, parallelism)
- Identify persuasive techniques (e.g., appeal to emotion, appeal to authority, cause/effect, repetition, rhetorical question)
- Recognize and identify how propaganda and persuasive techniques are used in a variety of forms (e.g. television, commercials, movies, advertisements, newspapers, billboards, magazines, catalogues and packaging) to enhance the meaning of a text

2.5l. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (l) evaluating the literary merit of various texts and media presentations (d) recognizing literary merit.

- Read a variety of texts and evaluate them using these criteria to determine their literary merit:
 - has a unique writing style that is appropriate
 - has details
 - has a purpose
 - has clear, distinctive characters
 - is understandable
 - has an expressive vocabulary
 - has an unpredictable plot that is developed
 - has a variety of episodes/action
 - has an expressive vocabulary
 - interpretation of the theme or concept
 - presentation of information including accuracy, clarity, and organization
 - delineation of setting

2.6a. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech and mass media and extend meaning by (a) offering a personal response to texts.

- Revisit text to search for connections between and among ideas
- Find and explain personal connections to the topics, events, characters, actions, ideas or information in text(s)

2.7b. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (b)

identifying the underlying purposes of media messages

(e.g., profit vs. nonprofit, humanitarianism, support of artistry).

- **Identify underlying purposes** (e.g., profit vs. nonprofit, humanitarianism, support of artistry) **of media messages**
- **Evaluate the difference between a stated purpose and an underlying reason in media messages** (e.g., TV commercials, radio, Internet, video games, advertisements)

Standard 3: Access, organize, and evaluate information gained through listening, reading, and viewing.

3.1a1. Identify and locate a variety of sources including printed materials, personal interviews, oral reporting, forums, and technological forms of information.

- Locate information using appropriate sources and strategies
- Determine valid resources for researching a topic, including primary and secondary sources
- Evaluate the importance and quality of sources
- Use multiple sources of information (books, television, videos/DVDs, resource people, cassettes, dictionaries, recordings, encyclopedias, and available databases)
- Select sources (e.g., dictionaries, encyclopedias, interviews, observations, electronic media, computer databases) appropriate to the breadth and depth of the research
- Use text features (e.g., guide words, indices, glossaries, key words, table of contents, cross references, appendices) to access information
- Use traditional and electronic search tools
- Use teacher-selected Internet sites and data bases to access information

3.1a2. Develop and use procedures to gather information and ideas; (a1) (a) developing and following a process for research completion.

- Formulate a research question or thesis statement
- Determine a clear purpose, topic and audience for research
- Gather information from more than one source
- Locate information using appropriate sources and strategies
- Read, view, listen or interact with information and decide what is valuable for research
- Extract information (e.g., take notes, make copies)
- Organize and interpret gathered information using various graphic organizers (e.g., outlining, webbing)
- Record sources in a standard bibliographic format
- Relay facts from research
- Summarize ways in which the research process and product can be improved

3.1b. **Independently extract information to achieve a specific purpose; extract information relevant to a specific purpose.**

- Use various technologies (e.g., appropriate word processing functions, photocopier, audiovisual equipment, scanner) to extract needed information
- Determine the most appropriate form of technology for the task of extracting needed information
- **Decide what information is valuable for a particular situation**
- Select and use various methods (e.g., web, chart) to manage information
- **Create own system for organizing information**

3.2a. Use technology to synthesize information into a meaningful format to express ideas and experiences, and to create text, drawings, graphs, diagrams, photographs, videos and graphics.

- Use technology to synthesize information by
 - making a graphic organizer
 - making an outline
 - using a meaningful format (text, drawings, graphs, diagrams, and graphics) to express ideas
 - producing a video production
- Use various forms of technology
 - word processing
 - presentation programs
 - digital cameras
 - scanners
 - multimediato formulate writing and/or communicate knowledge of products

3.2b. Independently present information which is sufficient in quantity and depth to achieve a specific purpose, avoiding plagiarism.

- Decide how the information fits together
- Decide how the information would best be presented
- Recognize the need to put information from sources in their own words
- List sources of information in bibliographic form that follows a designated format (MLA, APA)
- Present gathered information in an oral or written format, which
 - uses sentences organized in paragraph form to tell about a designated topic
 - incorporates information from more than one source
 - includes information relevant to topic and purpose
 - identifies source of information
 - fulfills the identified purpose as clearly indicated in the thesis statement
 - utilizes an organizational plan for combining paragraphs to address a designated purpose and topic
 - incorporates information from multiple sources
 - summarizes, paraphrases, or directly quotes information from sources

3.3a2. **Establish criteria by which sources and information can be analyzed for accuracy, bias, stereotypes, and validity.**

- Differentiate between primary and secondary sources
- Independently select sources which are authoritative including UD Library Search
- Evaluate both sources and information as a result of analysis of accuracy, bias, stereotypes, and validity
- Synthesize information as appropriate to a specific purpose
- Formulate logical conclusions based upon information relevant to specific purpose
- Integrate information to express relevant ideas to a specific purpose
- Demonstrate how information retrieved does or does not address original problem
- Evaluate information in terms of credibility, accuracy, and social, economic, political, legal and ethical issues that may impact it
- Use technology to facilitate evaluation

3.3b1. Independently interpret information as appropriate to a specific purpose.

- Use retrieved information to accomplish a specific purpose
- Prioritize sources based on relevance
- Reevaluate their position on the topic and your research strategy
- Consider whether they have uncovered any worthwhile information that might take their research in a different direction
- Consider whether they have uncovered any worthwhile information that has caused them to see their topic from a new perspective
- Consider whether research needs to be redirected in any way based on material uncovered based on relevance

3.3b2. Independently draw conclusions based upon information relevant to a specific purpose; independently formulate logical conclusions based upon information relevant to a specific purpose.

- Use prior knowledge of a concept along with information in a text to:
 - draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - evaluate the author's viewpoint or attitude toward a topic or idea when strongly implied
 - evaluate the effect of an author's use of basic formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices)

Standard 4: Use literary knowledge accessed through print and visual media to connect self to society and culture.

4.1a. Connect their own experience to those of literary characters; explain the reasons for a character's actions; identify with characters.

- Evaluate a character's actions in a literary text, critically analyzing the text

- Make and support insightful connections between the reader's personal situations and motivations of characters in a text

4.1b. Connect their own experience to those of literary characters by responding to the sensory, intellectual, and emotional elements.

- Evaluate the effect of the author's use of imagery and figurative language on a reader
- Use ideas from the text to evaluate personal responses to literature (text-to-self connections)

4.1c. Connect their own experience to those of literary characters by relating to the feelings of characters or varying ages, genders, nationalities, races, cultures, religions, and disabilities.

- Read and analyze stories from different cultures and eras to broaden cultural awareness
- Demonstrate an understanding of the experiences and feelings of fictional characters (e.g., show empathy for, disagree with, compare to personal or other familiar experiences) based on age, gender, nationalities, races, cultures, and/or disabilities
- Compare works of literature from the same historical period written by authors from different (cultural, generational and gender) perspectives

4.1e. Connect own experiences to those of literary characters by seeking other literary texts and media as the result of literary experience.

- As a result of reading a literary text, students will connect to other texts using the following as guides for connections:
 - What does this remind me of in another book I've read?
 - How is this text similar to other things I've read?
 - How is this different to other books I've read?
 - Have I read about something like this before?
 - Seek other texts and media with similar themes and connections

4.2a. Respond to literary text by making inferences about content, events, characters, setting, and author's decisions.

- Make strongly implied inferences about content, abstract ideas, events, characters, setting, mood, theme, and tone in a text and identify appropriate text support
- Make inferences about author's choices (e.g., paragraphing, dialogue, organization of text, formatting devices, mode of development, notes to readers) and rhetorical strategies (e.g., persuasive words, anecdotes, figurative language, emotional words, humor, questions, repetition, irony) and identify appropriate support from the text
- Make reasonable predictions as they read
- Test and revise predictions as they read further
- Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
- Make connections between conclusions they draw and other beliefs or knowledge
- Make critical or analytical judgments about what they read
- Analyze texts to make generalizations

- Create self-motivated interpretations of text that are adapted as they continue to read and after they read
- Analyze connections between self and literary themes
- Draw conclusions about characters and events in a text

4.2b. Understand the differences between genres.

- Use knowledge of distinctive characteristics of various genres including but not limited to:
 - fiction (e.g., short story, poetry, folk tale, mystery, tall tale, fairy tales, novels, fable, myth, fantasy, science fiction, historic fiction, and realistic fiction)
 - literary nonfiction (e.g., letter, biography, speeches, autobiography)
 - drama (e.g., classic and/or contemporary multi-act plays)

to analyze the meaning of the text

4.2c. Interpret the impact of the author's decisions such as word choice, style, content, and literary elements; understand the author's intent in choosing a particular genre.

- Evaluate the effect of author's choices (word and content) on the reader
- Analyze how the author's writing style influences the reader
- Evaluate the effectiveness of an author's choice of words with specific connotations to create mood
- Analyze how irony, tone, mood, style, syntax, and sound of language are used for a rhetorical purpose
- Compare styles among texts to determine effects of author's choices
- Compare characteristics and elements of various literary forms including short stories, poetry, essays, plays, speeches and novels
- Evaluate an author's decision to use a particular genre in a given situation

4.2f. Identify the effect of point of view.

- Analyze how point of view affects a literary text (e.g., how a story would be different if told from a different point of view)
- Analyze how point of view impacts the reader

- Evaluate the effect of an author's use of point of view such as first vs. third, limited vs. omniscient, and subjective vs. objective

4.3a. Respond to literary texts and media representing the diversity of American cultural heritage inclusive of ages, genders, nationalities, races, religions, and disabilities; respond to literary text and media representative of various nations and cultures.

- Read and evaluate complex stories from different cultures and eras to broaden cultural awareness
- Empathize with experiences and feelings of fictional characters based on age, gender, nationalities, races, cultures, and/or disabilities
- Compare works of literature from the same historical period written by authors from different (cultural, generational and gender) perspectives

4.4a. Use literature as a resource for shaping decisions.

- Read stories and relate characters' experiences to shape own decisions by asking questions:
 - I felt like that character when I....
 - If that happened to me, I would...
 - I can relate to that character because one time....

4.4b. Understand social and political issues.

- Compare works of literature from the same historical period written by authors from different cultural, generational, and gender perspectives
- Analyze recognized works of literature representing a variety of genres and traditions
- Analyze and evaluate an author's viewpoint and message in relation to the historical and cultural context of the author's work
- Analyze and research social, historical, cultural and biographical influences on literary works
- Contrast the major periods, themes, styles, and trends and describe how works by members of different cultures relate to one another in each period.
- Evaluate the philosophical, political, religious, ethical, and social influences of the historical period that shaped the characters, plots, and settings
- Analyze the clarity and consistency of political assumptions in a selection of literary works or essays on a topic (e.g., suffrage, women's role in organized labor)

DELAWARE Grade 12 English Language Arts Standards and Grade-Level Expectations

Standard 1: Use written and oral English appropriate for various purposes and audiences.

WRITTEN COMMUNICATION

1.1. Writers will produce texts that exhibit the following text features, all of which are consistent with the genre and purpose of the writing: development, organization, style, and word choice.

1.2. Writers will produce texts that exhibit the following language conventions at all grade levels: sentence formation, conventions.

1.3. Writers will produce examples that illustrate the following discourse classifications: by the completion of the grade, writers will be able to write persuasive, informative, and expressive pieces.

Purpose

- Students understand that persuasive writing is audience-centered; the needs of the intended audience are the most important consideration. Students understand that persuasive writing involves taking a position on a debatable issue to convince an audience.
- Students understand that informative writing is subject-centered; the need to communicate information clearly so that the audience can understand the content/subject is the most important consideration.
- Students understand that expressive writing is author-centered; the most important consideration is the writer's intent to tell a story or make meaning of an experience (reflection, self-discovery), to achieve personal goals, or to create literary pieces.

Audience

- Students understand that writing has an intended audience. In order to meet the needs of that audience, students
 - write in a manner that demonstrates an analysis of the audience's needs and biases
 - determine and communicate necessary background information and key concepts for a given audience
 - acknowledge reader's positions or beliefs about ideas or issues, understand implications for the writer, and adjust content accordingly
 - write to audiences that can be increasingly distant and abstract or have specific needs, interest or goals (e.g., special interest, political, medical, educational, community groups, in addition to more familiar "others" from previous grades)

Form

- Students self-select appropriate forms and/or respond to assignments for a variety of occasions. Appropriate forms include, but are not limited to the following:

Persuasive

Letters to appropriate individuals/organizations (e.g., editor, boards, business, personnel)

Persuasive essays

Advertisements

Editorials

Reviews

Proposals

Debate briefs

Position papers

Legislative/legal documents

Satire/parody

Informative

Letters to appropriate individuals/organizations (e.g., editor, boards, businesses, personnel)

Summaries

Reports (e.g., book reports, research reports)

Essays

Articles (feature and/or specialized)

Messages/memos and notices

Biography and autobiography

Reviews/literary criticism

Proposals

Character analyses

Dépositions

Abstract

Précis

Expressive

Stories

Journals

Poems

Memoirs

Personal essays

Credos

Development

Persuasive Writing

- Analyze, develop and present a clear defensible position that supports, opposes, or qualifies the issue/question
- Support position with reasons that could include relevant facts, statistics, credible personal and expert opinions, examples, and/or insightful commentary
- Acknowledge, analyze and evaluate readers' anticipated position(s) on issues and/or anticipated opposition (e.g., recognize alternative view points, propose solutions, make concessions, present a rebuttal, construct an alternative argument)
- Acknowledge assumptions within argument; expose, respond and/or refute unstated assumptions in opposition
- Write an original (e.g., beyond the obvious) and effective title, when appropriate
- Avoid unsupported reasons/logical fallacies (e.g., begging, "it's not fair", circular reasoning, partial truths, jumping to conclusions, jargon, faulty cause/effect statements, inadequately warranted claims)
- Use (when appropriate) persuasive and propaganda techniques (e.g., appeal to emotion, name calling,

exaggeration/hyperbole, bandwagon, transfer, testimonial, parallelism, analogy) when appropriate

- Evaluate and use primary and secondary sources when appropriate, avoiding plagiarism
- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the issue

Informative Writing

- Select an interesting, manageable, thought-provoking and mature subject or focus for writing and one that meets the requirements of the assignment
- Write an effective title thought-provoking, when appropriate
- Provide relevant information, reasons, and/or details to elaborate or clarify the subject (e.g., personal opinion based on experience/observation, verifiable facts, examples, explanations, definitions)
- Analyze, evaluate and use information from multiple primary and secondary sources to support generalizations and theses, and to generate new ideas and/or perspectives, avoiding plagiarism
- Text-based writing: combine information from text and prior knowledge to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the topic

Expressive Writing

- Develop increasingly more abstract and interesting ideas for writing that are fresh and original
- Create a title that reflects the subject and engages the reader
- Use dialogue, description, and narration when appropriate
- Evaluate and self-select the effective use of vivid sensory images, figurative language, monologue, allusion, and/or allegory to elaborate details that will convey feelings and/or illustrate events and characters
- Evaluate and self-select the effective use rhetorical devices (e.g., rhetorical question, repetition, direct address) when appropriate
- Evaluate and self-select the effective use of strategies such as humor, non-literal language (e.g., puns, double-meanings, purposeful use of ambiguity), alternative narrative techniques (e.g., stream-of-consciousness, satire, and parody) to engage the reader
- Text-based writing: combine information from text and prior knowledge, to elaborate upon ideas in writing (text-to-self, text-to-text, text-to-world connections) that reveal to the reader the writer's depth of understanding of the topic

Organization

Persuasive Writing

- Present reasons in a logical order (e.g., weakest to strongest argument, strongest to weakest argument, inductive or deductive reasoning)

- Organize writing by selecting text structures that strengthen the argument
- Develop an introduction that presents a thesis and
 - takes a clear position and establishes self as authority
 - clarifies the issue in a way that clearly establishes a need for solution/action
 - provides necessary background
 - commands readers' attention (e.g., invokes or appeals to reader) when appropriate
 - provides criteria for evaluation of opposition
- Use subtle transition words/phrases that show increasingly more abstract relationships and make connections (e.g., controlling the pace, tracing development of the perspective and/or logic of the argument)
- Develop a conclusion that moves beyond summary (e.g., "call to action" or "next step," answers the "so what?" question about the significance of the issue, raises related issues or consequence of non-action, provides perspective)

Informative Writing

- Plan how to present information in a logical order (e.g., most important to least important information, general to specific, inductive or deductive reasoning)
- Organize writing by selecting text structures that clarify or explain the subject
- Develop an introduction/hook that presents a thesis that goes beyond the obvious and provides necessary background
- Use subtle transition words/phrases that show increasingly more abstract relationships and make connections
- Develop a conclusion that moves beyond summary (e.g., reinforcing the importance of the information, raising related issues, and/or generating a new hypothesis)
- Organize writing to engage the reader (e.g., by using other forms [essay, poem] and genres [poetry, drama, prose])
- Use paragraphs to transition between ideas and control and enhance message

Expressive Writing

- Organize writing to engage the reader (e.g., by using other forms and genres)
- Use paragraphs to transition between ideas and control and enhance message
- Develop an introduction that hooks the reader and establishes the mood and tone
- Use transition words/phrases that show and make connections
- Use order other than chronological (e.g., flashback, foreshadow, flash-forward)
- Develop a conclusion that moves beyond summary (e.g., provide resolution/closure, pose purposeful questions to the reader to keep the reader thinking, refer back to the introduction/hook for circular endings)

Sentence Structure (& Style/Voice)

- In order to capture the audience's attention and establish a distinctive style, tone and voice
 - use complete sentences to express thoughts
 - vary sentence structure (e.g., simple, compound, complex, compound-complex sentences)
 - vary kinds of sentences (declarative, explanatory, interrogative, imperative)
 - vary sentence lengths
 - vary sentence beginnings using the placement of phrases/clauses and/or inverted construction)
 - write sentences that create purpose-specific rhythm and flow naturally

Word Choice (& Style/Voice)

- Use vivid and precise words with the audience's needs and writer's purpose, style and voice in mind:
 - use specific, concrete language and phrasing
 - use adjectives and adverbs to describe, illustrate, and modify (clarify meaning)
 - use action verbs when possible
 - use words that convey appropriate voice (e.g., attitude, emotion, point of view, commitment) and add depth to writing
 - use a variety of accurate words and phrases that avoid repetition
 - use a purposeful range of formal/informal language depending on the audience
 - use non-literal language (e.g., idioms, slang, figurative language, dialect, pun)
 - use words that have denotations or connotations appropriate for the writing purpose
 - use words that create consistent style and tone for the writing occasion
 - purposely use active and passive voice

Conventions (& Style/Voice)

- Use Standard Written English conventions (and when appropriate, variations thereof) to achieve purpose and create effective style and voice. Deviations from SWE (e.g., dialect, slang) should have a specific rhetorical function
- Precisely use standard punctuation (commas, colons, hyphens, dashes, italics, and ellipses)
- In addition to standard punctuation
 - use punctuation to show increasingly abstract relationships (e.g., comma for clarity such as to set off phrases, clauses, appositives; semi-colon; colon to show relationships, parentheses)
 - use punctuation for rhetorical effect (e.g., dash, colon, ellipses)
- Demonstrate control of grammar in sophisticated sentence structures (compound, complex, compound-complex)
 - agreement of subject/verb, pronoun/antecedent
 - verb use (tense)
 - pronoun use (number, gender)

- Use active and passive voice appropriately and consistently
- Spell frequently used words correctly, and use effective strategies for spelling unfamiliar words
- Use purposeful parallel structure

ORAL COMMUNICATION

1.4. Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes.

- Develop and deliver a speech that conveys information and ideas in logical fashion for a selected audience, using language and voice that clarify and reinforce meaning
 - Identify and discuss criteria for effective oral presentations (e.g., eye contact, projection, tone, volume, rate, articulation)
 - Use visual techniques appropriately
 - Share impromptu remarks about topics of interest to oneself and others
 - Prepare and conduct interviews
 - Present a coherent, comprehensive report on differing viewpoints on an issue, evaluating the content of the material presented, and organizing the presentation in a manner appropriate to the audience
 - Differentiate between formal and informal contexts and employ an appropriate style of speaking, adjusting language, gestures, rate, and volume according to audience and purpose
 - Present a coherent, comprehensive report on differing viewpoints on an issue, evaluating the content of the material presented, and organizing the presentation in a manner appropriate to the audience
 - Construct and present a coherent argument, summarizing then refuting opposing positions, and citing persuasive evidence
 - Participate effectively in question-and-answer sessions following presentations
 - Demonstrate confidence and poise during presentations, interacting effectively with the audience, and selecting language and gestures mindful of their effect
 - Demonstrate the ability to debate an issue from either side
 - Interpret literary works orally, citing textual data in support of assertions
 - Synthesize and present results of research projects, accurately summarizing and illustrating the main ideas, using appropriate technological aids, and offering support for the conclusions
 - Speak fluently with varied inflection and effective eye contact, enunciating clearly at an appropriate rate and volume
- 1.5. Listen to and comprehend oral communications.
- Follow basic directions
 - Ask and respond to questions from teachers and other group members

- Summarize and explain information conveyed in an oral communication accounting for key ideas, structure, and relationship of parts to the whole
- Distinguish among purposes for listening (e.g., gaining information, being entertained) and take notes as appropriate

- Evaluate the reliability of information in oral communication using criteria based on
 - the topic
 - the context
 - analysis of logic, evidence, propaganda devices (e.g., bandwagon, double speak, name-calling)
 - style
- Analyze both literal and connotative meanings
- Distinguish between relevant and irrelevant information
- Analyze messages for their accuracy and usefulness
- Evaluate a speaker's use of diction, tone, syntax, rhetorical structure, and conventions of language considering the purpose and context of the communication
- Relate a speaker's ideas and information to prior knowledge and experience
- Consider the specific situation and current conditions when responding to instructions

1.6. Develop vocabulary and the ability to use words, phrases, idioms, and various grammatical structures as a means of improving communication.

- Consult dictionaries, thesauruses, handbooks, and grammar texts when choosing words, phrases, and expressions for use in oral and written presentations
- Identify common figures of speech and use them appropriately in oral communication
- Explain how writers and speakers choose words and use figurative language such as similes, metaphors, personification, hyperbole and allusion to achieve specific effects
- Choose words purposefully and evaluate the use of words in communications designed to inform, explain and persuade
- Examine the origin, history, denotation, connotation, and usage of English words and phrases by consulting dictionaries, thesauruses, handbooks, and other sources of information about the language
- Evaluate the effects of different types of language, such as literary and technical, formal and informal, in communications designed to narrate, inform, explain, persuade, and entertain
- Use language appropriate to the background, knowledge, and age of an audience
- Recognize and exercise options in modes of expression and choice of words when speaking and writing, especially when revising written work

1.7. Participate effectively in a discussion.

- Demonstrate the ability to extend a discussion by adding relevant information or asking pertinent questions

- Perform various roles in a discussion, including leader, participant, and moderator
- Detect and evaluate a speaker's bias
- Consider the ideas and opinions of other speakers thoughtfully before responding
- Evaluate the validity and adequacy of ideas, arguments, hypotheses, and evidence
- Evaluate the purpose of discussions by examining their context and the motivation of participants
- Explain and advance opinions by citing evidence and referring to authoritative sources
- Employ strategies (e.g., summarizing main ideas, identifying areas of agreement) to solve problems, resolve conflicts, and conclude discussions
- Convey criticism in a respectful and supportive way

Standard 2: Construct, examine, and extend the meaning of literary, informative, and technical texts through listening, reading, and viewing.

2.1. Using appropriate texts, students will be able to select and apply efficient, effective decoding skills and other word recognition strategies to comprehend printed texts.

- **Vocabulary:** Apply and use the meanings of high frequency Greek and Latin derived roots and affixes to determine the meaning of unknown words (e.g.: bio, dermat, anti, graph, tele)
- **Fluency:** Read orally from familiar text at an appropriate rate, with accuracy and prosody

2.2a. Students will be able to develop an increasingly extensive vocabulary and actively seek the meaning of unknown words as an important facet of comprehending texts and messages by using context clues to determine the meanings of words.

- Use prior knowledge in conjunction with the following strategies to determine the meaning of unknown words by
 - reading and rereading other sentences in the text to identify and use words that help unlock the meaning of unknown words
 - analyzing illustrations to clarify meanings of abstract words and concepts
 - looking for and using context clues provided by synonyms and antonyms
 - using knowledge of homonyms and homographs to avoid reading confusion
 - using word cues (e.g., metaphors, similes)
 - using appositives
 - selecting the correct definition of words that have multiple meanings

2.3a. Students will be able to self-monitor comprehension while reading by (a) generating a purpose for reading.

- Use "During Reading" strategies by
 - assimilating prior knowledge
 - making and revising predictions
 - generating and answering questions
 - summarizing
 - rereading to clarify information

- adjusting reading rate
- **inferring information**
- using mental imagery
- **seeking the meaning of unknown vocabulary**
- **analyzing story/literary elements and text structure**

2.3c. Using appropriate texts, students will be able to **self-monitor comprehension while reading by (c) taking appropriate actions** (e.g., rereading to make sense, adjusting rate of reading, seeking the meaning of unknown vocabulary) **to enhance understanding of oral and written text.**

- Use illustrations to construct meaning from text
- **Visualize what was read for a deeper understanding**
- **Make, confirm, adjust predictions**
- **Reread difficult parts slowly and carefully**
- Explain personal connections to the ideas or information in the text(s)
- **Skim text to search for connections between and among ideas**
- Restate in own words the main events in the text
- **Frequently summarize while reading**
- Frequently **paraphrase important ideas or information**
- Use a graphic organizer or other note taking technique to record important ideas or information

2.4a. Students will be able to **demonstrate an overall understanding of printed texts by (a) making predictions as needed.**

- **Predict likely outcomes based on clues in a text, knowledge of text structure, and knowledge of a variety of genres**
- **Adjust previous predictions based on new information in a text**
- **Identify logical, additional and/or complementary information** (e.g., “next” chapter or section) for a text

2.4b (I/T). Students will be able to **demonstrate an overall understanding of technical and informative texts by (b) identifying text features and text structures.**

- **Apply essential information from text features** (e.g., title, author, cover, pictures, captions, maps, chapter headings, information from charts and graphs, illustrations, glossaries, indices) **to enhance understanding of text**
- **Analyze text structures in informative/technical texts** (sequence/chronological order, classification, definition, process, description, comparison, problem/solution, cause/effect) **to make meaning of text**
- **Analyze the unique features of various informative texts** (e.g., newspapers, magazines, product information, consumer materials, manuals, editorials) **to enhance understanding of the text**

2.4b (L). Students will be able to **demonstrate an overall understanding of literary texts by (b) identifying the story elements** (e.g., characters, setting, and plot) **and story structures** (conflict, resolution, cause/effect).

- **Identify character(s) in a literary text or speaker(s) in a poem**

- Describe the roles (e.g., protagonist/hero, antagonist/villain) characters play in a literary text
- **Describe the changes in setting** (flashback, foreshadowing)
- Identify various types of conflict (man vs. man, man vs. nature, man vs. self, man vs. society)
- **Identify conflict(s), climax(s)/turning point(s) and resolution(s)**
- **Identify significant details related to the plot to analyze the pattern of organization** (compare/contrast, problem/solution, sequence, cause/effect)
- Distinguish between main plot and multiple subplots
- **Identify point of view** (first person, third person limited, third person objective, omniscient)
- **Identify the story structure/organizational pattern in a literary text** (e.g., time order, geographic order, order of importance, cause/effect, classification)

2.4c. Students will be able to **demonstrate an overall understanding of printed texts by (c) recognizing and interpreting figurative language and literary devices** (e.g., simile, metaphor, allusion) **and (e) differentiating between literal and non-literal meanings.**

- **Identify and interpret figurative language and literary devices** (e.g., alliteration, repetition, rhythm, dialogue, rhyme, idioms, simile, metaphor, personification, exaggeration or hyperbole, humor, double meanings, puns, symbols, imagery, mood, allusion, puns, irony, tone and satire)
- **Analyze how figurative language and literary devices extend meaning**
- **Differentiate between literal and non-literal meaning**

2.4d. Students will be able to **demonstrate an overall understanding of printed texts by (d) retelling a story or restating an informative text** through speaking and/or writing.

- Summarize a literary text, identifying the main and supporting characters, events, setting, and problem/solution
- **Summarize the strongly implied reasons for why or how events happen in a literary text**
- **Summarize the main ideas and supporting details in an informative/technical text**
- **Retell/restate in order the important events in a text**
- **Restate in order the steps of a task in an informative/technical text**

2.4e. Students will be able to **demonstrate an overall understanding of printed texts by (e) organizing the important points of the text via summaries, outlines, and/or graphic organizers.**

- Create graphic organizers to assist in comprehension of a text
- **Use an appropriate organizer based on the structure of the text** (e.g., sequence/chronological order, classification, definition, process, description, comparison, problem/solution, cause/effect)
- Create an outline

- Summarize a text capturing the most important parts of the original piece

2.4f. Students will be able to demonstrate an overall understanding of printed texts by (f) identifying the author's purpose.

- Analyze the author's overall purpose(s) for writing (e.g., persuade, entertain, inform, describe, explain how) a text
- Identify the intended messages of advertisements, entertainment programs, and news sources
- Analyze how the author's purposes shape the content
- Analyze the difference between a stated purpose and an underlying reason in TV commercials and advertisements
- Create meaning from a variety of media

2.4g. Students will be able to demonstrate an overall understanding of printed texts by (g) comparing information between and within texts.

- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, or characters within a single text
- Compare subtle but relevant similarities and/or differences in ideas, viewpoints, purposes, plots, settings, or characters presented in two or more texts
- Analyze subtle changes in characters (e.g., change in attitude, situation)

2.4h. Students will demonstrate an overall understanding of printed texts by (h) discriminating between fact and opinion.

- Discriminate between facts and/or subtle opinions in text(s)
- Identify facts in a text and determine their relevance to the issue
- Identify implied opinions in a text and determine their relevance to the issue
- Use word clues (e.g., believe, feel, think, worst, best, least, most, never, always) to determine that a statement is an opinion
- Question information in a text to determine if it is factual

2.4i. Students will be able to demonstrate an overall understanding of informative and technical printed texts by (i) making inferences.

- Make strongly implied inferences about content and concrete ideas in a text and identify appropriate text support
- Explain inferences about author's decisions (e.g., paragraphing, quotations, organization of text, formatting devices, mode of development used)
- Make reasonable predictions as they read
- Test and revise predictions as they read further
- Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
- Make connections between conclusions they draw and other beliefs or knowledge
- Make critical or analytical judgments about what they read
- Analyze texts to make generalizations

- Create interpretations of text that are adapted as they continue to read and after they read

2.4j. Students will be able to demonstrate an overall understanding of printed texts by (j) accepting or rejecting the validity of the information and giving supporting evidence.

- Use criteria to evaluate the validity and reliability of primary and secondary source information
- Use criteria to evaluate author's credibility in order to determine validity and reliability of a source
- Use criteria to evaluate author's perspective in order to determine validity and reliability of a source
- Use date of publication to evaluate the validity and reliability of a source
- Use criteria to evaluate the author's use of
 - logic
 - propaganda
 - bias
 - language
 - motives
 in order to determine validity and reliability of a source

2.4k/2.6b. Students will be able to demonstrate an overall understanding of printed texts by (k) relating the content of the text to real-life situations and (b) applying information from printed, electronic, and oral texts to complete authentic tasks.

- Draw on prior knowledge and experience to connect personally to text (text-to-self connections)
- Draw on prior knowledge of the world (other books, television, movies) to make text-to-world connections
- Analyze how connections (text-to-self, text-to-world) are contributing to their understanding of the text
- Employ reading strategies (e.g., skimming, scanning) to locate and apply information in varied print and non-print (e.g., computers, electronic media, interviews) sources for inquiry projects and other authentic tasks

2.5a. Students will be able to critically analyze and evaluate information and messages presented through print by (a) connecting and synthesizing information from many sources.

- Connect and synthesize information from increasingly different sources to generate new information/new ideas or expand prior knowledge (text-to-text and text-to-self connections)
- Synthesize information by comparing, eliminating and merging disparate pieces into one coherent whole

2.5b. Students will be able to critically analyze and evaluate information and messages presented through print by (b) formulating and expressing opinions.

- Synthesize experience and knowledge of the world (text-to-world connections) to make, support and apply judgments (that may not be dichotomous) based on the evaluation of complex issues in:
 - literary text (e.g., character's actions, morals of narratives or poems)
 - nonfiction

- Analyze information in a text to develop a logical and insightful opinion

2.5d. Students will be able to critically analyze and evaluate information and messages presented through print using critical and divergent thinking, and assimilating prior knowledge to draw conclusions.

- Use prior knowledge of a concept along with information in a text to:
 - Draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - Evaluate the author's viewpoint or attitude toward a topic or idea
 - Evaluate the effect of an author's use of formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices)

2.5e. Students will be able to critically analyze and evaluate information and messages presented through print and by (e) recognizing the impact of non-literal expressions in informative and technical texts and interpret the effect of literary devices.

- Evaluate how an author's use of literary devices (figurative language, dialogue and description) and non-literal expressions (idioms, double meanings, puns, irony) in a text affects readers
- Evaluate the impact of specific figurative and non-literal (idiomatic) expressions on the meaning of text
- Evaluate an author's decision to use specific figurative and non-literal (idiomatic) expressions in a text

2.5f. Students will be able to critically analyze and evaluate information and messages presented through print by (i) evaluating texts and media presentations for bias and misinformation, by (k) evaluating texts for their completeness, accuracy, and clarity of communication (e.g., overcome problems of ambiguity), and by (a) evaluating how the content, techniques, and form of texts and media affect them.

- Evaluate the fairness and trustworthiness of author's message (author's bias)
- Evaluate how persuasive techniques and author's choices (e.g., word choices) shape readers' understandings
- Evaluate the strengths and weaknesses of multiple text(s), sources, format, and argument
- Analyze the completeness, accuracy, and/or clarity of the information in a complex text
- Identify and evaluate information that needs to be checked for accuracy (e.g., data, statistics, sources) and evaluate the credibility of sources
- Evaluate the credibility of messages (e.g., thoroughness, depth, breadth, balance, use of fact and opinion, inclusion of logical and/or emotional arguments)
- Analyze ambiguous information in complex texts

2.5g. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (g) (h) acknowledging the possibility of a variety of interpretations

of the same text; proposing other interpretations as valid if supported by the text.

- Analyze texts by reading and reacting to passages from a piece of text and critical interpretations of that same work
- Listen to and critique opposing interpretations of the same reading and consider how these opinions were formed through classroom dialogue and independent writing
- Compare and contrast opposing interpretations of the same reading and consider how these opinions were formed through classroom dialogue and independent writing
- Practice critical thinking by defending the validity of an assigned point of view even if it opposes their personal interpretation of the reading

2.5i, 2.5j. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (i) recognizing a variety of persuasive and propaganda techniques and how they are used in a variety of forms (advertising, campaigns, news formats, etc.).

- Identify and describe propaganda techniques (e.g., name calling, exaggeration/hyperbole, bandwagon, testimonial, broad generalization, red herring, circular thinking, parallelism)
- Identify persuasive techniques (e.g., appeal to emotion, appeal to authority, cause/effect, repetition, rhetorical question)
- Recognize and identify how propaganda and persuasive techniques are used in a variety of forms (e.g. television, commercials, movies, advertisements, newspapers, billboards, magazines, catalogues and packaging) to enhance the meaning of a text

2.5l. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (l) evaluating the literary merit of various texts and media presentations (d) recognizing literary merit.

- Read a variety of texts and evaluate them using these criteria to determine their literary merit:
 - has a unique writing style that is appropriate
 - has details
 - has a purpose
 - has clear, distinctive characters
 - is understandable
 - has an expressive vocabulary
 - has an unpredictable plot that is developed
 - has a variety of episodes/action
 - has an expressive vocabulary
 - interpretation of the theme or concept
 - presentation of information including accuracy, clarity, and organization
 - delineation of setting

2.6a. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech and mass media and extend meaning by (a) offering a personal response to texts.

- Revisit text to search for connections between and among ideas
- Find and explain personal connections to the topics, events, characters, actions, ideas or information in text(s)

2.7b. Using appropriate texts, students will be able to critically analyze and evaluate information and messages presented through print, speech, and mass media by (b) identifying the underlying purposes of media messages (e.g., profit vs. nonprofit, humanitarianism, support of artistry).

- Identify underlying purposes (e.g., profit vs. nonprofit, humanitarianism, support of artistry) of media messages
- Evaluate the difference between a stated purpose and an underlying reason in media messages (e.g., TV commercials, radio, Internet, video games, advertisements)

Standard 3: Access, organize, and evaluate information gained through listening, reading, and viewing.

3.1a1. Identify and locate a variety of sources including printed materials, personal interviews, oral reporting, forums, and technological forms of information.

- Locate information using appropriate sources and strategies
- Determine valid resources for researching a topic, including primary and secondary sources
- Evaluate the importance and quality of sources
- Use multiple sources of information (books, television, videos/DVDs, resource people, cassettes, dictionaries, recordings, encyclopedias, and available databases)
- Select sources (e.g., dictionaries, encyclopedias, interviews, observations, electronic media, computer databases) appropriate to the breadth and depth of the research
- Use text features (e.g., guide words, indices, glossaries, key words, table of contents, cross references, appendices) to access information
- Use traditional and electronic search tools
- Use teacher-selected Internet sites and data bases to access information

3.1a2. Develop and use procedures to gather information and ideas; (a1) (a) developing and following a process for research completion.

- Formulate a research question or thesis statement
- Determine a clear purpose, topic and audience for research
- Gather information from more than one source
- Locate information using appropriate sources and strategies
- Read, view, listen or interact with information and decide what is valuable for research
- Extract information (e.g., take notes, make copies)
- Organize and interpret gathered information using various graphic organizers (e.g., outlining, webbing)
- Record sources in a standard bibliographic format

- Relay facts from research
- Summarize ways in which the research process and product can be improved

3.1b. Independently extract information to achieve a specific purpose; extract information relevant to a specific purpose.

- Use various technologies (e.g., appropriate word processing functions, photocopier, audiovisual equipment, scanner) to extract needed information
- Determine the most appropriate form of technology for the task of extracting needed information
- Decide what information is valuable for a particular situation
- Select and use various methods (e.g., web, chart) to manage information
- Create own system for organizing information

3.2a. Use technology to synthesize information into a meaningful format to express ideas and experiences, and to create text, drawings, graphs, diagrams, photographs, videos and graphics.

- Use technology to synthesize information by
 - making a graphic organizer
 - making an outline
 - using a meaningful format (text, drawings, graphs, diagrams, and graphics) to express ideas
 - producing a video production
- Use various forms of technology
 - word processing
 - presentation programs
 - digital cameras
 - scanners
 - multimedia
 to formulate writing and/or communicate knowledge of products

3.2b. Independently present information which is sufficient in quantity and depth to achieve a specific purpose, avoiding plagiarism.

- Decide how the information fits together
- Decide how the information would best be presented
- Recognize the need to put information from sources in their own words
- List sources of information in bibliographic form that follows a designated format (MLA, APA)
- Present gathered information in an oral or written format, which
 - uses sentences organized in paragraph form to tell about a designated topic
 - incorporates information from more than one source
 - includes information relevant to topic and purpose
 - identifies source of information
 - fulfills the identified purpose as clearly indicated in the thesis statement
 - utilizes an organizational plan for combining paragraphs to address a designated purpose and topic

- incorporates information from multiple sources
- summarizes, paraphrases, or directly quotes information from sources

3.3a2. Establish criteria by which sources and information can be analyzed for accuracy, bias, stereotypes, and validity.

- Differentiate between primary and secondary sources
- Independently select sources which are authoritative including UD Library Search
- Evaluate both sources and information as a result of analysis of accuracy, bias, stereotypes, and validity
- Synthesize information as appropriate to a specific purpose
- Formulate logical conclusions based upon information relevant to specific purpose
- Integrate information to express relevant ideas to a specific purpose
- Demonstrate how information retrieved does or does not address original problem
- Evaluate information in terms of credibility, accuracy, and social, economic, political, legal and ethical issues that may impact it
- Use technology to facilitate evaluation

3.3b1. Independently interpret information as appropriate to a specific purpose.

- Use retrieved information to accomplish a specific purpose
- Prioritize sources based on relevance
- Reevaluate their position on the topic and your research strategy
- Consider whether they have uncovered any worthwhile information that might take their research in a different direction
- Consider whether they have uncovered any worthwhile information that has caused them to see their topic from a new perspective
- Consider whether research needs to be redirected in any way based on material uncovered based on relevance

3.3b2. Independently draw conclusions based upon information relevant to a specific purpose; independently formulate logical conclusions based upon information relevant to a specific purpose.

- Use prior knowledge of a concept along with information in a text to:
 - draw conclusions (including implied main ideas) that require analysis and/or evaluation
 - evaluate the author's viewpoint or attitude toward a topic or idea when strongly implied
 - evaluate the effect of an author's use of basic formatting and design techniques (e.g., paragraphing, headings/subheadings, pictures/illustrations, columns, font styles [bold, underline, italics, caps], punctuation choices)

Standard 4: Use literary knowledge accessed through print and visual media to connect self to society and culture.

4.1a. Connect their own experience to those of literary characters; explain the reasons for a character's actions; identify with characters.

- Evaluate a character's actions in a literary text, critically analyzing the text
- Make and support insightful connections between the reader's personal situations and motivations of characters in a text
- Compare the characters' situations or motivations to those in other literary texts

4.1b. Connect their own experience to those of literary characters by responding to the sensory, intellectual, and emotional elements.

- Evaluate the effect of the author's use of imagery and figurative language on a reader
- Use ideas from the text to evaluate personal responses to literature (text-to-self connections)

4.1c. Connect their own experience to those of literary characters by relating to the feelings of characters or varying ages, genders, nationalities, races, cultures, religions, and disabilities.

- Read and analyze stories from different cultures and eras to broaden cultural awareness
- Demonstrate an understanding of the experiences and feelings of fictional characters (e.g., show empathy for, disagree with, compare to personal or other familiar experiences) based on age, gender, nationalities, races, cultures, and/or disabilities
- Compare works of literature from the same historical period written by authors from different (cultural, generational and gender) perspectives

4.1e. Connect own experiences to those of literary characters by seeking other literary texts and media as the result of literary experience.

- As a result of reading a literary text, students will connect to other texts using the following as guides for connections:
 - What does this remind me of in another book I've read?
 - How is this text similar to other things I've read?
 - How is this different to other books I've read?
 - Have I read about something like this before?
 - Seek other texts and media with similar themes and connections

4.2a. Respond to literary text by making inferences about content, events, characters, setting, and author's decisions.

- Make strongly implied inferences about content, abstract ideas, events, characters, setting, mood, theme, and tone in a text and identify appropriate text support
- Make inferences about author's choices (e.g., paragraphing, dialogue, organization of text, formatting devices, mode of development, notes to readers) and rhetorical strategies (e.g., persuasive words, anecdotes, figurative language, emotional words, humor, questions, repetition, irony) and identify appropriate support from the text

- Make reasonable predictions as they read
 - Test and revise predictions as they read further
 - Use the combination of background knowledge and explicitly stated information from the text to answer questions they have as they read
 - Make connections between conclusions they draw and other beliefs or knowledge
 - Make critical or analytical judgments about what they read
 - Analyze texts to make generalizations
 - Create self-motivated interpretations of text that are adapted as they continue to read and after they read
 - Analyze connections between self and literary themes
 - Draw conclusions about characters and events in a text
- 4.2b.** Understand the differences between genres.
- Use knowledge of distinctive characteristics of various genres including but not limited to:
 - fiction (e.g., short story, poetry, folk tale, mystery, tall tale, fairy tales, novels, fable, myth, fantasy, science fiction, historic fiction, and realistic fiction)
 - literary nonfiction (e.g., letter, biography, speeches, autobiography)
 - drama (e.g., classic and/or contemporary multi-act plays) to analyze the meaning of the text
- 4.2c.** Interpret the impact of the author's decisions such as word choice, style, content, and literary elements; understand the author's intent in choosing a particular genre.
- Evaluate the effect of author's choices (word and content) on the reader
 - Analyze how the author's writing style influences the reader
 - Evaluate the effectiveness of an author's choice of words with specific connotations to create mood
 - Analyze how irony, tone, mood, style, syntax, and sound of language are used for a rhetorical purpose
 - Compare styles among texts to determine effects of author's choices
 - Compare characteristics and elements of various literary forms including short stories, poetry, essays, plays, speeches and novels
 - Evaluate an author's decision to use a particular genre in a given situation
- 4.2f.** Identify the effect of point of view.
- Analyze how point of view affects a literary text (e.g., how a story would be different if told from a different point of view)
 - Analyze how point of view impacts the reader
 - Evaluate the effect of an author's use of point of view such as first vs. third, limited vs. omniscient, and subjective vs. objective
- 4.3a.** Respond to literary texts and media representing the diversity of American cultural heritage inclusive of ages, genders, nationalities, races, religions, and disabilities; respond to literary text and media representative of various nations and cultures.
- Read and evaluate complex stories from different cultures and eras to broaden cultural awareness
 - Empathize with experiences and feelings of fictional characters based on age, gender, nationalities, races, cultures, and/or disabilities
 - Compare works of literature from the same historical period written by authors from different (cultural, generational and gender) perspectives
- 4.4a.** Use literature as a resource for shaping decisions.
- Read stories and relate characters' experiences to shape own decisions by asking questions
 - I felt like that character when I....
 - If that happened to me, I would....
 - I can relate to that character because one time....
- 4.4b.** Understand social and political issues.
- Compare works of literature from the same historical period written by authors from different cultural, generational, and gender perspectives
 - Analyze recognized works of literature representing a variety of genres and traditions
 - Analyze and evaluate an author's viewpoint and message in relation to the historical and cultural context of the author's work
 - Research, analyze and evaluate social, historical, cultural and biographical influences on literary works
 - Contrast the major periods, themes, styles, and trends and describe how works by members of different cultures relate to one another in each period
 - Evaluate the philosophical, political, religious, ethical, and social influences of the historical period that shaped the characters, plots, and settings
 - Analyze the clarity and consistency of political assumptions in a selection of literary works or essays on a topic (e.g., suffrage, women's role in organized labor)

Mathematics

DELAWARE Grade 8 Mathematics Standards and Grade-Level Expectations

Standard 1: Numeric Reasoning

Number sense

- Use exponential notation to represent whole numbers
- Use square numbers and square roots to reason about the relationship between the side of a square and area of the square (e.g., side of a square with an area of 9 is $\sqrt{9}$ or 3, side of a square with area of 5 is $\sqrt{5}$)
- Apply knowledge of factors and multiples, evens and odds, primes and composites, to generalizations
- Explore the meaning of irrational numbers such as π , or $\sqrt{3}$

Operations

- Perform computations with exponents, powers of 10, and scientific notation
- Use inverse operations to "do and undo" mathematical operations with rational numbers
- Demonstrate the reasonableness of an exact calculation by using an estimation or mental math strategy
- Explain how the distributive property is used to multiply (e.g., partial products, mixed numbers)
- Use meaningful relationships between addition, subtraction, multiplication, and division of integers to justify the rules of operations
- Apply proportional reasoning strategies to solve real-world problems
- Select and use appropriate methods and tools for computing (e.g., mental computation, estimation, calculators, paper and pencil) depending on the context and nature of the computation

Standard 2: Algebraic Reasoning

Patterns and change

- Determine the slope of a line given two points on the line (as coordinates, in a graph, in a table)
- Use y-intercept and slope to graph the equation of a line
- Compare the rates of change in tables and graphs and classify them as linear or nonlinear
- Recognize exponential rates of growth and decay in tables and graphs
- Use an algebraic expression to represent any term in a numeric or geometric pattern

Representations

- Write an equation given the tabular or graphic form of a linear problem
- Analyze the interrelationships among tables, graphs, and equations of lines, paying particular attention to the

meaning of intercept and slope in the context of the problem

- Demonstrate the equivalence of two algebraic expressions using physical models
- Use tables, graphs and symbolic reasoning to identify functions as linear or nonlinear

Symbols

- Apply the order of operations
- Explore the factor/product relationship between a quadratic expression and its linear factors
- Use physical models to develop and write exponential and power models
- Combine two algebraic expressions to form a new expression
- Demonstrate the equivalence of linear expressions
- Solve linear equations using inverse operations and properties of equality

Standard 3: Geometric Reasoning

Classification

- Apply angle relationships to solve problems

Location and transformation

- Apply proportional reasoning strategies to find unknown sides of similar triangle
- Develop and evaluate mathematical arguments to demonstrate geometric relationships such as similarity, congruence, or symmetry
- Use the Pythagorean Theorem to find missing sides of right triangles

Measurement

- Explore the effects of scaling on volume and surface area of rectangular prisms (i.e., how does doubling the side lengths affect the volume?)
- Compare the surface area of rectangular prisms which have the same volume but different dimensions
- Find the measures of corresponding parts of similar figures
- Compare the relationship between the volume of different shapes with the same base and height (e.g., cylinder and cone, prism and pyramid)

Standard 4: Quantitative Reasoning

Collect

- Pose questions that can be answered by collecting and organizing data from experiments, surveys, and relevant print and electronic resources

- Use random sampling methods to collect the necessary information to answer questions

Represent

- Construct displays of data to represent individual sets of data (e.g., histograms, box plots) or to explore the relationship between related sets of data (scatter plots, line graphs); describe the correspondence between data sets and their graphical displays

Analyze

- Defend or dispute conclusions drawn from the interpretation of data by comparing sets of data or exploring possible relationships based upon scatter plots of related data and approximate lines of fit
- Analyze a representative sample to make inferences about a population
- Find and use appropriate measures of center (mean, media, mode) and spread (range, interquartile range) to interpret data
- Compare the usefulness of the mean and median as measures of center; describe the effect of changes in the data on the mean and median of the data set(s)

Probability

- Compare and make predictions based on theoretical and experimental probabilities, using sample data generated through actual experiments or computer simulations
- Construct an appropriate sample space and apply principles of probability for a simple or compound event
- Investigate and describe the difference between the event experimental probability of a simulated event (experiment) and the theoretical probability of the same event
- Explore the concepts of randomness and random sample

Standard 5: Problem Solving

5.1. Build new mathematical knowledge

5.2. Solve problems that arise in mathematics and in other contexts

5.3. Apply and adapt a variety of appropriate strategies to solve problems

5.4. Monitor and reflect on the process of mathematical problem solving

Standard 6: Reasoning and Proof

6.1. Understand that reasoning and proof are fundamental aspects of mathematics

6.2. Make and investigate mathematical conjectures

6.3. Develop and evaluate mathematical arguments and proofs

6.4. Select and use various types of reasoning and methods of proof

Standard 7: Communication

7.1. Organize and consolidate their mathematical thinking through communication

7.2. Communicate their mathematical thinking coherently and clearly to peers, teachers, and others

7.3. Analyze and evaluate the mathematical thinking and strategies of others

7.4. Use the language of mathematics to express mathematical ideas precisely

Standard 8: Connections

8.1. Recognize and use connections among mathematical ideas

8.2. Understand how mathematical ideas interconnect and build on one another to produce a coherent whole

8.3. Recognize and apply mathematics in contexts outside of mathematics

DELAWARE Grade 9 Mathematics

Standards and Grade-Level Expectations

Standard 1: Numeric Reasoning

Number sense

- Demonstrate an understanding of numbers as rational or irrational
- Compare relative sizes of real numbers
- Estimate square roots
- Determine the appropriateness of an answer by using number sense or estimation

Operations

- Represent and operate with very large and very small numbers to include various representations of them
- Extend the “order of operations” to include absolute value
- Make generalizations about the effect of operations on rational numbers
- Use properties of the real number system to simplify expressions (Associative, Commutative, Identity, Inverse, and Distributive)

Standard 2: Algebraic Reasoning

Patterns and change

- Explain slope as a rate of change between dependent and independent variables
- Understand and compare the graphs, tables, and equations within linear contexts that are direct variations (proportional) and those that are not
- Describe the effect of parameter changes on linear and exponential functions within a context, table, graph, and equation
- Compare linear with exponential functions using, the context, table, graph, or equation
- Demonstrate and apply recursive thinking to classify linear and exponential functions
- Use a variety of strategies to write expressions that generate the n th term of arithmetic (linear) and geometric (exponential) patterns

Representations

- Model and solve real-world linear situations, including linear inequalities, using tables, graphs, and symbols
- Model and solve situations involving systems of equations with tables or graphs using technology
- Analyze data sets using technology to find an appropriate linear or exponential mathematical model
- Demonstrate a conceptual understanding of correlation
- Demonstrate an understanding of the difference between discrete and continuous data
- Analyze the interrelationship among the table, graph and equation of both linear and exponential functions paying particular attention to the meaning of intercept and slope in the context of the problem
- Determine if a given value is a solution to a given equation or inequality

- Make strategic selection of graphing calculator viewing window and scale to solve problems

Symbols

- Determine symbolically the equation of a line given combinations of point, slope, and intercept information
- Convert between equivalent forms of linear functions
- Solve single variable equations and inequalities algebraically

Standard 3: Geometric Reasoning

Classification

- Represent and verify parallel and perpendicular relationships in linear functions
- Classify 3-dimensional figures according to the shapes of their base(s) and faces

Location and transformation

- Use properties of triangles and quadrilaterals to construct them in the coordinate plane

Measurement

- Demonstrate an understanding of and apply formulas for area, surface area, and volume of geometric figures including pyramids, cones, spheres, and cylinders
- Solve problems which require an understanding of the Pythagorean Theorem relationships
- Compare the relationship between the volume of different shapes with the same base and height (e.g., cylinder and cone, prism and pyramid)

Standard 4: Quantitative Reasoning

Collect

- Describe and explain how the validity of predictions are affected by number of trials, sample size, and the population

Represent

- Select and interpret the most appropriate display for a given purpose and set(s) of data (e.g., histograms, parallel box plots, stem-and-leaf plots, scatter plots)
- Find an appropriate mathematical model of a linear or exponential function and use the model to make predictions recognizing the limitations of the model

Analyze

- Analyze the validity of statistical conclusions on both one- and two-variable data
- Describe the effect of outliers in both one-variable and two-variable contexts

Probability

- Use and design simulations or experiments to determine probabilities of independent and dependent events
- Define a sample space to compare probabilities using the Fundamental Counting Principle

- Compare event experimental probability with theoretical probability (Law of Large Numbers)

Standard 5: Problem Solving

5.1. Build new mathematical knowledge

5.2. Solve problems that arise in mathematics and in other contexts

5.3. Apply and adapt a variety of appropriate strategies to solve problems

5.4. Monitor and reflect on the process of mathematical problem solving

Standard 6: Reasoning and Proof

6.1. Understand that reasoning and proof are fundamental aspects of mathematics

6.2. Make and investigate mathematical conjectures

6.3. Develop and evaluate mathematical arguments and proofs

6.4. Select and use various types of reasoning and methods of proof

Standard 7: Communication

7.1. Organize and consolidate their mathematical thinking through communication

7.2. Communicate their mathematical thinking coherently and clearly to peers, teachers, and others

7.3. Analyze and evaluate the mathematical thinking and strategies of others

7.4. Use the language of mathematics to express mathematical ideas precisely

Standard 8: Connections

8.1. Recognize and use connections among mathematical ideas

8.2. Understand how mathematical ideas interconnect and build on one another to produce a coherent whole

8.3. Recognize and apply mathematics in contexts outside of mathematics

DELAWARE Grade 10 Mathematics
Standards and Grade-Level Expectations

Standard 1: Numeric Reasoning

Number sense

- Compare and contrast the properties of numbers in the real number system
- Determine the effect of using exact values or estimates for repeating decimals and irrational numbers (e.g. $\frac{2}{3}$ or $.67$, π or 3.14) in a problem solving situation
- Simplify numeric and symbolic expressions involving absolute value, square roots, and exponents

Operations

- Use technology to add, subtract, and multiply with matrices in problem solving situations
- Solve problems that involve using inverse operations including powers and roots

Standard 2: Algebraic Reasoning

Patterns and change

- Use linear, quadratic, and cubic functions to describe length, area, and volume relationships
- Describe and predict the effect of parameter changes on functions
- Compare linear with exponential and quadratic functions using the context, table, graph, or equation
- Use a variety of strategies to write expressions that generate the n th term of linear, exponential, and quadratic functions
- Distinguish between situations involving direct and inverse variations

Representations

- Model and solve situations involving systems of equations and inequalities
- Determine the appropriateness of linear, exponential or quadratic models given a real-world situation
- Convert flexibly among relationships expressed in tables, graphs, and equations for exponential and quadratic functions
- Estimate solutions to exponential and quadratic function using tables and graphs
- Represent and analyze problem situations using matrices

Symbols

- Solve systems of linear equations and inequalities both algebraically and using technology

Standard 3: Geometric Reasoning

Classification

- Determine whether a triangle is a right triangle (e.g., Converse of Pythagorean Theorem, slopes of adjacent sides)
- Identify necessary and sufficient conditions that define parallelograms or triangles
- Justify whether two figures are similar or congruent

- Use and justify angle relationships created by intersecting and parallel lines
- Reason deductively to justify a conclusion or to create a counter-example

Location and transformation

- Determine the results of multiple transformations and determine the transformations required to obtain the finished product from the original shape
- Use appropriate technologies to model geometric figures and to develop conjectures about them
- Draw geometric figures in the coordinate plane and justify the properties of the figure (e.g., slope, side length)

Measurement

- Apply trigonometric relationships to determine side lengths and angle measures of right triangle
- Determine the impact of measurement and rounding error on subsequent computations
- Find missing dimensions of a shape given the area, volume, or surface area
- Apply the Pythagorean Theorem and its converse
- Develop and apply the distance and midpoint formulas
- Use partitioning and formulas to find the surface area and volume of complex shapes
- Demonstrate the effects of scaling on volume and surface area of three-dimensional solids

Standard 4: Quantitative Reasoning

Collect

- Use permutations and combinations as counting techniques

Represent

No GLEs at this grade level

Analyze

- Recognize how linear transformations of one variable data affect shape, center, and spread

Probability

- Compute and interpret expected value
- Compute the probability of both independent and dependent events

Standard 5: Problem Solving

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Standard 6: Reasoning and Proof

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DELAWARE Grade 11 Mathematics
Standards and Grade-Level Expectations

Standard 1: Numeric Reasoning

Number sense

- Extend the development of the properties of numbers in the real number system
- Simplify expressions with negative and fractional exponents

Operations

- Make generalizations about the effect of operations on real numbers
- Perform addition, subtraction, and multiplication on polynomial expressions
- Perform addition, subtraction, and multiplication on irrational expressions
- Recognize and use inverse operations to solve equations, powers, and their corresponding roots
- Analyze the reasonableness of computational strategies and the results

Standard 2: Algebraic Reasoning

Patterns and change

- Use rates of change to classify families of functions
- Describe how a change in one variable affects other variables in a multivariable situation
- Develop the conceptual understanding that logarithmic and exponential functions are inverse functions

Representations

- Model constraints to solve linear programming problems
- Analyze linear, quadratic, exponential, periodic, trigonometric, or inverse relationships in graphs using best fit lines and curves (regression lines and curve fitting)
- Understand the relationship between the solution to a quadratic equation and its graph

Symbols

- Use functional notation to represent and evaluate functions
- Write equivalent symbolic forms of linear, quadratic, or exponential functions
- Use geometric models and/or algebraic symbols to multiply binomials and complete the square
- Use algebraic techniques to identify the vertex and intercepts for quadratic functions
- Apply the quadratic formula and/or factor to solve problems
- Use expressions or equations to describe arithmetic and geometric sequences (nth term) and series (using sigma notation) to represent the sum

Standard 3: Geometric Reasoning

Classification

- Connect the right angle relationships with the unit circle and periodic functions for any angle
- Use Sine and Cosine functions to explore periodic real world phenomena
- Identify and apply the properties of circles as they relate to central angles, inscribed angles, and tangents

Location and transformation

- Stretch and shrink periodic functions by changing parameters
- Visualize three-dimensional objects from different perspectives

Measurement

- Develop the conceptual understanding of a radian
- Understand the relationship between degree measures and radian measures of benchmark angles such as 0° , 30° , 45° , 60° , 90° , and multiples of these angles
- Use trigonometric relationships to determine side lengths and angle measures of any triangle

Standard 4: Quantitative Reasoning

Collect

- Understand the differences among the various kinds of studies (e.g., survey, controlled experiment)
- Determine factors which may affect the outcome of a survey

Represent

- Interpret least squares regression line as the line that minimizes the sum of the squared errors

Analyze

- Compute and use standard deviation to analyze data variability
- Apply benchmark percents described by the “empirical rule” (68%-95%-99.7% rule) in a normal distribution
- Recognize approximate norm distributions

Probability

- Understand and use the addition rule to calculate probabilities for mutually exclusive and non-mutually exclusive events

Standard 5: Problem Solving

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DELAWARE Grade 12 Mathematics
Standards and Grade-Level Expectations

Standard 1: Numeric Reasoning

Number sense

- Use $i = \sqrt{-1}$ to develop an awareness of other number systems
- Understand the magnitude of numbers that are encountered in the real world

Operations

- Select and use appropriate methods and tools for computing from among mental computation, estimation, calculators, paper and pencil, and computers according to the context and nature of the computation

Standard 2: Algebraic Reasoning

Patterns and change

- Apply and use an understanding of rates of change to solve real world problems involving applications of finance such as but not limited to, savings, compound interest, continuous interest, depreciation, loans, credit cards, mortgages, reading amortization tables, home buying, etc.
- Explore and analyze real world problem situations involving non-financial applications of rates

Representations

- Interpret maximum and minimum values of functions in problem situations
- Understand the relationship between the zeros (roots) of a polynomial function and its factors

Symbols

- Use symbolic, numeric or graphical methods to solve systems of equations and/or inequalities involving linear and nonlinear contexts
- Solve everyday problems that can be modeled using polynomial, rational, exponential, logarithmic, and/or step functions, absolute value and square roots

Standard 3: Geometric Reasoning

Classification

- Understand and use periodic functions to model real world phenomena

Location and transformation

- Explore and use other coordinate systems to describe directions and location
- Use perspective, proportionality, and patterning to explore real world geometric applications

Measurement

- Use indirect measurement to find missing lengths of geometric figures
- Use appropriate units to measure a given quantity

Standard 4: Quantitative Reasoning

Collect

- Apply principles of data collection and experimental design that aim to minimize bias and variability of resulting data

Represent

- Apply and interpret z scores
- Interpret margin of error and confidence intervals

Analyze

- Use discrete probability models such as the binomial model to represent real world phenomena

Probability

- Use conditional probabilities to solve problems from health, public policy, and other areas
- Use the normal distribution to calculate probabilities

Standard 5: Problem Solving

5.1. Build new mathematical knowledge

5.2. Solve problems that arise in mathematics and in other contexts

5.3. Apply and adapt a variety of appropriate strategies to solve problems

5.4. Monitor and reflect on the process of mathematical problem solving

Standard 6: Reasoning and Proof

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Science

DELAWARE Grade 8 Science Standards and Grade-Level Expectations

Standard 1: Nature and Application of Science and Technology

Enduring Understanding: Scientific inquiry involves asking scientifically-oriented questions, collecting evidence, forming explanations, connecting explanations to scientific knowledge and theory, and communicating and justifying the explanation.

Frame and refine questions that can be investigated scientifically, and generate testable hypotheses.

Design and conduct investigations with controlled variables to test hypotheses.

Accurately collect data through the selection and use of tools and techniques appropriate to the investigation. Construct tables, diagrams and graphs, showing relationships between two variables, to display and facilitate analysis of data. Compare and question results with and from other students.

Form explanations based on accurate and logical analysis of evidence. Revise the explanation using alternative descriptions, predictions, models and knowledge from other sources as well as results of further investigation.

Communicate scientific procedures, data, and explanations to enable the replication of results. Use computer technology to assist in communicating these results. Critical review is important in the analysis of these results.

Use mathematics, reading, writing, and technology in conducting scientific inquiries.

Standard 2: Materials and Their Properties

Enduring Understanding: The structures of materials determine their properties.

Conduct simple investigations in which a variety of materials (sand, water, light colored materials, dark colored materials) are exposed to light and heat energy. Measure the change in temperature of the material and describe any changes that occur in terms of the physical properties of the material.

Conduct investigations, using a variety of materials, to show that some materials conduct heat more readily than others. Identify these materials as conductors or insulators.

Explain why insulators may be used to slow the change of temperature of hot or cold materials.

Enduring Understanding: The properties of the mixture are based on the properties of its components.

No GLEs for this understanding

Enduring Understanding: When materials interact within a closed system, the total mass of the system remains the same.

No GLEs for this understanding

Enduring Understanding: People develop new materials as a response to the needs of society and the pursuit of knowledge. This development may have risks and benefits to humans and the environment.

No GLEs for this understanding

Standard 3: Energy and Its Effects

Enduring Understandings: Energy takes many forms. These forms can be grouped into types of energy that are associated with the motion of mass (kinetic energy) and types of energy associated with the position of mass and energy fields (potential energy).

Explain that kinetic energy is the energy an object has because of its motion and identify that kinetic energy depends upon the object's speed and mass.

Design and carry out investigations to determine how changing the mass of an object or changing its speed changes its kinetic energy.

Explain that gravitational potential energy (GPE) is the energy of position (above the Earth's surface) and that it depends on the object's mass and height above the ground. Relate that lifted objects have GPE and that the size of an object's GPE depends on its mass and the vertical distance it was lifted. Make a graph to demonstrate and describe how the GPE changes as the height of an object is increased or decreased.

Explain that the mechanical energy of an object is the sum of its kinetic energy and its potential energy at any point in time. Identify the mechanical energy of objects in different circumstances and identify whether the mechanical energy consists of KE, PE or both (i.e., a ball at rest at the top of an incline and in its motion part of the way down the incline, or a model plane driven by a "rubber band" motor, etc.).

Interpret graphical representations of energy to describe how changes in the potential energy of an object can influence changes in its kinetic energy.

Explain that the mechanical energy of an object is a measure of how much the object can change the motion of other objects or materials (e.g., a ball (or air) having a large kinetic energy can do more damage than a ball (or air) with less kinetic energy).

Use the particle model to explain heat energy as the combined random kinetic energy of particles that make up an object and while the heat energy and temperature of an object are related, they are different quantities.

Describe how the motion of water particles in a glass of cold water is different from the motion of water particles in a glass of hot water.

Explain that sound energy is mechanical energy that travels in the form of waves. Use the particle model to explain why sound waves must travel through matter, and that sound travels more effectively through solids and liquids than through gases. Model and describe how sound energy travels through solids, liquids, and gases.

Use the properties of sound waves and the particle model to describe how the pitch of two waves can be different and how the loudness of two waves can be different.

Explain that heat energy and sound energy both make the particles of a substance move. Use models to explain how the particles respond differently to these types of energy. Use models to explain why sound travels much faster through substances than heat energy does.

Relate that the sun is the source of almost all of the Earth's energy and that this energy travels to the Earth in the form of electromagnetic waves.

Explain that the electromagnetic waves from the sun consist of a range of wavelengths and associated energies. Explain that the majority of the energy from the sun reaches Earth in the form of infrared, visible, and ultraviolet waves. Use diagrams to demonstrate the differences in different types of electromagnetic waves.

Plan and conduct an experiment to identify the presence of UV and IR waves in sunlight or other sources of electromagnetic waves. Use evidence to explain the presence of each.

Enduring Understandings: Changes take place because of the transfer of energy. Energy is transferred to matter through the action of forces. Different forces are responsible for the different forms of energy.

The force of gravity can act across very large distances of space. Through the force of gravity planets pull on their moons, and pull on each other. The sun pulls on all planets, moons and other celestial bodies in the solar system. Use an understanding of how forces change the motion of objects to explain how gravity is responsible for creating the orbital motion of planets and moons.

Explain that the transfer of energy from one object to another is caused by the exertion of a force. Create an energy chain to show how forces can change the mechanical energy of an object. Describe how the distance over which the forces act will influence the amount of energy transferred (and when appropriate, the amount of energy transformed).

Give examples of how mechanical energy can be transferred to (or away from) an object, and describe the changes that can take place in the motion of the object because of this energy transfer, (e.g., pulling on a trailer to start it moving or using friction to slow an object and bring it to rest).

Use diagrams to trace and describe the transfer of energy through a physical system (for example, the erosion effects of water flowing down an unprotected slope).

Use the particle model to explain how mechanical waves can transport energy without transporting mass. Give examples that support the transfer of energy without any net transfer of matter.

Explain that the frequency and amplitude are two characteristics of waves that determine the mechanical energy carried and delivered by a sound wave per unit of time. Use diagrams to explain how each of these properties will influence the KE of the particles in the substance when a sound wave passes through the substance.

The energy delivered by a wave depends on more than just the frequency. Give an example of a high frequency sound wave that delivers small quantities of energy every second and explain how this is possible. Give an example of a low frequency sound wave that delivers large quantities of energy every second and explain how this is possible.

Use the particle model to explain how heat energy is transferred through solid materials (conduction). Give examples of materials that are good "conductors" of heat energy and examples of materials that are poor conductors of heat energy, and how both types of materials are used in typical homes.

Use the particle model to describe the difference between heat energy transfer in solids and heat energy transfer in liquids and gases (i.e., the differences between conduction and convection).

Use the particle model to explain why heat energy is always transferred from materials at higher temperatures to materials at lower temperatures. Explain why heat energy transfer ceases when the equilibrium temperature is reached. Explain that when this temperature is reached, the materials are in thermal equilibrium.

Conduct simple investigations to demonstrate that heat energy is transferred from one material to another in predictable ways (from materials at higher temperatures to materials at lower temperatures), until both materials reach the same temperature.

Explain how the addition or removal of heat energy can change an object's temperature or its physical state. Conduct simple investigations involving changes of physical state and temperature. Relate that there is no change in temperature when a substance is changing state.

Enduring Understandings: Energy readily transforms from one form to another, but these transformations are not always reversible. The details of these transformations depend upon the initial form of the energy and the properties of the materials involved. Energy may transfer into or out of a system and it may change forms, but the total energy cannot change.

Identify that energy can exist in several forms, and when it changes from one form into another the process is called energy transformation.

Explain that energy transformation and energy transfer are different processes, and that energy transformations can take place during an energy transfer. Give examples of energy transformations that take place during an energy transfer.

Give examples of energy transfers that do not include energy transformations. Give examples of energy transformations that take place without any energy transfer.

Use energy chains to trace the flow of energy through physical systems. Indicate the energy transfers and the energy transformations that are involved in the processes

(e.g., the lighting of an electric lamp in a region serviced by a hydroelectric (or coal fueled) electric power plant, or the sediment that clouds a stream after a heavy rainfall).

Recognize that when light enters an eye, the energy carried by the light waves carries information and allows living things to see.

Trace the flow of the energy carried by the light when the light strikes a material and is reflected from, transmitted through, and/or absorbed by the material. Describe the energy transfers and transformations that take place when light energy is absorbed by a material.

Conduct investigations to show that materials can absorb some frequencies of electromagnetic waves, but reflect others or allow them to transmit through the material. Use this selective absorption process to explain how objects obtain their color, how materials like sunscreen can serve to protect us from harmful electromagnetic waves, and how selective absorption contributes to the Greenhouse Effect.

Trace what happens to the energy from the Sun when it reaches Earth and encounters various materials, such as, atmosphere, oceans, soil, rocks, plants, and animals. Recognize that these materials absorb, reflect and transmit the electromagnetic waves coming from the sun differently.

Conduct investigations to determine how the physical properties of materials (e.g., size, shape, color, texture, hardness) can account for the effect the materials have on sunlight and the degree of change observed in the materials (e.g., dark cloth absorbs more heat than light cloth, clear water transmits more light than murky water, and polished materials reflect more light than dull materials).

Use the properties of water and soil to explain how uneven heating of Earth's surface can occur. Conduct an investigation that shows how water and soil are heated unequally by sunlight. Describe how this can be used to explain unequal heating of the Earth's surface, producing atmospheric movements that influence weather.

Use the particle model to explain why a material expands (takes up more space) as its temperature increases. Recognize that this expansion is due to the increase in the motion of the particles, and that the particles themselves remain the same size.

Enduring Understanding: People utilize a variety of resources to meet the basic and specific needs of life. Some of these resources cannot be replaced. Other resources can be replenished or exist in such vast quantities they are in no danger of becoming depleted. Often the energy stored in resources must be transformed into more useful forms and transported over great distances before it can be helpful to us.

Identify different forms of alternative energy (i.e., solar, wind, ocean waves, tidal and hydroelectric systems). Research and report on the use of this alternative form of energy. Discuss and compare findings to describe the advantages and disadvantages of different kinds of alternative energy.

Standard 4: Earth in Space

Enduring Understanding: Observable, predictable patterns of movement in the Sun, Earth, Moon system

occur because of gravitational interaction and energy from the Sun.

Describe how scientists have historically confirmed that the Earth is round, not flat.

Analyze data on sunrise and sunset times (in terms of length of daylight) and describe patterns. Explain the reason for the patterns by using models or computer simulations of the Earth and Sun.

Using internet, newspaper, and actual observations of the night sky for at least two months, collect data on the Moon's appearance, and moonrise and moonset times. Analyze the data to describe the observable patterns (phases). Explain why the Moon's appearance changes in a repeating cyclical pattern.

Use models to describe how the relative positions of the Sun, Moon, and Earth account for Moon phases, eclipses, and tides.

Describe how the relative positions of the Earth, Moon and Sun can cause high and low tides, and unusually high or low tides.

Enduring Understanding: All objects in the Solar System orbit the Sun and have distinctive physical characteristics and orderly motion.

Demonstrate an understanding of the components of our Solar System and their characteristics, including the Moon, the Sun, the planets and their moons, extra-solar planets, and smaller objects such as asteroids and comets.

Construct scale models of the Solar System in order to describe the relative sizes of planets and their distances from the Sun.

Use a variety of resources (e.g., NASA photographs, computer simulations) to compare and contrast the physical properties (i.e., temperature, size, composition, surface features) of planets.

Demonstrate an understanding of the motion of the bodies in our Solar System. Use models, charts, illustrations, and other suitable representations to predict and describe regular patterns of motion for most objects in the Solar System.

Explain how the Sun is the central and largest body in our Solar System and the source of the light energy that hits our planet. Use models to explain how variations in the amount of Sun's energy hitting the Earth's surface results in seasons.

Recognize that the force of gravity keeps planets in orbit around the sun and influences objects on Earth and other planets (i.e., tides, ability of humans to move and function). Differentiate between an object's mass and weight.

Enduring Understanding: Technology expands our knowledge of the Solar System.

Describe how scientists have acquired knowledge about components of our Solar System. Recognize the importance of people and technologies that have led to our current understanding of space.

Recognize that spin-offs are products which have undergone a technology transfer process from research to public use. Research and report on spin-offs from the space

program that have affected our everyday lives (i.e., Velcro, smoke detectors, cordless tools).

Standard 5: Earth's Dynamic Systems

Enduring Understandings: Earth's systems can be broken down into individual components which have observable measurable properties.

No GLEs for this understanding

Enduring Understanding: Earth's components form systems. These systems continually interact at different rates of time, affecting the Earth locally and globally.

Observe, measure, and predict changes in weather using atmospheric properties (wind speed and direction, cloud cover and type, temperature, dew point, air pressure, and relative humidity). Describe how air pressure and temperature change with increasing altitude and/or latitude.

Explain how uneven heating of Earth's components—water, land, air—produce local and global atmospheric and oceanic movement. Describe how these local and global patterns of movement influence weather and climate.

Investigate the rate at which different Earth materials absorb heat. Explain how these differences in heat absorption causes air pressure differences that result in convection currents (i.e., local land and sea breezes).

Use a variety of models, charts, diagrams, or simple investigations to explain how the Sun's energy drives the cycling of water through the Earth's crust, oceans, and atmosphere.

Examine maps of ocean currents and trace the origin and flow of such currents to explain the transfer of heat energy. Identify which currents have dominant influence on the Delaware coast.

Differentiate between weather, which is the condition of the atmosphere at a given time, and climate, which is the weather averaged over a long period of time.

Discuss the origin and identify characteristics (i.e., air circulation pattern, wind speed, temperature and dew point, and air pressure) of storm systems including hurricanes, Nor'easters, tornadoes, thunderstorms, and mid-latitude cyclones. Explain how these weather events can transfer heat. Describe the environmental, economic, and human impact of these storms.

Compare and contrast different storm systems in terms of size, formation, and associated weather.

Describe how origin affects the temperature and moisture content of an air mass. Describe how the interaction of air masses produces different fronts (warm, cold, and stationary) that influence our weather.

Describe how the formation of clouds is influenced by the dew point, environmental temperature and amount of particles in the air. Explain how various lifting mechanisms affect cloud formation.

Use cloud characteristics (altitude, composition, and form) to predict the weather. Discuss how different cloud types are indicators of weather and weather systems such as frontal systems and hurricanes.

Enduring Understanding: Technology enables us to better understand Earth's systems. It also allows us to analyze the

impact of human activities on Earth's systems and the impact of Earth's systems on human activity.

Examine isobars on weather maps to describe how wind (moving air) travels from a region of high pressure to a region of low pressure. Apply this knowledge to explain the cause of wind.

Record and interpret daily weather measurements over an extended period of time using a variety of instruments (i.e., barometer, anemometer, sling psychrometer, rain gauge, and thermometer) in order to predict and to identify weather patterns.

Construct and use surface station models to represent local atmospheric data and interpret weather patterns on meteorological maps.

Examine satellite imagery pictures and use these images to identify cloud patterns and storm systems.

Use weather maps to describe the movement of fronts and storms and to predict their influence on local weather.

Standard 6: Life Processes

Enduring Understanding: Living systems, from the organismic to the cellular level, demonstrate the complementary nature of structure and function.

No GLEs for this understanding

Enduring Understanding: All organisms transfer matter and convert energy from one form to another. Both matter and energy are necessary to build and maintain structures within the organism.

No GLEs for this understanding

Enduring Understanding: Organisms respond to internal and external cues, which allow them to survive.

Understand and describe how the maintenance of a relatively stable internal environment is required for the continuation of life and explain how stability is challenged by changing physical, chemical, and environmental conditions.

Explain that the regulatory and behavioral responses of an organism to external stimuli occur in order to maintain both short and long term equilibrium (e.g., migrating shorebirds behave differently along the migration path in order to support their life cycle).

Enduring Understanding: The life processes of organisms are affected by their interactions with each other and their environment, and may be altered by human manipulation.

No GLEs for this understanding

Standard 7: Diversity and Continuity of Living Things

Enduring Understanding: Organisms reproduce, develop, have predictable life cycles, and pass on heritable traits to their offspring.

Relate the advantages and disadvantages of different reproductive strategies in terms of energy expenditure per offspring and survival rates of that offspring.

Research and report on reproductive strategies of different organisms (i.e., broadcast spawning versus nurturing parenting) that allow them to be successful.

Enduring Understanding: The diversity and changing of life forms over many generations is the result of natural selection, in which organisms with adaptive traits survive, reproduce, and pass those traits to offspring.

Recognize that species acquire many of their unique characteristics through biological adaptations, which involve the selection of naturally occurring variations in populations.

Observe a variety of organisms and explain how a specific trait could increase an organism's chances of survival.

Explain how the extinction of a species occurs when the environment changes and the adaptation of a species is insufficient to allow for its survival.

Conduct a natural selection simulation to demonstrate how physical adaptations (i.e., protective camouflage, long neck for food gathering, muscular legs for running, heavy beak for nut cracking, etc.) have selective advantages for an organism. Research and report on beneficial physical adaptations of a variety of organisms.

Investigate and discuss how short-term physiological changes of an organism (e.g., skin tanning, muscle development, formation of calluses) differ from long-term evolutionary adaptations (e.g., white coloration of polar bears, seed formation in plants) that occur in populations of organisms over generations.

Conduct simulations to investigate how organisms fulfill basic needs (i.e., food, shelter, air, space light/dark, and water) in a competitive environment. Relate how competition for resources can determine survival.

Examine an assortment of plants and animals and use simple classification keys, based on observable features, to sort and group the organisms.

Identify a variety of reasons for extinction of a species. Use research on a variety of extinct organisms to speculate causes of extinction (i.e., inability to adapt to environmental changes).

Enduring Understanding: The development of technology has allowed us to apply our knowledge of genetics, reproduction, development and evolution to meet human wants and needs.

No GLEs for this understanding

Standard 8: Ecology

Enduring Understandings: Organisms and their environments are interconnected. Changes in one part of the system will affect other parts of the system.

Survey the diversity of organisms in a local or model ecosystem. Recognizing that a population consists of all individuals of a species that occur together at a given place and time, describe how to estimate and then calculate the size of a large population of a variety of organisms. Chart the diversity of the organisms in the ecosystem.

Categorize populations of organisms according to the roles (producers, consumers, and decomposers) they play in an ecosystem.

Describe and explain how factors (i.e., space, food, water, disease) limit the number of organisms an ecosystem can support.

Construct a data table or line graph to show population changes of a selected species over time. Describe the population changes portrayed by the graph.

Observe graphs or data tables showing both the population growth of a species and the consequences of resource depletion on the population. Analyze the data and explain the effect that may occur from exponential growth of a population (given finite resources).

Investigate and discuss how short-term physiological changes of an organism (e.g., skin tanning, muscle development, formation of calluses) differ from long-term evolutionary adaptations (e.g., white coloration of polar bears, seed formation in plants) that occur in a group of organisms over generations.

Investigate local areas; disturbed and undisturbed, that are undergoing succession (i.e., abandoned gardens, ditch banks, and the edge of a forest). Predict how plant communities that grow in the area may change over time and how their presence determines what kinds of animals may move into and out of the areas.

Enduring Understandings: Matter needed to sustain life is continually recycled among and between organisms and the environment. Energy from the sun flows irreversibly through ecosystems and is conserved as organisms use and transform it.

Construct food webs and identify the relationships among producers, consumers, and decomposers.

Design food webs and trace the flow of matter and energy (beginning with the Sun) through the food web.

Enduring Understanding: Humans can alter the living and non-living factors within an ecosystem, thereby creating changes to the overall system.

Research and analyze data on human population changes that have occurred in a specific Delaware ecosystem. Discuss reasons for changes in human population and explain how these changes have affected the biodiversity of local organisms and availability of natural resources in the given ecosystem (e.g., habitat loss, water quality, preservation/conservation efforts).

Identify ways in which invasive species can disrupt the balance of Delaware as well as other ecosystems (i.e., competition for resources including habitat and/or food). Research and report on an invasive species, indicating how this species has altered the ecosystem.

DELAWARE Grade 9 Science
Standards and Grade-Level Expectations

Standard 1: Nature and Application of Science and Technology

Enduring Understanding: Scientific inquiry involves asking scientifically-oriented questions, collecting evidence, forming explanations, connecting explanations to scientific knowledge and theory, and communicating and justifying the explanation.

Identify and form questions that generate a specific testable hypothesis that guide the design and breadth of the scientific investigation.

Design and conduct valid scientific investigations to control all but the testable variable in order to test a specific hypothesis.

Collect accurate and precise data through the selection and use of tools and technologies appropriate to the investigations. Display and organize data through the use of tables, diagrams, graphs, and other organizers that allow analysis and comparison with known information and allow for replication of results.

Construct logical scientific explanations and present arguments which defend proposed explanations through the use of closely examined evidence.

Communicate and defend the results of scientific investigations using logical arguments and connections with the known body of scientific information.

Use mathematics, reading, writing and technology when conducting scientific inquiries.

Standard 2: Materials and Their Properties

Enduring Understanding: The structures of materials determine their properties.

Explain that matter is composed of tiny particles called atoms that are unique to each element, and that atoms are composed of subatomic particles called protons, neutrons, and electrons.

Describe the relative charge, approximate mass, and location of protons, neutrons, and electrons in an atom.

Classify matter as mixtures (which are either homogeneous or heterogeneous) or pure substances (which are either compounds or elements.)

Explain that elements are pure substances that cannot be separated by chemical or physical means. Recognize that compounds are pure substances that can be separated by chemical means into elements.

Classify various common materials as an element, compound or mixture.

Describe isotopes of elements in terms of protons, neutrons, electrons, and average atomic masses. Recognize that isotopes of the same element have essentially the same chemical properties that are determined by the proton and electron number.

Use the Periodic Table to identify an element's atomic number, valence electron number, atomic mass, group/family and be able to classify the element as a metal, non-metal or metalloid.

Determine the physical and chemical properties of an element based on its location on the Periodic Table.

Investigate differences between the properties of various elements in order to predict the element's location on the Periodic Table.

Use the Periodic Table to predict the types of chemical bonds (e.g., ionic or covalent) in a variety of compounds.

Use models or drawings to illustrate how molecules are formed when two or more atoms are held together in covalent bonds by "sharing" electrons. Use models or drawings to illustrate how ionic compounds are formed when two or more atoms "transfer" electrons and are held together in ionic bonds.

Explain how an atom's electron arrangement influences its ability to transfer or share electrons and is related its position on the periodic table. Recognize that an atom in which the positive and negative charges do not balance is an ion.

Recognize that metals have the physical properties of conductivity, malleability, luster, and ductility.

Explore the extent to which a variety of solid materials conduct electricity in order to rank the materials from good conductors to poor conductors. Based on the conductivity data, determine patterns of location on the Periodic Table for the good conductors versus the poor conductors.

Recognize that physical changes alter some physical properties of a substance but do not alter the chemical composition of the substance.

Conduct investigations to determine the effect of heat energy on the change of state (change of phase) of water. Sketch and interpret graphs representing the melting, freezing, evaporation and condensation of water.

Recognize that molecular and ionic compounds are electrically neutral.

Apply the kinetic molecular theory to explain that a change in the energy of the particles may result in a temperature change or a change of phase (change in state).

Use a model or a diagram to explain water's properties (e.g., density, polarity, hydrogen bonding, boiling point, cohesion, and adhesion) in the three states of matter. Cite specific examples of how water's properties are important (i.e., water as the "universal").

Enduring Understanding: The properties of the mixture are based on the properties of its components.

Recognize that mixtures can be separated by physical means into pure substances.

Explain the effect of water's polarity on the solubility of substances (e.g., alcohol, salt, oil).

Separate mixtures into their component parts according to their physical properties such as melting point, boiling point, magnetism, solubility and particle size. Explain how the properties of the components of the mixture determine the physical separation techniques used.

Describe how the process of diffusion or the movement of molecules from an area of high concentration to an area of

low concentration (down the concentration gradient) occurs because of molecular collisions.

Explore how various solutions conduct electricity and rank the liquids from good conductors to poor conductors.

Explain the characteristics that allow some solutions to have better electrical conductivity than others.

Measure the pH of a solution using chemical indicators to determine the relative acidity or alkalinity of the solution.

Identify the physical properties of acids and bases.

Investigate factors that affect the materials' solubility in water and construct solubility curves to compare the extent to which the materials dissolve.

Enduring Understanding: When materials interact within a closed system, the total mass of the system remains the same.

Conduct and explain the results of simple investigations to demonstrate that the total mass of a substance is conserved during both physical and chemical changes.

Enduring Understanding: There are several ways in which elements and/or compounds react to form new substances and each reaction involves energy.

Recognize that chemical changes alter the chemical composition of a substance forming one or more new substances. The new substance may be a solid, liquid, or gas.

Balance simple chemical equations and explain how these balanced chemical equations represent the conservation of matter.

Identify, name and write formulae for covalent and ionic compounds

Enduring Understanding: People develop new materials as a response to the needs of society and the pursuit of knowledge. This development may have risks and benefits to humans and the environment.

Research and report on a variety of manufactured goods and show how the chemical properties of the component materials were used to achieve the desired qualities.

Standard 3: Energy and Its Effects

Enduring Understandings: Energy takes many forms. These forms can be grouped into types of energy that are associated with the motion of mass (kinetic energy) and types of energy associated with the position of mass and energy fields (potential energy).

Recognize that electromagnetic energy (radiant energy) is carried by electromagnetic waves.

Use diagrams to illustrate the similarities shared by all electromagnetic waves and differences between them. Show how wavelength is used to distinguish the different groups of EM waves (radio waves, microwaves, IR, visible and UV waves, X-rays, and gamma waves).

Conduct investigations involving moving objects to examine the influence that the mass and the speed have on the kinetic energy of the object. Collect and graph data that supports that the kinetic energy depends linearly upon the mass, but nonlinearly upon the speed. Recognize that the kinetic energy of an object depends on the square of its speed, and that $KE = \frac{1}{2}mv^2$.

Collect and graph data that shows that the potential energy of an object increases linearly with the weight of an object (mg) and with its height above a pre-defined reference level, h. ($GPE = mgh$).

Conduct investigations and graph data that indicate that the energy stored in a stretched elastic material increases nonlinearly with the extent to which the material was stretched.

Recognize that the energy stored in a stretched elastic material is proportional to the square of the stretch of the material, and a constant that reflects the elasticity of the material. ($Elastic\ PE = \frac{1}{2}kx^2$)

Explain that heat energy represents the total random kinetic energy of molecules of a substance.

Recognize that chemical energy is the energy stored in the bonding of atoms and molecules.

Describe the differences between nuclear energy and chemical energy, that chemical energy is derived from the energy of the electrons that move around the nucleus, while nuclear energy is associated with the protons and neutrons in the nucleus.

Enduring Understandings: Changes take place because of the transfer of energy. Energy is transferred to matter through the action of forces. Different forces are responsible for the different forms of energy.

Recognize that electromagnetic waves transfer energy from one charged particle to another. Use graphics or computer animations to illustrate this transfer process. Give everyday examples of how society uses these transfer processes (for example, communication devices such as radios and cell phones).

Use diagrams to illustrate how the motion of molecules when a mechanical wave passes through the substance is different from the motion associated with their random kinetic energies.

Use diagrams or models to explain how mechanical waves can transport energy without transporting matter.

Reflect on why mechanical waves will pass through some states of matter better than others.

Recognize that the gravitational force is a universal force of attraction that acts between masses, but this force is only significant when one (or both) of the objects is massive (for example, a star, planet or moon).

Explain that as objects move away from the surface of a planet or moon, the gravitational pull on the object will decrease.

Use examples to illustrate that near the surface of a planet or moon, the gravitational force acting on an object remains nearly constant.

Recognize that on Earth, the object would have to be moved several hundred miles above the surface before the decrease in the force of gravity would become detectable.

Explain the difference between the mass of an object and its weight. Identify that near the surface of the Earth, the gravitational force acting on the object (its weight) depends only on its mass, and that this force can be simply calculated from knowledge of the mass ($F_G = mg$).

Conduct investigations to determine the behavior of elastic materials. Graph the data and identify the relationship between the extent of the stretch and the size of the elastic force (i.e., $F_{\text{elastic}} = kx$ where x = stretch).

Describe the role that forces play when energy is transferred between interacting objects and explain how the amount of energy transferred can be calculated from measurable quantities.

Give examples of common forces transferring energy to (or away from) objects. For example; a pulling force can transfer energy to an object (when the object is pulled along a floor), a pushing force can transfer energy away from an object (to slow its motion), and friction and air resistance always transfer kinetic energy away from moving objects.

Identify that “work” is the process by which a force transfers energy to an object, and use measured quantities to make calculations of the work done by forces ($W = \text{energy transferred} = F \cdot D$).

Conduct investigations to determine what factors influence whether a force transfers energy to an object or away from the object, and how the direction of the force (relative to the direction of motion) influences the quantity of energy transferred by the force.

Recognize that power is a quantity that tells us how quickly energy is transferred to an object or transferred away from the object. Give examples that illustrate the differences between power, force and energy (for example, the energy needed to propel a vehicle is stored in the chemical energy of the fuel. Static friction is the force that propels the vehicle, and the power of the vehicle’s engine helps to determine how quickly the vehicle can speed up . . . and how quickly its engine uses fuel!).

Use models and diagrams to illustrate the structure of the atom. Include information regarding the distribution of electric charge and mass in the atom. Identify the forces that are responsible for the stability of the atom, and which parts of the atom exert and feel these forces.

Recognize that there are attractive forces acting within the nucleus that are different from electric forces, and that these forces are responsible for the stability of the nucleus.

Enduring Understanding: Energy readily transforms from one form to another, but these transformations are not always reversible. The details of these transformations depend upon the initial form of the energy and the properties of the materials involved. Energy may transfer into or out of a system and it may change forms, but the total energy cannot change.

Describe why it is significant that energy cannot be created (made) nor destroyed (consumed), and identify that that this property of energy is referred to as the Law of the Conservation of Energy.

Give examples that illustrate the transfer of energy from one object (or substance) to another, and examples of energy being transformed from one to another.

Use energy chains to trace the flow of energy through physical systems. Indicate the source of the energy in each example, and trace the energy until it leaves the system or adopts a form in the system that neither changes nor is transferred. Make qualitative estimates of all the forms of

the energy involved and reflect on the consequences of the energy transfers and transformations that take place. For example, trace the flow of the radiant energy carried by sunlight that strikes the roof of a home. Reflect on how the color of the roof (light vs. dark) will have an impact on the ability to heat and cool the house, and possibly the functional lifetime of the roofing materials themselves.

Use diagrams and energy chains to illustrate examples of the selective absorption of mechanical waves in natural phenomena and give examples of how the selective absorption of mechanical waves is used to conduct investigations in medicine, industry and science (for example ultrasound imagery, detecting the epicenter of earthquakes, testing structures for defects, and conducting explorations of the earth’s crust and mantle).

Explain that what happens to electromagnetic waves that strike a substance (reflection, transmission, absorption) depends on the wavelength of the waves and the physical properties of the substance. Investigate how radio waves, microwaves, infrared waves, visible waves and ultraviolet waves behave when they strike different substances

Record how effectively different materials reflect, absorb and transmit different kinds of EM waves. Draw conclusions based on this data and the physical properties of the substances (e.g., some substances absorb visible waves, but not radio waves. Other materials absorb UV waves, but not visible waves).

Give examples that illustrate how the selective absorption of EM waves explains physical phenomena. For example; how X-rays can be used to detect broken bones beneath the skin and how coating on eyeglasses and sunglasses protect the eyes by permitting visible waves to pass but absorb UV waves.

Use energy chains to trace the flow of energy in a selective absorption process (e.g., sunburn, Greenhouse Effect, microwave cooking).

Use energy chains to trace the flow of energy through systems involving sliding friction and air resistance (for example, the braking action in vehicles or bicycles or a vehicle rolling to rest). Explain that through the action of resistive forces (friction and air resistance) mechanical energy is transformed into heat energy, and because of the random nature of heat energy, transforming all of the heat energy back into mechanical energy (or any other organized form of energy) is impossible. Give examples where organized forms of energy (GPE, elastic PE, the KE of large objects) are transformed into heat energy but the reverse transformations are not possible.

Reflect on why organized forms of energy are more useful than disorganized forms (heat energy).

Enduring Understanding: People utilize a variety of resources to meet the basic and specific needs of life. Some of these resources cannot be replaced. Other resources can be replenished or exist in such vast quantities they are in no danger of becoming depleted. Often the energy stored in resources must be transformed into more useful forms and transported over great distances before it can be helpful to us.

Research the factors that contribute to the energy efficiency of cars and trucks. Examine the role that the power of the

engine and the weight and physical size and shape of the vehicle have on the fuel efficiency of the vehicle. Identify and report on the sources of the fuels currently used by vehicles and alternative fuels being developed.

Standard 4: Earth in Space

Enduring Understanding: Observable, predictable patterns of movement in the Sun, Earth, Moon system are caused by gravitational interaction and powered by energy from the Sun.

No GLEs for this understanding

Enduring Understanding: Most objects in the Solar System orbit the Sun and have distinctive physical characteristics and orderly motion which are a result of their formation and changes over time.

Explain the formation of solar systems using the Solar Nebular Theory including the origin of the planets and Sun from the nebula, the evolution of planets, and the dispersal of left over gas and dust.

Describe how the Earth formed (using the Solar Nebular Theory) into a solid core, molten mantle, crust of solid rock composed of plates, and early atmosphere as a result of the densities of the elements.

Enduring Understanding: The Universe is composed of galaxies, which are composed of solar systems, all of which are composed of the same elements and governed by the same laws.

No GLEs for this understanding

Enduring Understanding: Technology expands our knowledge of the Universe.

No GLEs for this understanding

Standard 5: Earth's Dynamic Systems

Enduring Understanding: Earth's systems can be broken down into individual components which have observable measurable properties.

Identify mineral specimens according to their chemical and physical properties. Mineral specimens include calcite, quartz, mica, feldspar, and hornblende. Properties include hardness (Moh's scale), streak, specific gravity, luster, cleavage, crystal shape, and color, and other properties that are useful for identification of specific minerals such as reaction with hydrochloric acid.

Identify a few of the most common elements in the Earth's crust, oceans, and atmosphere and confirm their location on the periodic table. (Example: Si, O, C, N, H, Al). Compare the relative abundance of elements found in the Earth's crust, oceans, and atmosphere. Trace carbon as it cycles through the crust, ocean, and atmosphere.

Classify and describe features that are used to distinguish between igneous, sedimentary, and metamorphic rocks.

Describe energy sources, processes, and transformations of Earth materials as they progress through the rock cycle to form new sedimentary, metamorphic, and igneous rocks. Discuss how the cycling of rock is continuous.

Describe how igneous rocks are formed. Classify igneous rocks according to crystal size and mineral assemblage.

Identify sandstone, shale and limestone by their composition and texture. Explain how sandstone, shale, and limestone can be changed into the metamorphic rocks quartzite, slate, and marble.

Investigate the densities, composition, and relative age of continental (felsic) and oceanic (mafic) rocks. Explain why the continental crust, although thicker in most places, overlies oceanic crust. Use this information to explain why oceanic crust sub ducts below continental crust in convergent plate boundaries and explain the configuration of land masses and ocean basins.

Enduring Understanding: Earth's components form systems. These systems continually interact at different rates of time, affecting the Earth locally and globally.

Explain how expositivity, type (shield, strato, etc.) and shape of a volcano is related to the properties of its magma and its location along different plate margins.

Identify volcanic products (lava, mudflow, pyroclastic projectiles, ash, gases) associated with various types of volcanoes and their eruptions. Describe the effect of these products on life and property. Explain how the products of volcanic activity influence both long-term and short-term changes in the Earth system.

Describe how energy within the Earth's interior is released in the form of earthquake waves, and explain how these waves affect Earth's surface.

Describe how earthquake energy is represented on seismograms and describe how these waves can be used to determine the origin and intensity of earthquakes.

Describe the effects on life and property from consequences of earthquake such as landslides, liquification, surface faulting and tsunamis. Cite ways these hazards can be minimized.

Use models or computer simulations to demonstrate the processes and origin of landforms at diverging, converging and transform plate boundaries. Show on a map how plate tectonics, earthquakes, and volcanoes are spatially related.

Investigate how thermal convection relates to movement of materials. Apply this knowledge in explaining the cause of movement of the Earth's plates.

Research and describe evidence that supports the Theory of Plate Tectonics to include rock magnetism and the age of the sea floor.

Explain how the Theory of Plate Tectonics demonstrates that scientific knowledge changes by evolving over time. Recognize that although some theories are initially rejected, they may be re-examined and eventually accepted in the face of new evidence.

Enduring Understanding: Technology enables us to better understand Earth's systems. It also allows us to analyze the impact of human activities on Earth's systems and the impact of Earth's systems on human activity.

Explain how data from Global Positioning Systems can be used to predict and determine the direction and rate of movement of Earth's plates and sea floor spreading.

Explain how technology such as GPS, tilt meters, etc., can be used to predict earthquake and volcanic activity.

Describe ways in which people use historical data, geologic maps, and technologies to minimize earthquake damage.

Standard 6: Life Processes

No GLEs at this grade level

Standard 7: Diversity and Continuity of Living Things

No GLEs at this grade level

Standard 8: Ecology

No GLEs at this grade level

DELAWARE Grade 10 Science Standards and Grade-Level Expectations

Standard 1: Nature and Application of Science and Technology

Enduring Understanding: Scientific inquiry involves asking scientifically-oriented questions, collecting evidence, forming explanations, connecting explanations to scientific knowledge and theory, and communicating and justifying the explanation.

Identify and form questions that generate a specific testable hypothesis that guide the design and breadth of the scientific investigation.

Design and conduct valid scientific investigations to control all but the testable variable in order to test a specific hypothesis.

Collect accurate and precise data through the selection and use of tools and technologies appropriate to the investigations. Display and organize data through the use of tables, diagrams, graphs, and other organizers that allow analysis and comparison with known information and allow for replication of results.

Construct logical scientific explanations and present arguments which defend proposed explanations through the use of closely examined evidence.

Communicate and defend the results of scientific investigations using logical arguments and connections with the known body of scientific information.

Use mathematics, reading, writing and technology when conducting scientific inquiries.

Standard 2: Materials and Their Properties

No GLEs at this grade level

Standard 3: Energy and Its Effects

No GLEs at this grade level

Standard 4: Earth in Space

No GLEs at this grade level

Standard 5: Earth's Dynamic Systems

No GLEs at this grade level

Standard 6: Life Processes

Enduring Understanding: Living systems, from the organismic to the cellular level, demonstrate the complementary nature of structure and function.

Use microscopes to identify similarities and differences among a variety of cells (e.g., muscle, nerve, epithelial, blood, adipose), and explain how structural variations relate to the function that each of the cells performs.

Differentiate between prokaryotic cells and eukaryotic cells in terms of their general structures (cell membrane & genetic material) and degree of complexity. Give examples of prokaryotic organisms and organisms with eukaryotic cells.

Explain how organelles of single-celled organisms function as a system to perform the same basic life processes as are performed in multi-cellular organisms (e.g., acquisition

of energy, elimination of waste, reproduction, gas exchange, growth, repair, and protein synthesis).

Use fluid mosaic models of the plasma membrane to explain how its structure regulates the movement of materials across the membrane.

Show how water moves in and out of cells down a concentration gradient. Recognize that this process, known as osmosis, requires no input of energy.

Explain the role of cell membranes as highly selective barriers (e.g., diffusion, osmosis, active transport).

Distinguish between active and passive transport. Recognize that active transport requires energy input to move molecules from an area of low concentration to an area of high concentration (against the concentration gradient).

Design a controlled experiment to investigate the capacity of the cell membrane to regulate how materials enter and leave the cell.

Construct cell models (e.g., phenolphthalein-agar cubes, potato-iodine cubes) to investigate the relationship among cell size, surface area to volume ratio and the rates of diffusion into and out of the cell. Explain why large organisms have developed from many cells rather than one large cell.

Recognize that as a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable despite changes in the outside environment.

Explain how the cells of a multi-cellular organisms work together for the benefit of the colonial or singular organism.

Enduring Understanding: All organisms transfer matter and convert energy from one form to another. Both matter and energy are necessary to build and maintain structures within the organism.

Use molecular models to explain how carbon atoms uniquely bond to one another to form a large variety of molecules, including those necessary for life (e.g., polysaccharides, polypeptides).

Observe formulas and diagrams of compounds found in food (fats, proteins, carbohydrates). Identify elements that comprise these compounds.

Explain that physically breaking down food into smaller pieces by mechanical digestion helps facilitate breakdown (by increasing surface area) into chemical components and that digestive enzymes are necessary for the breakdown of food into those chemical components (e.g., starch to glucose, lipids and glycerol to fatty acids, proteins to amino acids).

Observe and recognize that unicellular organisms take in food from their environment and chemically digest it (if needed) within their cell body.

Recognize that both mechanical and chemical processes are necessary in digestion for multi-cellular organisms to get molecules that come from food to enter the cells. Trace the process whereby nutrients are transported to cells where they serve as building blocks for the synthesis of body structures and as reactants for cellular respiration.

Explain the processes used by autotrophs to transform light energy into chemical energy in the form of simple sugars. Give examples of how these compounds are used by living things as sources of matter and energy.

Describe the process by which water is removed from sugar molecules (dehydration synthesis) to form carbohydrates and is added to break them down (hydrolysis).

Describe photosynthesis as an energy storing process and explain how environmental factors such as temperature, light intensity, and the amount of water available can affect photosynthesis.

Identify the reactants and the products in equations that represent photosynthesis and cellular respiration. Explain how the equations demonstrate the Law of Conservation of Matter and Energy in terms of balanced equations.

Investigate and describe the complementary relationship (cycling of matter and the flow of energy) between photosynthesis and cellular respiration.

Recognize that during photosynthesis, plants use energy from the sun and elements from the atmosphere and the soil to make specific compounds. Recognize that these compounds are used by living things as sources of matter and energy.

Compare the amount of chemical potential energy stored in chemical bonds of a variety of foods (calorimetry). Recognize that equal amounts of different types of food contain different amounts of energy.

Recognize that during cellular respiration, chemical bonds between food molecules are broken (hydrolysis), and energy is transferred to ADP to create ATP (the energy storage molecule that fuels cellular processes).

Acknowledge that all organisms must break the high energy chemical bonds in food molecules during cellular respiration to obtain the energy needed for life processes.

Recognize that in general, synthesis reactions (i.e. photosynthesis) require energy while decomposition reactions (i.e. cellular respiration) usually release energy.

Investigate the role of enzymes (e.g., protease, amylase and lipase) in the rate of chemical breakdown of a variety of foods.

Explain how enzymes permit low temperature chemical reactions to occur in cells.

Investigate how various factors (temperature, pH, enzyme/substrate concentration) affect the rate of enzyme activity.

Enduring Understanding: Organisms respond to internal and external cues, which allow them to survive.

Illustrate how nerve cells communicate with each other to transmit information from the internal and external environment often resulting in physiological or behavioral responses.

Draw a schematic to illustrate a positive and negative feedback mechanism that regulates body systems in order to help maintain homeostasis.

Recognize that in order to help maintain the health of an organism, the immune system works in nonspecific ways (e.g., skin, mucous, membranes) and specific ways (e.g., antibody-antigen interactions.)

Enduring Understanding: The health of humans and other organisms is affected by their interactions with each other and their environment, and may be altered by human manipulation.

Investigate how scientists use biotechnology to produce more nutritious food, more effective medicine, and new ways to mitigate pollution.

Investigate how drugs can affect neurotransmission.

Explain how antibiotics (e.g., penicillin, tetracycline) kill bacterial cells without harming human cells due to differences between prokaryotic and eukaryotic cell structure.

Describe how environmental factors (e.g., UV light or the presence of carcinogens or pathogens) alter cellular functions.

Standard 7: Diversity and Continuity of Living Things

Enduring Understanding: Organisms reproduce, develop, have predictable life cycles, and pass on heritable traits to their offspring.

Describe the relationship between DNA, genes, chromosomes and proteins.

Explain that a gene is a section of DNA that directs the synthesis of a specific protein associated with a specific trait in an organism.

Trace how a DNA sequence, through transcription and translation, results in a sequence of amino acids.

Demonstrate that when DNA replicates, the complementary strands separate and the old strands serve as a template for the new complementary strands. Recognize that this results in two identical strands of DNA that are exact copies of the original.

Illustrate how a sequence of DNA nucleotides codes for a specific sequence of amino acids.

Use Punnett squares, including dihybrid crosses, and pedigree charts to determine probabilities and patterns of inheritance (i.e. dominant/recessive, co-dominance, sex-linkage, multi-allele inheritance).

Analyze a karyotype to determine chromosome numbers and pairs. Compare and contrast normal and abnormal karyotypes.

Explain how crossing over and Mendel's Laws of Segregation and Independent Assortment contribute to genetic variation in sexually reproducing organisms.

Describe how exposure to radiation, chemicals and pathogens can increase mutations.

Explain that mutations in the DNA sequence of a gene may or may not affect the expression of the gene. Recognize that mutations may be harmful, beneficial, or have no impact on the survival of the organism.

Explain how the type of cell (gamete or somatic) in which a mutation occurs determines heritability of the mutation.

Predict the possible consequences of a somatic cell mutation.

Describe the cell cycle as an orderly process that results in new somatic cells that contain an exact copy of the DNA

that make up the genes and chromosomes found in the parent somatic cells.

Explain how the cell cycle contributes to reproduction and maintenance of the cell and/or organism.

Recognize that during the formation of gametes, or sex cells (meiosis), the number of chromosomes is reduced by one half, so that when fertilization occurs the diploid number is restored.

Explain why sex-linked traits are expressed more frequently in males.

Compare and contrast the processes of growth (cell division) and development (differentiation).

Recognize that any environmental factor that influences gene expression or alteration in hormonal balance may have an impact on development.

Enduring Understanding: The diversity and changing of life forms over many generations is the result of natural selection, in which organisms with advantageous traits survive, reproduce, and pass those traits to offspring.

Recognize random mutation (changes in DNA) and recombination within gametes as the sources of heritable variations that give individuals within a species survival and reproductive advantage or disadvantage over others in the species.

Analyze natural selection simulations and use data generated from them to describe how environmentally-favored traits are perpetuated over generations resulting in species survival, while less favorable traits decrease in frequency or may lead to extinction.

Explain how biochemical evidence, homologous structures, embryological development and fossil evidence support or refute prior hypotheses of common ancestry.

Describe that evolution involves changes in the genetic make-up of whole populations over time, not changes in the genes of an individual organism.

Explain how species evolve through descent with modification, thus allowing them to adapt to different environments.

Discuss how environmental pressure, genetic drift, mutation and competition for resources influence the evolutionary process. Recognize that a change in a species over time does not follow a set pattern or timeline.

Compare and contrast the role of sexual selection to the role of natural selection on the evolutionary process.

Relate a population's survival to the reproductive success of adapted individuals in that population.

Explain the roles of geographical isolation and natural selection on the evolution of new species.

Predict possible evolutionary implications for a population due to environmental changes over time (e.g., volcanic eruptions, global climate change, industrial pollution).

Explain why homogeneous populations may be more vulnerable to environmental changes than heterogeneous populations.

Explain how evolutionary relationships between species are used to group organisms together.

Explain how antibiotic resistance populations evolve from common bacterial populations.

Research how invasive species have genetically altered an indigenous population.

Enduring Understanding: The development of technology has allowed us to apply our knowledge of genetics, reproduction, development and evolution to meet human needs and wants.

Explain how DNA evidence can be used to determine evolutionary relationships.

Investigate how the human ability to manipulate genetic material and reproductive processes can be applied to many areas of medicine, biology, and agriculture. Evaluate the risks and benefits of various ethical, social and legal scenarios that arise from this ability.

Discuss examples of how genetic engineering technology can be applied in biology, agriculture and medicine in order to meet human wants and needs.

Explain the basic process of bacterial transformation and how it is applied in genetic engineering.

Explain how developments in technology (e.g., gel electrophoresis) have been used to identify individuals based on DNA as well as to improve the ability to diagnose genetic diseases.

Standard 8: Ecology

No GLEs at this grade level

DELAWARE Grade 11 Science
Standards and Grade-Level Expectations

Standard 1: Nature and Application of Science and Technology

Enduring Understanding: Scientific inquiry involves asking scientifically-oriented questions, collecting evidence, forming explanations, connecting explanations to scientific knowledge and theory, and communicating and justifying the explanation.

Identify and form questions that generate a specific testable hypothesis that guide the design and breadth of the scientific investigation.

Design and conduct valid scientific investigations to control all but the testable variable in order to test a specific hypothesis.

Collect accurate and precise data through the selection and use of tools and technologies appropriate to the investigations. Display and organize data through the use of tables, diagrams, graphs, and other organizers that allow analysis and comparison with known information and allow for replication of results.

Construct logical scientific explanations and present arguments which defend proposed explanations through the use of closely examined evidence.

Communicate and defend the results of scientific investigations using logical arguments and connections with the known body of scientific information.

Use mathematics, reading, writing and technology when conducting scientific inquiries.

Standard 2: Materials and Their Properties

Enduring Understanding: The structures of materials determine their properties.

Construct models or diagrams (Lewis Dot structures, ball and stick models, or other models) of common compounds and molecules (i.e., NaCl, SiO₂, O₂, H₂, CO₂) and distinguish between ionically and covalently bonded compounds. Based on the location of their component elements on the Periodic Table, explain the elements tendency to transfer or share electrons.

Explain why the average atomic mass of an element reflects the relative natural abundance of the element and therefore is not a whole number.

Explain that unstable isotopes undergo spontaneous nuclear decay, emitting energy or particles and energy.

Compare and contrast the energy released by nuclear reactions to that released by chemical reactions.

Describe the composition of alpha, beta, and gamma radiation and the shielding necessary to prevent penetration.

Use the half life of a radioactive isotope to calculate the amount of remaining radioactive substance after an integral number of half-lives.

Use kinetic molecular theory to explain changes in gas volume, pressure, and temperature.

Perform simple calculations to show that if the temperature is held constant, changes in pressure and volume of an enclosed gas have an inverse relationship. (Boyles Law).

Perform simple calculations to show that if the pressure is held constant, changes in temperature (in Kelvin) and volume of an enclosed gas have a direct relationship. (Charles Law).

Perform simple calculations to show that if the volume is held constant, changes in pressure and temperature (in Kelvin) of an enclosed gas have a direct relationship (Gay-Lussac's Law).

Use the Periodic Table to show trends within periods and groups (families) regarding atomic size, size of ions, ionization energies and electronegativity.

Enduring Understanding: The properties of the mixture are based on the properties of its components.

Express the concentration of various solutions in terms of the amount of solute dissolved in the solvent (molarity).

Collect data to calculate the unknown concentration of a solution by performing an acid-base titration using an appropriate indicator. Describe neutralization reactions using chemical equations.

Enduring Understanding: When materials interact within a closed system, the total mass of the system remains the same.

Recognize that one mole is the amount of any substance that contains 6.02×10^{23} (Avogadro's number) representative particles of that substance. This quantity of particles will have the mass equivalent to the molecular weight (molar mass).

Express various quantities of matter in terms of moles (e.g., 6.0 g carbon = .50 moles of carbon; 36 g H₂O = 2.0 moles H₂O).

Determine how the mass of the products compares to the mass of the reactants in chemical investigations. Show how this comparison links to the appropriate balanced chemical equation.

Enduring Understanding: There are several ways in which elements and/or compounds react to form new substances and each reaction involves energy.

Conduct experiments and provide evidence (e.g., formation of a precipitate, evolution of gas, change of color, release/absorption of energy in the form of heat, light, or sound) to determine if a chemical reaction has occurred.

Identify, name and write formulae for covalent and ionic compounds.

Describe chemical reactions using correct chemical formulae and balance the resulting chemical equation.

Classify various reactions as synthesis (combination), single replacement, double replacement, decomposition or combustion.

Explain whether or not a chemical reaction would occur given a set of reactants. Predict the product(s) if the reactions would occur.

Investigate factors (e.g., presence of a catalyst, temperature, concentration) that influence reaction rates.

Analyze reaction diagrams for some common chemical reactions to compare the amount of heat energy absorbed by the reaction to the amount of heat energy released. Explain, using the diagrams, that if the products of the reactions are at a higher level than the reactants, the reaction has absorbed heat energy (endothermic), but if the products of the reaction are at a lower level than the reactants, then heat energy has been released (exothermic).

Use energy diagrams to explain the effect of a catalyst on activation energy.

Enduring Understanding: People develop new materials as a response to the needs of society and the pursuit of knowledge. This development may have risks and benefits to humans and the environment.

Identify polymers as large molecules with a carbon backbone. Recognize that polymers are comprised of repeating monomers. Investigate synthetic and naturally occurring polymers and relate their chemical structure to their current or potential use.

Research and report on materials that are used in response to human and societal needs. These materials might include but are not limited to synthetic polymers such as Kevlar or Gortex; or radioactive isotopes such as U_{235} , or C^{14} , etc. Recognize the intended (and realized) benefits as well as any risks or trade-offs required in their production and use.

Standard 3: Energy and Its Effects

Enduring Understandings: Energy takes many forms. These forms can be grouped into types of energy that are associated with the motion of mass (kinetic energy) and types of energy associated with the position of mass and energy fields (potential energy).

Conduct investigations to identify how the rotational kinetic energy of an object depends on the object's mass, angular speed (rpm), and its geometry (for example, solid and hollow spheres, solid and hollow cylinders, rings).

Conduct investigations to show that rolling objects have two kinds of kinetic energy, linear kinetic energy (LKE), and rotational kinetic energy (RKE). For example, a ball released on a ramp from a height, h , will consistently reach the bottom of the ramp with less linear kinetic energy than its GPE at the top of the ramp. The RKE of the rolling object explains the difference.

Explain that when a chemical reaction takes place and energy is released, the reaction results in molecules that have a lower chemical energy and if energy must be added for a chemical reaction to take place, the molecules that result from that reaction have higher chemical energy.

Recognize that nuclear energy takes the form of mass, and that energy is released from a nuclear reaction as a consequence of the annihilation of mass.

Explain why large amounts of energy are released when small amounts of mass are annihilated ($E = mc^2$).

Enduring Understanding: Changes take place because of the transfer of energy. Energy is transferred to matter

through the action of forces. Different forces are responsible for the different forms of energy.

Use the inverse square law to describe how the force of gravity changes over long distances (for example, describe the forces acting on the Voyager Space Probes as they moved through the solar system).

Conduct investigations to determine the relative sizes of static and kinetic frictional forces acting between two surfaces.

Conduct investigations to determine what variables (mass, normal force, surface area, surface texture, etc.) influence the size of frictional forces that act between two objects.

Give examples in which static friction is a force of propulsion, initiating the motion of an object. Use force diagrams to illustrate the forces acting on the object during this propulsion process.

Use force diagrams to describe how static friction can prevent an object (that is subject to another force) from moving.

Draw force diagrams to illustrate the action of friction when it acts to slow-down an object. Use an energy argument to describe how friction slows down a moving object.

Describe the factors that contribute to the size of an electric force acting between charged particles (i.e., the size of an electric force depends upon the size of the charges involved and the distance between the charges). Recognize that the electric force is an inverse square force like the gravitational force.

Use a sketch of this force to describe how its influence changes as the distance between the charges increases.

Recognize that the gravitational forces acting between objects the size of people or even large trucks is negligible compared to their weight (for example, F_{Grav} acting between two people standing 1m apart on the Earth's surface is less than one billionth the size of their weight). Also recognize that gravitational forces between particles at the molecular level are completely negligible when compared to electric forces that act between these particles ($F_{\text{Grav}}/F_{\text{electric}} < 10^{-30}$).

Describe how many of the forces acting between objects (friction and normal forces) and acting within objects (tensions, compressions and elastic forces) are manifestations of the electromagnetic forces that act between atoms and molecules in substances.

Use diagrams or models to show how the electric forces acting between molecules can explain the presence of these forces.

Use diagrams to show the similarities between the magnetic field of a permanent magnet and the magnetic field created by an electric coil.

Conduct investigations to show how forces acting between permanent magnets and conducting coils carrying electric currents can be used to create electric motors.

Use diagrams to show how magnets and rotating coils can be used to create electric currents.

Use vector diagrams to illustrate the forces that act within the nucleus. Recognize that the stability of a nucleus depends upon the repulsive electric forces acting between

the protons and the attractive nuclear forces acting between all protons and neutrons in the nucleus.

Use examples of mechanical or chemical systems to explain that the stability of an object is linked to the object's energy, and that stability can be used as an indicator how likely it is that an object will undergo a physical, chemical, or nuclear change.

Identify mid-sized nuclei as the most stable nuclei, and use the concept of stability to explain the basics of nuclear fission, fusion, and radioactive decay. Use models and diagrams to illustrate the differences between fission and radioactive decay.

Use vector diagrams to illustrate how the total force is determined from a group of individual forces.

Make vector diagrams of objects moving with a constant velocity, identifying all of the forces acting on the object (for example, a car moving along a straight highway, an aircraft in flight, an elevator ascending at constant speed, etc.).

Reflect on how forces can collectively act on the object and not change its motion (basis of Newton's 1st Law).

Conduct investigations to reach qualitative and quantitative conclusions regarding the effects of the size of the total force and the object's mass on its resulting acceleration (Newton's 2nd Law, $a = F_{\text{total}}/m$). Observe how the direction of the acceleration relates to the direction of the total force.

Use examples to illustrate the differences between mass and force and explain why only forces can change the motion of objects.

Explain why an object with a large mass is usually more difficult to start moving than an object with a smaller mass.

Use Newton's Second Law to calculate the acceleration of objects that are subject to common forces (for example, gravity, constant pushing or pulling forces and/or friction).

Use vector diagrams to show how the direction of the acceleration (relative to the direction of the velocity) can be used to determine if the speed of the object will increase or decrease, and if the direction of motion will change.

Describe what the size of the acceleration of an object indicates about the object's motion (how quickly the object's velocity will change). Give examples of objects having large accelerations (motorcycles starting from rest, vehicles stopping abruptly, cars negotiating sharp curves), and objects having small accelerations (tractor trailers starting from rest, large ships slowing down, and vehicles traveling on long gradual curves on highways).

Conduct investigations to show that the acceleration due to gravity is the same for all objects near the surface of the earth. Use graphical analysis to determine the acceleration due to gravity from experimental data.

Use algebraic relationships that relate the acceleration of an object to its speed and position to make predictions about the motion of objects as they move along straight and circular paths.

Conduct investigations (or demonstrate) that under a variety of conditions when two objects collide they exert equal sized forces on each other. Use Newton's 2nd Law to explain why these two objects may react differently to equal sized forces.

Use vector diagrams and Newton's 3rd Law to explain how a bathroom scale indirectly indicates your weight.

Recognize that momentum of an object is a property of its motion that can be calculated from its mass and its velocity ($P = mv$), and that only forces can change the momentum of an object.

Conduct investigations to determine the relationship between the force acting on an object and the change it produces in the object's momentum (i.e., the impulse) ($\Delta P = F_{\text{avg}} \cdot \Delta t$).

Use the concept of impulse ($I = F_{\text{avg}} \cdot \Delta t$) to make estimates of average forces when the change in an object's momentum is known. For example, explain why collision forces will be reduced when the barriers are flexible (increasing Δt decreases F_{avg}), or how the severity of the injury to a falling athlete will be influenced by the surface the athlete lands on (i.e., turf, hard ground, concrete, etc.).

Recognize that momentum (like energy) is a conserved quantity, and describe how this property of momentum makes it a useful tool in problem solving, especially problems involving collisions.

Describe that forces transfer energy from one object to another through a process called "work". Explain how calculating the work done by a force helps us make qualitative and quantitative predictions regarding the motion of objects. Use mathematics, graphing calculators and/or graphing analysis programs to investigate the work done by individual forces.

Give examples of forces doing work to transfer energy to a rotating object (increasing its rotational speed), or doing work to transfer energy away from a rotating object (decreasing its rotational speed).

Describe how the concept of torque is used to explain (and calculate) the rotational effect that forces have when they act on objects.

Conduct investigations to identify the factors that determine the torque produced by a force (Torque = force \cdot lever distance). (For example, what conditions must be met to ensure that the sum of all torques acting on an object is zero, leaving the object in rotational equilibrium?).

Enduring Understanding: Energy readily transforms from one form to another, but these transformations are not always reversible. The details of these transformations depend upon the initial form of the energy and the properties of the materials involved. Energy may transfer into or out of a system and it may change forms, but the total energy cannot change.

Use energy chains to trace the flow of energy through systems that involve both static and kinetic friction.

Use diagrams to illustrate how the constructive and destructive interference of waves occurs.

Give specific examples of how wave interference occurs in earth systems for both mechanical waves and electromagnetic waves. For example, in the case of mechanical waves, demonstrate regions of high volume (constructive interference) and low volume "dead spots" (destructive interference) in the space surrounding two speakers. Or consider the effect that wave interference has on the impact of seismic waves produced by earthquakes. In the case of

EM waves, observe the colored patterns (fringes) on a soap bubble or in a thin layer of oil on a puddle of water.

Describe how wave interference is used to create useful devices, such as noise cancellation devices (mechanical waves), window coatings to selectively transmit or reflect IR waves, diffraction gratings for spectroscopy, and lasers (EM waves).

Explain why the Law of Conservation of Energy must be expanded to the Law of the Conservation of Mass/Energy when nuclear energy is involved in a process.

Use the concept of stability to explain why energy is released during a fission process and during a fusion process.

Use diagrams and energy chains to illustrate and explain the flow and transformations of energy that occur in fission and fusion processes, and during radioactive decay.

Enduring Understanding: People utilize a variety of resources to meet the basic and specific needs of life. Some of these resources cannot be replaced. Other resources can be replenished or exist in such vast quantities they are in no danger of becoming depleted. Often the energy stored in resources must be transformed into more useful forms and transported over great distances before it can be helpful to us.

Use energy chains to describe the flow of energy in a nuclear-fueled electric power facility. Indicate the source of

energy of the facility, how and where energy leaves the facility, and in which parts of the facility energy transformations take place.

Compare and contrast the energy diagram of the nuclear-fueled power plant to a comparable energy diagram for a fossil-fueled electric power plant.

Prepare a written report, a poster, or a computer-based presentation that explains the advantages and disadvantages of using fossil fuels, nuclear fuel, and alternative energy sources to generate electrical energy.

Standard 4: Earth in Space

No GLEs at this grade level

Standard 5: Earth's Dynamic Systems

No GLEs at this grade level

Standard 6: Life Processes

No GLEs at this grade level

Standard 7: Diversity and Continuity of Living Things

No GLEs at this grade level

Standard 8: Ecology

No GLEs at this grade level

DELAWARE Grade 12 Science Standards and Grade-Level Expectations

Standard 1: Nature and Application of Science and Technology

Enduring Understanding: Scientific inquiry involves asking scientifically-oriented questions, collecting evidence, forming explanations, connecting explanations to scientific knowledge and theory, and communicating and justifying the explanation.

Identify and form questions that generate a specific testable hypothesis that guide the design and breadth of the scientific investigation.

Design and conduct valid scientific investigations to control all but the testable variable in order to test a specific hypothesis.

Collect accurate and precise data through the selection and use of tools and technologies appropriate to the investigations. Display and organize data through the use of tables, diagrams, graphs, and other organizers that allow analysis and comparison with known information and allow for replication of results.

Construct logical scientific explanations and present arguments which defend proposed explanations through the use of closely examined evidence.

Communicate and defend the results of scientific investigations using logical arguments and connections with the known body of scientific information.

Use mathematics, reading, writing and technology when conducting scientific inquiries.

Standard 2: Materials and Their Properties

No GLEs at this grade level

Standard 3: Energy and Its Effects

Enduring Understandings: Energy takes many forms. These forms can be grouped into types of energy that are associated with the motion of mass (kinetic energy) and types of energy associated with the position of mass and energy fields (potential energy).

Explain that the quantity of radiant energy delivered to a surface every second can be viewed in two different ways. Use the concept of waves to describe that the energy delivered by electromagnetic radiation depends on the amplitude and frequency of the electromagnetic waves. Use the particle model of electromagnetic radiation (energy is carried by packets of electromagnetic energy called photons) to explain that the radiant energy delivered depends on the frequency of the radiation and the number of packets striking the surface per second.

Enduring Understanding: Changes take place because of the transfer of energy. Energy is transferred to matter through the action of forces. Different forces are responsible for the different forms of energy.

No GLEs for this understanding

Enduring Understanding: Energy readily transforms from one form to another, but these transformations are not always reversible. The details of these transformations depend upon the initial form of the energy and the

properties of the materials involved. Energy may transfer into or out of a system and it may change forms, but the total energy cannot change.

Use the model of discrete electronic energy states in an atom to describe how the atom can emit or absorb packets of electromagnetic energy (photons) having specific energies. Demonstrate how prisms, diffraction gratings or other optical devices can be used to analyze the light coming from different substances, and how this analysis can be useful in the identification of elements and compounds.

Use diagrams to show how concave reflecting devices and convex lenses can be used to collect and focus EM waves.

Recognize that the characteristics of these devices are different for different groups of EM waves (radio waves, microwaves, infrared waves, visible waves, etc.).

Create light ray diagrams to illustrate how converging devices are used to collect and focus waves in scientific devices (e.g., telescopes and microscopes).

Enduring Understanding: People utilize a variety of resources to meet the basic and specific needs of life. Some of these resources cannot be replaced. Other resources can be replenished or exist in such vast quantities they are in no danger of becoming depleted. Often the energy stored in resources must be transformed into more useful forms and transported over great distances before it can be helpful to us.

No GLEs for this understanding

Standard 4: Earth in Space

Enduring Understanding: Observable, predictable patterns of movement in the Sun, Earth, Moon system are caused by gravitational interaction and powered by energy from the Sun.

Describe how nuclear fusion reactions change over time and lead to the creation of elements (and the evolution of stars).

Explain how the process of nuclear fusion in our Sun consumes mass and releases, over billions of years, enormous amounts of energy.

Compare and contrast the age, temperature, and size of our Sun to other stars.

Discuss the many ways in which the Sun influences Earth including the role of gravity, coronal mass ejections, and electromagnetic radiation including gamma photons.

Enduring Understanding: Most objects in the Solar System orbit the Sun and have distinctive physical characteristics and orderly motion which are a result of their formation and changes over time.

Use library and internet resources to identify characteristics of the Earth which permit it to support life, and compare those characteristics to properties of other planets. Based on the research, debate the possibility of life on other planets.

Enduring Understanding: The Universe is composed of galaxies, which are composed of solar systems, all of which

are composed of the same elements and governed by the same laws.

Describe the relative size differences and distances between planetary systems, stars, multiple-star galaxies, star clusters, galaxies, and galactic groups in the Universe.

Explain why the force of gravity is responsible for many phenomena in the Universe including the formation and life cycle of galaxies, stars, and planetary systems. Explain how gravity influences the motion of bodies in the Universe including tides and maintaining orbits of planets.

Describe how our knowledge of the history of the Universe is based on electromagnetic energy that has traveled vast distances and takes a long period of time to reach us.

Explain the life history of stars in terms of luminosity, size and temperature using the Hertzsprung-Russell Diagram. Compare and contrast stellar evolution based on mass (black hole, neutron star, white dwarf).

Explain the Big Bang Theory and how it is supported by evidence that includes microwave background radiation and red shift. Cite research supporting the Big Bang Theory as the most scientifically accepted theory explaining the formation of the Universe.

Enduring Understanding: Technology expands our knowledge of the Universe.

Describe how the composition of stars can be determined by analysis of their spectra. Compare the elements that compose stars to those that compose Earth.

Discuss how technology (i.e., telescopes, computers, space probes, radio observatories) assists astronomers in discovering and investigating celestial bodies beyond the limits of our Solar System.

Standard 5: Earth's Dynamic Systems

No GLEs at this grade level

Standard 6: Life Processes

No GLEs at this grade level

Standard 7: Diversity and Continuity of Living Things

No GLEs at this grade level

Standard 8: Ecology

Enduring Understanding: Organisms and their environments are interconnected. Changes in one part of the system will affect other parts of the system.

Identify and measure biological, chemical and physical indicators within a given ecosystem (pH, dissolved oxygen, macroinvertebrate and other indicator species, salinity).

Using models, computer simulations, or graphic representations, demonstrate how, changes in these indicators may affect interactions within ecosystems.

Evaluate the current health of the ecosystem and suggest possible interventions for mitigation.

Explain how feedback loops keep an ecosystem (at the local and global level) in a state of dynamic equilibrium (e.g., positive and negative feedback loops associated with global climate).

Explain how niches help to increase the diversity within an ecosystem and maximize the number of populations that can live in the same habitat.

Using graphs of population data of a predator and its prey, describe the patterns observed. Explain how the interactions of predator and prey generate these patterns, and predict possible future trends in these populations.

Analyze and explain the short-term impact of a natural disaster on the biological, chemical, and physical components of the affected ecosystem and their associated interrelationships, including geochemical cycles and food webs.

Based on knowledge of populations and interactions in an ecosystem, predict the possible long-term outcomes (e.g., extinction, adaptation, succession) of a natural disaster on populations in the ecosystem.

Explain the significance of the introduction of non-native and invasive species to a stable ecosystem and describe the consequent harm to the native species and the environment (e.g., zebra mussels, purple loosestrife, phragmites, Japanese Beetles).

Describe how the biotic and abiotic factors can act as selective pressures on a population and can alter the diversity of the ecosystem over time.

Identify limiting factors in an ecosystem and explain why these factors prevent populations from reaching biotic potential. Predict the effects on a population if these limiting factors were removed. Explain why a population reaching unlimited biotic potential can be detrimental to the ecosystem.

Determine the carrying capacity for a population in an ecosystem using graphical representations of population data.

Describe how birth rate, death rate, emigration, and immigration contribute to a population's growth rate.

Enduring Understanding: Matter needed to sustain life is continually recycled among and between organisms and the environment. Energy from the sun flows irreversibly through ecosystems and is conserved as organisms use and transform it.

Illustrate how elements on Earth cycle among the biotic and abiotic components of the biosphere.

Recognize that the amount of matter in a closed ecosystem will remain constant.

Relate an ecosystem's requirement for the continual input of energy to the inefficiency of energy transfer.

Explain how ecosystems that do not rely on radiant energy obtain energy to maintain life.

Explain how the inefficiency of energy transfer determines the number of trophic levels and affects the relative number of organisms at each trophic level in an ecosystem.

Relate a chemical's properties to its accumulation within organisms, such as PCBs in the fatty tissues of fish.

Relate the accumulation of a chemical in an organism to the organism's trophic level. Explain why bioaccumulation is a greater problem for organisms at higher trophic levels.

Explain how biomagnification has led to unsafe food supplies, such as mercury accumulation in tuna.

Analyze how an understanding of biomagnification has led to the regulation of chemical use and disposal.

Enduring Understanding: Humans can alter the living and non-living factors within an ecosystem, thereby creating changes to the overall system.

Examine and describe how social and biological factors influence the exponential growth of the human population (e.g., economic, cultural, age at reproduction, fertility rate, birth/death rate, and environmental factors).

Examine and describe how the exponential growth of the human population has affected the consumption of renewable and non-renewable resources.

Evaluate decisions about the use of resources in one country and how these decisions can impact the diversity and stability of ecosystems globally.

Analyze ways in which human activity (i.e., producing food, transporting materials, generating energy, disposing of waste, obtaining fresh water, or extracting natural resources) can affect ecosystems and the organisms within.

Research and discuss ways in which humans use technology to reduce the negative impact of human activity on the environment. (e.g., phytoremediation, smokestack scrubbers).

Describe how advances in technology can increase the carrying capacity of an ecosystem (i.e., advances in agricultural technology have led to increases in crop yields per acre).

Section C: ACT's College Readiness Standards Included in Delaware's Grade 8–12 Standards

In recent years ACT has brought a distinctive voice to the debate on what it means to be truly ready for college. Using a wealth of longitudinal data—data that no one else possesses—ACT has pioneered empirical approaches to assessing students' college readiness. Using thousands of student records and responses, content and measurement experts at ACT have developed detailed statements that describe what students typically know and are able to do at different levels of test performance. These data-driven, empirically derived score descriptors, known as ACT's College Readiness Standards, describe student achievement within various score ranges on the English, Reading, Writing, Mathematics, and Science tests on EXPLORE, PLAN, and the ACT.

How ACT College Readiness Standards Work with ACT College Readiness Benchmarks

The ACT College Readiness Benchmarks are the minimum ACT test scores required for students to have a high probability of success in first-year, credit-bearing college courses—English Composition, Algebra, social sciences courses, or Biology. EXPLORE and PLAN Benchmarks provided minimum score targets for eighth- and tenth-grade students to gauge their progress in becoming college ready by the time they graduate from high school.

ACT's College Readiness Benchmarks				
Test	College Course	ACT Test Score	PLAN Test Score	EXPLORE Test Score
English	English Composition	18	15	13
Mathematics	College Algebra	22	19	17
Reading	College Social Studies/Humanities	21	17	15
Science	College Biology	24	21	20

Students who meet a Benchmark on the ACT have approximately a 50 percent chance of earning a B or better and approximately a 75 percent chance or better of earning a C or better in the corresponding entry-level college course or courses. Students who meet a Benchmark on EXPLORE or PLAN have a high chance of meeting the College Readiness Benchmarks for the ACT and of being ready for the corresponding college course(s) by the time they graduate from high school.

The knowledge and skills in the score ranges that include these Benchmark scores are shown in the tables on the following pages. Students who master these standards are more likely than those who do not to persist to the second year at the same institution; achieve a grade of B or higher in first-year college courses; achieve a first-year college GPA of 2.5 or higher; progress toward a college degree; and complete a college degree.



Research shows that the academic quality and intensity of the high school curriculum is a key determinant of success in postsecondary education. *States should ensure that high school coursework be of sufficient rigor to prepare their graduates for postsecondary education and workforce training.*

This section (Section C) provides information about the Delaware Standards as they relate to ACT's College Readiness Standards. The ACT College Readiness Standards included in the Delaware Standards are highlighted. College Readiness Standards not highlighted are those that include specific content, complexity, and/or proficiency level descriptors that ACT content experts determined were not included in the Delaware Standards.



Score Ranges	Table C-1. ACT's College Readiness Standards — English		
Benchmarks	Topic Development in Terms of Purpose and Focus	Organization, Unity, and Coherence	Word Choice in Terms of Style, Tone, Clarity, and Economy
13–15 EXPL: 13 PLAN: 15		Use conjunctive adverbs or phrases to show time relationships in simple narrative essays (e.g., <i>then, this time</i>)	Revise sentences to correct awkward and confusing arrangements of sentence elements Revise vague nouns and pronouns that create obvious logic problems
16–19 ACT: 18	Identify the basic purpose or role of a specified phrase or sentence Delete a clause or sentence because it is obviously irrelevant to the essay	Select the most logical place to add a sentence in a paragraph	Delete obviously synonymous and wordy material in a sentence Revise expressions that deviate from the style of an essay
20–23	Identify the central idea or main topic of a straightforward piece of writing Determine relevancy when presented with a variety of sentence-level details	Use conjunctive adverbs or phrases to express straightforward logical relationships (e.g., <i>first, afterward, in response</i>) Decide the most logical place to add a sentence in an essay Add a sentence that introduces a simple paragraph	Delete redundant material when information is repeated in different parts of speech (e.g., “alarmingly startled”) Use the word or phrase most consistent with the style and tone of a fairly straightforward essay Determine the clearest and most logical conjunction to link clauses
24–27	Identify the focus of a simple essay, applying that knowledge to add a sentence that sharpens that focus or to determine if an essay has met a specified goal Delete material primarily because it disturbs the flow and development of the paragraph Add a sentence to accomplish a fairly straightforward purpose such as illustrating a given statement	Determine the need for conjunctive adverbs or phrases to create subtle logical connections between sentences (e.g., <i>therefore, however, in addition</i>) Rearrange the sentences in a fairly uncomplicated paragraph for the sake of logic Add a sentence to introduce or conclude the essay or to provide a transition between paragraphs when the essay is fairly straightforward	Revise a phrase that is redundant in terms of the meaning and logic of the entire sentence Identify and correct ambiguous pronoun references Use the word or phrase most appropriate in terms of the content of the sentence and tone of the essay
28–32	Apply an awareness of the focus and purpose of a fairly involved essay to determine the rhetorical effect and suitability of an existing phrase or sentence, or to determine the need to delete plausible but irrelevant material Add a sentence to accomplish a subtle rhetorical purpose such as to emphasize, to add supporting detail, or to express meaning through connotation	Make sophisticated distinctions concerning the logical use of conjunctive adverbs or phrases, particularly when signaling a shift between paragraphs Rearrange sentences to improve the logic and coherence of a complex paragraph Add a sentence to introduce or conclude a fairly complex paragraph	Correct redundant material that involves sophisticated vocabulary and sounds acceptable as conversational English (e.g., “an aesthetic viewpoint” versus “the outlook of an aesthetic viewpoint”) Correct vague and wordy or clumsy and confusing writing containing sophisticated language
33–36	Determine whether a complex essay has accomplished a specific purpose Add a phrase or sentence to accomplish a complex purpose, often expressed in terms of the main focus of the essay	Consider the need for introductory sentences or transitions, basing decisions on a thorough understanding of both the logic and rhetorical effect of the paragraph and essay	Delete redundant material that involves subtle concepts or that is redundant in terms of the paragraph as a whole

Score Ranges	Table C-1. ACT's College Readiness Standards — English (continued)		
Bench- marks	Sentence Structure and Formation	Conventions of Usage	Conventions of Punctuation
13–15 EXPL: 13 PLAN: 15	<p>Use conjunctions or punctuation to join simple clauses</p> <p>Revise shifts in verb tense between simple clauses in a sentence or between simple adjoining sentences</p>	<p>Solve such basic grammatical problems as how to form the past and past participle of irregular but commonly used verbs and how to form comparative and superlative adjectives</p>	<p>Delete commas that create basic sense problems (e.g., between verb and direct object)</p>
16–19 ACT: 18	<p>Determine the need for punctuation and conjunctions to avoid awkward-sounding sentence fragments and fused sentences</p> <p>Decide the appropriate verb tense and voice by considering the meaning of the entire sentence</p>	<p>Solve such grammatical problems as whether to use an adverb or adjective form, how to ensure straightforward subject-verb and pronoun-antecedent agreement, and which preposition to use in simple contexts</p> <p>Recognize and use the appropriate word in frequently confused pairs such as <i>there</i> and <i>their</i>, <i>past</i> and <i>passed</i>, and <i>led</i> and <i>lead</i></p>	<p>Provide appropriate punctuation in straightforward situations (e.g., items in a series)</p> <p>Delete commas that disturb the sentence flow (e.g., between modifier and modified element)</p>
20–23	<p>Recognize and correct marked disturbances of sentence flow and structure (e.g., participial phrase fragments, missing or incorrect relative pronouns, dangling or misplaced modifiers)</p>	<p>Use idiomatically appropriate prepositions, especially in combination with verbs (e.g., <i>long for</i>, <i>appeal to</i>)</p> <p>Ensure that a verb agrees with its subject when there is some text between the two</p>	<p>Use commas to set off simple parenthetical phrases</p> <p>Delete unnecessary commas when an incorrect reading of the sentence suggests a pause that should be punctuated (e.g., between verb and direct object clause)</p>
24–27	<p>Revise to avoid faulty placement of phrases and faulty coordination and subordination of clauses in sentences with subtle structural problems</p> <p>Maintain consistent verb tense and pronoun person on the basis of the preceding clause or sentence</p>	<p>Ensure that a pronoun agrees with its antecedent when the two occur in separate clauses or sentences</p> <p>Identify the correct past and past participle forms of irregular and infrequently used verbs and form present-perfect verbs by using <i>have</i> rather than <i>of</i></p>	<p>Use punctuation to set off complex parenthetical phrases</p> <p>Recognize and delete unnecessary commas based on a careful reading of a complicated sentence (e.g., between the elements of a compound subject or compound verb joined by <i>and</i>)</p> <p>Use apostrophes to indicate simple possessive nouns</p> <p>Recognize inappropriate uses of colons and semicolons</p>
28–32	<p>Use sentence-combining techniques, effectively avoiding problematic comma splices, run-on sentences, and sentence fragments, especially in sentences containing compound subjects or verbs</p> <p>Maintain a consistent and logical use of verb tense and pronoun person on the basis of information in the paragraph or essay as a whole</p>	<p>Correctly use reflexive pronouns, the possessive pronouns <i>its</i> and <i>your</i>, and the relative pronouns <i>who</i> and <i>whom</i></p> <p>Ensure that a verb agrees with its subject in unusual situations (e.g., when the subject-verb order is inverted or when the subject is an indefinite pronoun)</p>	<p>Use commas to set off a nonessential/nonrestrictive appositive or clause</p> <p>Deal with multiple punctuation problems (e.g., compound sentences containing unnecessary commas and phrases that may or may not be parenthetical)</p> <p>Use an apostrophe to show possession, especially with irregular plural nouns</p> <p>Use a semicolon to indicate a relationship between closely related independent clauses</p>
33–36	<p>Work comfortably with long sentences and complex clausal relationships within sentences, avoiding weak conjunctions between independent clauses and maintaining parallel structure between clauses</p>	<p>Provide idiomatically and contextually appropriate prepositions following verbs in situations involving sophisticated language or ideas</p> <p>Ensure that a verb agrees with its subject when a phrase or clause between the two suggests a different number for the verb</p>	<p>Use a colon to introduce an example or an elaboration</p>

Score Ranges	Table C-2. ACT's College Readiness Standards — Reading	
Bench- marks	Main Ideas and Author's Approach	Supporting Details
13–15 <i>EXPL:</i> 15	Recognize a clear intent of an author or narrator in uncomplicated literary narratives	Locate basic facts (e.g., names, dates, events) clearly stated in a passage
16–19 <i>PLAN:</i> 17	Identify a clear main idea or purpose of straightforward paragraphs in uncomplicated literary narratives	Locate simple details at the sentence and paragraph level in uncomplicated passages Recognize a clear function of a part of an uncomplicated passage
20–23 <i>ACT:</i> 21	Infer the main idea or purpose of straightforward paragraphs in uncomplicated literary narratives Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in uncomplicated passages	Locate important details in uncomplicated passages Make simple inferences about how details are used in passages
24–27	Identify a clear main idea or purpose of any paragraph or paragraphs in uncomplicated passages Infer the main idea or purpose of straightforward paragraphs in more challenging passages Summarize basic events and ideas in more challenging passages Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in more challenging passages	Locate important details in more challenging passages Locate and interpret minor or subtly stated details in uncomplicated passages Discern which details, though they may appear in different sections throughout a passage, support important points in more challenging passages
28–32	Infer the main idea or purpose of more challenging passages or their paragraphs Summarize events and ideas in virtually any passage Understand the overall approach taken by an author or narrator (e.g., point of view, kinds of evidence used) in virtually any passage	Locate and interpret minor or subtly stated details in more challenging passages Use details from different sections of some complex informational passages to support a specific point or argument
33–36	Identify clear main ideas or purposes of complex passages or their paragraphs	Locate and interpret details in complex passages Understand the function of a part of a passage when the function is subtle or complex

Descriptions of the ACT Reading Passages

Uncomplicated Literary Narratives refers to excerpts from essays, short stories, and novels that tend to use simple language and structure, have a clear purpose and a familiar style, present straightforward interactions between characters, and employ only a limited number of literary devices such as metaphor, simile, or hyperbole.

More Challenging Literary Narratives refers to excerpts from essays, short stories, and novels that tend to make moderate use of figurative language, have a more intricate structure and messages conveyed with some subtlety, and may feature somewhat complex interactions between characters.

Complex Literary Narratives refers to excerpts from essays, short stories, and novels that tend to make generous use of ambiguous language and literary devices, feature complex and subtle interactions between characters, often contain challenging context-dependent vocabulary, and typically contain messages and/or meanings that are not explicit but are embedded in the passage.

Score Ranges	Table C-2. ACT's College Readiness Standards — Reading (continued)		
Bench- marks	Sequential, Comparative, and Cause-Effect Relationships	Meanings of Words	Generalizations and Conclusions
13–15 <i>EXPL:</i> 15	Determine when (e.g., first, last, before, after) or if an event occurred in uncomplicated passages Recognize clear cause-effect relationships described within a single sentence in a passage	Understand the implication of a familiar word or phrase and of simple descriptive language	Draw simple generalizations and conclusions about the main characters in uncomplicated literary narratives
16–19 <i>PLAN:</i> 17	Identify relationships between main characters in uncomplicated literary narratives Recognize clear cause-effect relationships within a single paragraph in uncomplicated literary narratives	Use context to understand basic figurative language	Draw simple generalizations and conclusions about people, ideas, and so on in uncomplicated passages
20–23 <i>ACT:</i> 21	Order simple sequences of events in uncomplicated literary narratives Identify clear relationships between people, ideas, and so on in uncomplicated passages Identify clear cause-effect relationships in uncomplicated passages	Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in uncomplicated passages	Draw generalizations and conclusions about people, ideas, and so on in uncomplicated passages Draw simple generalizations and conclusions using details that support the main points of more challenging passages
24–27	Order sequences of events in uncomplicated passages Understand relationships between people, ideas, and so on in uncomplicated passages Identify clear relationships between characters, ideas, and so on in more challenging literary narratives Understand implied or subtly stated cause-effect relationships in uncomplicated passages Identify clear cause-effect relationships in more challenging passages	Use context to determine the appropriate meaning of virtually any word, phrase, or statement in uncomplicated passages Use context to determine the appropriate meaning of some figurative and nonfigurative words, phrases, and statements in more challenging passages	Draw subtle generalizations and conclusions about characters, ideas, and so on in uncomplicated literary narratives Draw generalizations and conclusions about people, ideas, and so on in more challenging passages
28–32	Order sequences of events in more challenging passages Understand the dynamics between people, ideas, and so on in more challenging passages Understand implied or subtly stated cause-effect relationships in more challenging passages	Determine the appropriate meaning of words, phrases, or statements from figurative or somewhat technical contexts	Use information from one or more sections of a more challenging passage to draw generalizations and conclusions about people, ideas, and so on
33–36	Order sequences of events in complex passages Understand the subtleties in relationships between people, ideas, and so on in virtually any passage Understand implied, subtle, or complex cause-effect relationships in virtually any passage	Determine, even when the language is richly figurative and the vocabulary is difficult, the appropriate meaning of context-dependent words, phrases, or statements in virtually any passage	Draw complex or subtle generalizations and conclusions about people, ideas, and so on, often by synthesizing information from different portions of the passage Understand and generalize about portions of a complex literary narrative

Uncomplicated Informational Passages refers to materials that tend to contain a limited amount of data, address basic concepts using familiar language and conventional organizational patterns, have a clear purpose, and are written to be accessible.

More Challenging Informational Passages refers to materials that tend to present concepts that are not always stated explicitly and that are accompanied or illustrated by more—and more detailed—supporting data, include some difficult context-dependent words, and are written in a somewhat more demanding and less accessible style.

Complex Informational Passages refers to materials that tend to include a sizable amount of data, present difficult concepts that are embedded (not explicit) in the text, use demanding words and phrases whose meaning must be determined from context, and are likely to include intricate explanations of processes or events.

Table C-3. ACT’s College Readiness Standards — Writing*

Score Ranges	Expressing Judgments	Focusing on the Topic	Developing a Position
3–4	<p>Show a little understanding of the persuasive purpose of the task but neglect to take or to maintain a position on the issue in the prompt</p> <p>Show limited recognition of the complexity of the issue in the prompt</p>	<p>Maintain a focus on the general topic in the prompt through most of the essay</p>	<p>Offer a little development, with one or two ideas; if examples are given, they are general and may not be clearly relevant; resort often to merely repeating ideas</p> <p>Show little or no movement between general and specific ideas and examples</p>
5–6	<p>Show a basic understanding of the persuasive purpose of the task by taking a position on the issue in the prompt but may not maintain that position</p> <p>Show a little recognition of the complexity of the issue in the prompt by acknowledging, but only briefly describing, a counterargument to the writer’s position</p>	<p>Maintain a focus on the general topic in the prompt throughout the essay</p>	<p>Offer limited development of ideas using a few general examples; resort sometimes to merely repeating ideas</p> <p>Show little movement between general and specific ideas and examples</p>
7–8	<p>Show understanding of the persuasive purpose of the task by taking a position on the issue in the prompt</p> <p>Show some recognition of the complexity of the issue in the prompt by</p> <ul style="list-style-type: none"> • acknowledging counterarguments to the writer’s position • providing some response to counterarguments to the writer’s position 	<p>Maintain a focus on the general topic in the prompt throughout the essay and attempt a focus on the specific issue in the prompt</p> <p>Present a thesis that establishes focus on the topic</p>	<p>Develop ideas by using some specific reasons, details, and examples</p> <p>Show some movement between general and specific ideas and examples</p>
9–10	<p>Show clear understanding of the persuasive purpose of the task by taking a position on the specific issue in the prompt and offering a broad context for discussion</p> <p>Show recognition of the complexity of the issue in the prompt by</p> <ul style="list-style-type: none"> • partially evaluating implications and/or complications of the issue, and/or • posing and partially responding to counterarguments to the writer’s position 	<p>Maintain a focus on discussion of the specific topic and issue in the prompt throughout the essay</p> <p>Present a thesis that establishes a focus on the writer’s position on the issue</p>	<p>Develop most ideas fully, using some specific and relevant reasons, details, and examples</p> <p>Show clear movement between general and specific ideas and examples</p>
11–12	<p>Show clear understanding of the persuasive purpose of the task by taking a position on the specific issue in the prompt and offering a critical context for discussion</p> <p>Show understanding of the complexity of the issue in the prompt by</p> <ul style="list-style-type: none"> • examining different perspectives, and/or • evaluating implications or complications of the issue, and/or • posing and fully discussing counterarguments to the writer’s position 	<p>Maintain a clear focus on discussion of the specific topic and issue in the prompt throughout the essay</p> <p>Present a critical thesis that clearly establishes the focus on the writer’s position on the issue</p>	<p>Develop several ideas fully, using specific and relevant reasons, details, and examples</p> <p>Show effective movement between general and specific ideas and examples</p>

*The shaded row in this table shows the minimum level of writing skills needed by students to be ready for college-level writing assignments.

Table C-3. ACT's College Readiness Standards — Writing* (continued)

Score Ranges	Organizing Ideas	Using Language
3–4	<p>Provide a discernible organization with some logical grouping of ideas in parts of the essay</p> <p>Use a few simple and obvious transitions</p> <p>Present a discernible, though minimally developed, introduction and conclusion</p>	<p>Show limited control of language by</p> <ul style="list-style-type: none"> • correctly employing some of the conventions of standard English grammar, usage, and mechanics, but with distracting errors that sometimes significantly impede understanding • using simple vocabulary • using simple sentence structure
5–6	<p>Provide a simple organization with logical grouping of ideas in parts of the essay</p> <p>Use some simple and obvious transitional words, though they may at times be inappropriate or misleading</p> <p>Present a discernible, though underdeveloped, introduction and conclusion</p>	<p>Show a basic control of language by</p> <ul style="list-style-type: none"> • correctly employing some of the conventions of standard English grammar, usage, and mechanics, but with distracting errors that sometimes impede understanding • using simple but appropriate vocabulary • using a little sentence variety, though most sentences are simple in structure
7–8	<p>Provide an adequate but simple organization with logical grouping of ideas in parts of the essay but with little evidence of logical progression of ideas</p> <p>Use some simple and obvious, but appropriate, transitional words and phrases</p> <p>Present a discernible introduction and conclusion with a little development</p>	<p>Show adequate use of language to communicate by</p> <ul style="list-style-type: none"> • correctly employing many of the conventions of standard English grammar, usage, and mechanics, but with some distracting errors that may occasionally impede understanding • using appropriate vocabulary • using some varied kinds of sentence structures to vary pace
9–10	<p>Provide unity and coherence throughout the essay, sometimes with a logical progression of ideas</p> <p>Use relevant, though at times simple and obvious, transitional words and phrases to convey logical relationships between ideas</p> <p>Present a somewhat developed introduction and conclusion</p>	<p>Show competent use of language to communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with a few distracting errors but none that impede understanding • using some precise and varied vocabulary • using several kinds of sentence structures to vary pace and to support meaning
11–12	<p>Provide unity and coherence throughout the essay, often with a logical progression of ideas</p> <p>Use relevant transitional words, phrases, and sentences to convey logical relationships between ideas</p> <p>Present a well-developed introduction and conclusion</p>	<p>Show effective use of language to clearly communicate ideas by</p> <ul style="list-style-type: none"> • correctly employing most conventions of standard English grammar, usage, and mechanics, with just a few, if any, errors • using precise and varied vocabulary • using a variety of kinds of sentence structures to vary pace and to support meaning

Score Ranges	Table C-4. ACT's College Readiness Standards — Mathematics			
Benchmarks	Basic Operations & Applications	Probability, Statistics, & Data Analysis	Numbers: Concepts & Properties	Expressions, Equations, & Inequalities
13–15	<p>Perform one-operation computation with whole numbers and decimals</p> <p>Solve problems in one or two steps using whole numbers</p> <p>Perform common conversions (e.g., inches to feet or hours to minutes)</p>	<p>Calculate the average of a list of positive whole numbers</p> <p>Perform a single computation using information from a table or chart</p>	<p>Recognize equivalent fractions and fractions in lowest terms</p>	<p>Exhibit knowledge of basic expressions (e.g., identify an expression for a total as $b + g$)</p> <p>Solve equations in the form $x + a = b$, where a and b are whole numbers or decimals</p>
16–19 <i>EXPL:</i> 17 <i>PLAN:</i> 19	<p>Solve routine one-step arithmetic problems (using whole numbers, fractions, and decimals) such as single-step percent</p> <p>Solve some routine two-step arithmetic problems</p>	<p>Calculate the average of a list of numbers</p> <p>Calculate the average, given the number of data values and the sum of the data values</p> <p>Read tables and graphs</p> <p>Perform computations on data from tables and graphs</p> <p>Use the relationship between the probability of an event and the probability of its complement</p>	<p>Recognize one-digit factors of a number</p> <p>Identify a digit's place value</p>	<p>Substitute whole numbers for unknown quantities to evaluate expressions</p> <p>Solve one-step equations having integer or decimal answers</p> <p>Combine like terms (e.g., $2x + 5x$)</p>
20–23 <i>ACT:</i> 22	<p>Solve routine two-step or three-step arithmetic problems involving concepts such as rate and proportion, tax added, percentage off, and computing with a given average</p>	<p>Calculate the missing data value, given the average and all data values but one</p> <p>Translate from one representation of data to another (e.g., a bar graph to a circle graph)</p> <p>Determine the probability of a simple event</p> <p>Exhibit knowledge of simple counting techniques</p>	<p>Exhibit knowledge of elementary number concepts including rounding, the ordering of decimals, pattern identification, absolute value, primes, and greatest common factor</p>	<p>Evaluate algebraic expressions by substituting integers for unknown quantities</p> <p>Add and subtract simple algebraic expressions</p> <p>Solve routine first-degree equations</p> <p>Perform straightforward word-to-symbol translations</p> <p>Multiply two binomials</p>
24–27	<p>Solve multistep arithmetic problems that involve planning or converting units of measure (e.g., feet per second to miles per hour)</p>	<p>Calculate the average, given the frequency counts of all the data values</p> <p>Manipulate data from tables and graphs</p> <p>Compute straightforward probabilities for common situations</p> <p>Use Venn diagrams in counting</p>	<p>Find and use the least common multiple</p> <p>Order fractions</p> <p>Work with numerical factors</p> <p>Work with scientific notation</p> <p>Work with squares and square roots of numbers</p> <p>Work problems involving positive integer exponents</p> <p>Work with cubes and cube roots of numbers</p> <p>Determine when an expression is undefined</p> <p>Exhibit some knowledge of the complex numbers</p>	<p>Solve real-world problems using first-degree equations</p> <p>Write expressions, equations, or inequalities with a single variable for common pre-algebra settings (e.g., rate and distance problems and problems that can be solved by using proportions)</p> <p>Identify solutions to simple quadratic equations</p> <p>Add, subtract, and multiply polynomials</p> <p>Factor simple quadratics (e.g., the difference of squares and perfect square trinomials)</p> <p>Solve first-degree inequalities that do not require reversing the inequality sign</p>
28–32	<p>Solve word problems containing several rates, proportions, or percentages</p>	<p>Calculate or use a weighted average</p> <p>Interpret and use information from figures, tables, and graphs</p> <p>Apply counting techniques</p> <p>Compute a probability when the event and/or sample space are not given or obvious</p>	<p>Apply number properties involving prime factorization</p> <p>Apply number properties involving even/odd numbers and factors/multiples</p> <p>Apply number properties involving positive/negative numbers</p> <p>Apply rules of exponents</p> <p>Multiply two complex numbers</p>	<p>Manipulate expressions and equations</p> <p>Write expressions, equations, and inequalities for common algebra settings</p> <p>Solve linear inequalities that require reversing the inequality sign</p> <p>Solve absolute value equations</p> <p>Solve quadratic equations</p> <p>Find solutions to systems of linear equations</p>
33–36	<p>Solve complex arithmetic problems involving percent of increase or decrease and problems requiring integration of several concepts from pre-algebra and/or pre-geometry (e.g., comparing percentages or averages, using several ratios, and finding ratios in geometry settings)</p>	<p>Distinguish between mean, median, and mode for a list of numbers</p> <p>Analyze and draw conclusions based on information from figures, tables, and graphs</p> <p>Exhibit knowledge of conditional and joint probability</p>	<p>Draw conclusions based on number concepts, algebraic properties, and/or relationships between expressions and numbers</p> <p>Exhibit knowledge of logarithms and geometric sequences</p> <p>Apply properties of complex numbers</p>	<p>Write expressions that require planning and/or manipulating to accurately model a situation</p> <p>Write equations and inequalities that require planning, manipulating, and/or solving</p> <p>Solve simple absolute value inequalities</p>

Score Ranges Bench- marks	Table C-4. ACT's College Readiness Standards — Mathematics (continued)			
	Graphical Representations	Properties of Plane Figures	Measurement	Functions
13–15	Identify the location of a point with a positive coordinate on the number line		Estimate or calculate the length of a line segment based on other lengths given on a geometric figure	
16–19 <i>EXPL:</i> 17 <i>PLAN:</i> 19	Locate points on the number line and in the first quadrant	Exhibit some knowledge of the angles associated with parallel lines	Compute the perimeter of polygons when all side lengths are given Compute the area of rectangles when whole number dimensions are given	
20–23 <i>ACT:</i> 22	Locate points in the coordinate plane Comprehend the concept of length on the number line Exhibit knowledge of slope	Find the measure of an angle using properties of parallel lines Exhibit knowledge of basic angle properties and special sums of angle measures (e.g., 90°, 180°, and 360°)	Compute the area and perimeter of triangles and rectangles in simple problems Use geometric formulas when all necessary information is given	Evaluate quadratic functions, expressed in function notation, at integer values
24–27	Identify the graph of a linear inequality on the number line Determine the slope of a line from points or equations Match linear graphs with their equations Find the midpoint of a line segment	Use several angle properties to find an unknown angle measure Recognize Pythagorean triples Use properties of isosceles triangles	Compute the area of triangles and rectangles when one or more additional simple steps are required Compute the area and circumference of circles after identifying necessary information Compute the perimeter of simple composite geometric figures with unknown side lengths	Evaluate polynomial functions, expressed in function notation, at integer values Express the sine, cosine, and tangent of an angle in a right triangle as a ratio of given side lengths
28–32	Interpret and use information from graphs in the coordinate plane Match number line graphs with solution sets of linear inequalities Use the distance formula Use properties of parallel and perpendicular lines to determine an equation of a line or coordinates of a point Recognize special characteristics of parabolas and circles (e.g., the vertex of a parabola and the center or radius of a circle)	Apply properties of 30°-60°-90°, 45°-45°-90°, similar, and congruent triangles Use the Pythagorean theorem	Use relationships involving area, perimeter, and volume of geometric figures to compute another measure	Evaluate composite functions at integer values Apply basic trigonometric ratios to solve right-triangle problems
33–36	Match number line graphs with solution sets of simple quadratic inequalities Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$ Solve problems integrating multiple algebraic and/or geometric concepts Analyze and draw conclusions based on information from graphs in the coordinate plane	Draw conclusions based on a set of conditions Solve multistep geometry problems that involve integrating concepts, planning, visualization, and/or making connections with other content areas Use relationships among angles, arcs, and distances in a circle	Use scale factors to determine the magnitude of a size change Compute the area of composite geometric figures when planning or visualization is required	Write an expression for the composite of two simple functions Use trigonometric concepts and basic identities to solve problems Exhibit knowledge of unit circle trigonometry Match graphs of basic trigonometric functions with their equations

Score Ranges	Table C-5. ACT's College Readiness Standards — Science		
Bench- marks	Interpretation of Data	Scientific Investigation	Evaluation of Models, Inferences, and Experimental Results
13–15	Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)		
16–19	Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Determine how the value of one variable changes as the value of another variable changes in a simple data presentation	Understand the methods and tools used in a simple experiment	
20–23 <i>EXPL:</i> 20 <i>PLAN:</i> 21	Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram) Compare or combine data from a simple data presentation (e.g., order or sum data from a table) Translate information into a table, graph, or diagram	Understand the methods and tools used in a moderately complex experiment Understand a simple experimental design Identify a control in an experiment Identify similarities and differences between experiments	Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model
24–27 <i>ACT:</i> 24	Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table) Compare or combine data from a complex data presentation Interpolate between data points in a table or graph Determine how the value of one variable changes as the value of another variable changes in a complex data presentation Identify and/or use a simple (e.g., linear) mathematical relationship between data Analyze given information when presented with new, simple information	Understand the methods and tools used in a complex experiment Understand a complex experimental design Predict the results of an additional trial or measurement in an experiment Determine the experimental conditions that would produce specified results	Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Determine which model(s) is(are) supported or weakened by new information Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion
28–32	Compare or combine data from a simple data presentation with data from a complex data presentation Identify and/or use a complex (e.g., nonlinear) mathematical relationship between data Extrapolate from data points in a table or graph	Determine the hypothesis for an experiment Identify an alternate method for testing a hypothesis	Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model Determine whether new information supports or weakens a model, and why Use new information to make a prediction based on a model
33–36	Compare or combine data from two or more complex data presentations Analyze given information when presented with new, complex information	Understand precision and accuracy issues Predict how modifying the design or methods of an experiment will affect results Identify an additional trial or experiment that could be performed to enhance or evaluate experimental results	Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why

Science College Readiness Standards are measured in the context of science topics students encounter in science courses. These topics may include:

Life Science/Biology	Physical Science/Chemistry, Physics	Earth & Space Science
<ul style="list-style-type: none"> Animal behavior Animal development and growth Body systems Cell structure and processes Ecology Evolution Genetics Homeostasis Life cycles Molecular basis of heredity Origin of life Photosynthesis Plant development, growth, structure Populations Taxonomy 	<ul style="list-style-type: none"> Atomic structure Chemical bonding, equations, nomenclature, reactions Electrical circuits Elements, compounds, mixtures Force and motions Gravitation Heat and work Kinetic and potential energy Magnetism Momentum The Periodic Table Properties of liquids Sound and light States, classes, and properties of matter Waves 	<ul style="list-style-type: none"> Earthquakes and volcanoes Earth's atmosphere Earth's resources Fossils and geological time Geochemical cycles Groundwater Lakes, rivers, oceans Mass movements Plate tectonics Rocks, minerals Solar system Stars, galaxies, and the universe Water cycle Weather and climate Weathering and erosion

Section D: **ACT's WorkKeys Skills Included in Delaware's Standards**

Working with Charter States, national education organizations, educators, employers, and experts in employment and training requirements, ACT identified workplace skills that help individuals successfully perform a wide range of jobs. These skills form the basis of the WorkKeys assessments.

In this section (Section D), the WorkKeys Skills that are highlighted are those that are included in Delaware's Standards. WorkKeys Skills not highlighted are those statements that include specific content, complexity and/or proficiency level descriptions that were not described in Delaware's Standards.

Because Delaware educators are the experts on the Delaware Standards, we would strongly encourage them to examine this document and offer their interpretations.



WorkKeys Skills

Level	Reading for Information	Applied Mathematics	Locating Information
3	<p>Identify main ideas and clearly stated details</p> <p>Choose the correct meaning of a word that is clearly defined in the reading</p> <p>Choose the correct meaning of common, everyday and workplace words</p> <p>Choose when to perform each step in a short series of steps</p> <p>Apply instructions to a situation that is the same as the one in the reading materials</p>	<p>Solve problems that require a single type of mathematics operation (addition, subtraction, multiplication, and division) using whole numbers</p> <p>Add or subtract negative numbers</p> <p>Change numbers from one form to another using whole numbers, fractions, decimals, or percentages</p> <p>Convert simple money and time units (e.g., hours to minutes)</p>	<p>Find one or two pieces of information in a graphic</p> <p>Fill in one or two pieces of information that are missing from a graphic</p>
4	<p>Identify important details that may not be clearly stated</p> <p>Use the reading material to figure out the meaning of words that are not defined</p> <p>Apply instructions with several steps to a situation that is the same as the situation in the reading materials</p> <p>Choose what to do when changing conditions call for a different action (follow directions that include "if-then" statements)</p>	<p>Solve problems that require one or two operations</p> <p>Multiply negative numbers</p> <p>Calculate averages, simple ratios, simple proportions, or rates using whole numbers and decimals</p> <p>Add commonly known fractions, decimals, or percentages (e.g., $\frac{1}{2}$, .75, 25%)</p> <p>Add three fractions that share a common denominator</p> <p>Multiply a mixed number by a whole number or decimal</p> <p>Put the information in the right order before performing calculations</p>	<p>Find several pieces of information in one or two graphics</p> <p>Understand how graphics are related to each other</p> <p>Summarize information from one or two straightforward graphics</p> <p>Identify trends shown in one or two straightforward graphics</p> <p>Compare information and trends shown in one or two straightforward graphics</p>
5	<p>Figure out the correct meaning of a word based on how the word is used</p> <p>Identify the correct meaning of an acronym that is defined in the document</p> <p>Identify the paraphrased definition of a technical term or jargon that is defined in the document</p> <p>Apply technical terms and jargon and relate them to stated situations</p> <p>Apply straightforward instructions to a new situation that is similar to the one described in the material</p> <p>Apply complex instructions that include conditionals to situations described in the materials</p>	<p>Decide what information, calculations, or unit conversions to use to solve the problem</p> <p>Look up a formula and perform single-step conversions within or between systems of measurement</p> <p>Calculate using mixed units (e.g., 3.5 hours and 4 hours 30 minutes)</p> <p>Divide negative numbers</p> <p>Find the best deal using one- and two-step calculations and then comparing results</p> <p>Calculate perimeters and areas of basic shapes (rectangles and circles)</p> <p>Calculate percentage discounts or markups</p>	<p>Sort through distracting information</p> <p>Summarize information from one or more detailed graphics</p> <p>Identify trends shown in one or more detailed or complicated graphics</p> <p>Compare information and trends from one or more complicated graphics</p>
6	<p>Identify implied details</p> <p>Use technical terms and jargon in new situations</p> <p>Figure out the less common meaning of a word based on the context</p> <p>Apply complicated instructions to new situations</p> <p>Figure out the principles behind policies, rules, and procedures</p> <p>Apply general principles from the materials to similar and new situations</p> <p>Explain the rationale behind a procedure, policy, or communication</p>	<p>Use fractions, negative numbers, ratios, percentages, or mixed numbers</p> <p>Rearrange a formula before solving a problem</p> <p>Use two formulas to change from one unit to another within the same system of measurement</p> <p>Use two formulas to change from one unit in one system of measurement to a unit in another system of measurement</p> <p>Find mistakes in items that belong at Levels 3, 4, and 5</p> <p>Find the best deal and use the result for another calculation</p> <p>Find areas of basic shapes when it may be necessary to rearrange the formula, convert units of measurement in the calculations, or use the result in further calculations</p> <p>Find the volume of rectangular solids</p> <p>Calculate multiple rates</p>	<p>Draw conclusions based on one complicated graphic or several related graphics</p> <p>Apply information from one or more complicated graphics to specific situations</p> <p>Use the information to make decisions</p>
7	<p>Figure out the definitions of difficult, uncommon words based on how they are used</p> <p>Figure out the meaning of jargon or technical terms based on how they are used</p> <p>Figure out the general principles behind the policies and apply them to situations that are quite different from any described in the materials</p>	<p>Solve problems that include nonlinear functions and/or that involve more than one unknown</p> <p>Find mistakes in Level 6 items</p> <p>Convert between systems of measurement that involve fractions, mixed numbers, decimals, and/or percentages</p> <p>Calculate multiple areas and volumes of spheres, cylinders, or cones</p> <p>Set up and manipulate complex ratios or proportions</p> <p>Find the best deal when there are several choices</p> <p>Apply basic statistical concepts</p>	