

Connections to Standards in Biomedical Science

PLTW curriculum is designed to empower students to thrive in an evolving world. As a part of the design process when developing and updating our curriculum, we focus on connections to a variety of standards. PLTW Medical Interventions connects to standards in the following:

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Common Core State Standards for Mathematics

Making Inferences and Justifying Conclusions

Make Inferences and Justify Conclusions From Sample Surveys, Experiments, and Observational Studies

CCSS.MATH.CONTENT.HSS.IC.B.6

Evaluate reports based on data.

Unit 1 Unit 2 Unit 3 Unit 4

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Common Core State Standards for English Language Arts

Reading Literature

Key Ideas and Details

CCSS.ELA-LITERACY.RL.9-10.1

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.9-10.2

Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.9-10.3

Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.

Unit 1 Unit 2 Unit 3 Unit 4

Craft and Structure

CCSS.ELA-LITERACY.RL.9-10.4

Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.9-10.5

Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.9-10.6

Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.

Unit 1 Unit 2 Unit 3 Unit 4

Integration of Knowledge and Ideas

CCSS.ELA-LITERACY.RL.9-10.7

Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden's "Musée des Beaux Arts" and Breughel's Landscape with the Fall of Icarus).

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.RL.9-10.8

(Not applicable to literature)

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.9-10.9

Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).

Unit 1 Unit 2 Unit 3 Unit 4

Range of Reading and Level of Text Complexity

CCSS.ELA-LITERACY.RL.9-10.10

By the end of grade 9, read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Unit 1 Unit 2 Unit 3 Unit 4

Reading Informational Text

Key Ideas and Details

CCSS.ELA-LITERACY.RI.9-10.1

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.9-10.2

Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.9-10.3

Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.

Unit 1 Unit 2 Unit 3 Unit 4

Craft and Structure

CCSS.ELA-LITERACY.RI.9-10.4

Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.RI.9-10.5

Analyze in detail how an author’s ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.9-10.6

Determine an author’s point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.

- Unit 1 Unit 2 Unit 3 Unit 4

Integration of Knowledge and Ideas

CCSS.ELA-LITERACY.RI.9-10.7

Analyze various accounts of a subject told in different mediums (e.g., a person’s life story in both print and multimedia), determining which details are emphasized in each account.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.9-10.8

Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.9-10.9

Analyze seminal U.S. documents of historical and literary significance (e.g., Washington’s Farewell Address, the Gettysburg Address, Roosevelt’s Four Freedoms speech, King’s “Letter from Birmingham Jail”), including how they address related themes and concepts.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.9-10.10

By the end of grade 9, read and comprehend literary nonfiction in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range.

- Unit 1 Unit 2 Unit 3 Unit 4

Writing

Text Types and Purpose

CCSS.ELA-LITERACY.W.9-10.1

Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.1.A

Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.W.9-10.1.B

Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.1.C

Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.1.D

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.1.E

Provide a concluding statement or section that follows from and supports the argument presented.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.2

Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.2.A

Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.2.B

Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.2.C

Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.2.D

Use precise language and domain-specific vocabulary to manage the complexity of the topic.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.W.9-10.2.E

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.2.F

Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.3

Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.3.A

Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.3.B

Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.3.C

Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.3.D

Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.3.E

Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

Production and Distribution of Writing

CCSS.ELA-LITERACY.W.9-10.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.5

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.6

Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

- Unit 1 Unit 2 Unit 3 Unit 4

Research to Build and Present Knowledge

CCSS.ELA-LITERACY.W.9-10.7

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.8

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.9

Draw evidence from literary or informational texts to support analysis, reflection, and research.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.9-10.9.A

Apply grades 9–10 Reading standards to literature (e.g., “Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]”).

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.W.9-10.9.B

Apply grades 9–10 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning”).

- Unit 1 Unit 2 Unit 3 Unit 4

Range of Writing

CCSS.ELA-LITERACY.W.9-10.10

Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

- Unit 1 Unit 2 Unit 3 Unit 4
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Speaking and Listening

Comprehension and Collaboration

CCSS.ELA-LITERACY.SL.9-10.1

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.9-10.1.A

Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.9-10.1.B

Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.9-10.1.C

Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.9-10.1.D

Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.SL.9-10.2

Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.9-10.3

Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

- Unit 1 Unit 2 Unit 3 Unit 4

Presentation of Knowledge and Ideas

CCSS.ELA-LITERACY.SL.9-10.4

Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.9-10.5

Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.9-10.6

Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

- Unit 1 Unit 2 Unit 3 Unit 4

Language

Conventions of Standard English

CCSS.ELA-LITERACY.L.9-10.1

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.1.A

Use parallel structure.*

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.1.B

Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.L.9-10.2

Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.2.A

Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.2.B

Use a colon to introduce a list or quotation.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.2.C

Spell correctly.

Unit 1 Unit 2 Unit 3 Unit 4

Knowledge of Language

CCSS.ELA-LITERACY.L.9-10.3

Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.3.A

Write and edit work so that it conforms to the guidelines in a style manual (e.g., MLA Handbook, Turabian's Manual for Writers) appropriate for the discipline and writing type.

Unit 1 Unit 2 Unit 3 Unit 4

Vocabulary Acquisition and Use

CCSS.ELA-LITERACY.L.9-10.4

Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.4.A

Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.L.9-10.4.B

Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical; advocate, advocacy).

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.4.C

Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.4.D

Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.5

Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.5.A

Interpret figures of speech (e.g., euphemism, oxymoron) in context and analyze their role in the text.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.5.B

Analyze nuances in the meaning of words with similar denotations.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.9-10.6

Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

- Unit 1 Unit 2 Unit 3 Unit 4

Reading History/Social Studies

Key Ideas and Details

CCSS.ELA-LITERACY.RH.9-10.1

Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.RH.9-10.2

Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.9-10.3

Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

Unit 1 Unit 2 Unit 3 Unit 4

Craft and Structure

CCSS.ELA-LITERACY.RH.9-10.4

Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.9-10.5

Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.9-10.6

Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.

Unit 1 Unit 2 Unit 3 Unit 4

Integration of Knowledge and Ideas

CCSS.ELA-LITERACY.RH.9-10.7

Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.9-10.8

Assess the extent to which the reasoning and evidence in a text support the author's claims.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.9-10.9

Compare and contrast treatments of the same topic in several primary and secondary sources.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

Range of Reading and Level of Text Complexity

CCSS.ELA-LITERACY.RH.9-10.10

By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.

Unit 1 Unit 2 Unit 3 Unit 4

Reading Science and Technical

Key Ideas and Details

CCSS.ELA-LITERACY.RST.9-10.1

Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.9-10.2

Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.9-10.3

Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.

Unit 1 Unit 2 Unit 3 Unit 4

Craft and Structure

CCSS.ELA-LITERACY.RST.9-10.4

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.9-10.5

Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.9-10.6

Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

Integration of Knowledge and Ideas

CCSS.ELA-LITERACY.RST.9-10.7

Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.9-10.8

Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.9-10.9

Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.

Unit 1 Unit 2 Unit 3 Unit 4

Range of Reading and Level of Text Complexity

CCSS.ELA-LITERACY.RST.9-10.10

By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.

Unit 1 Unit 2 Unit 3 Unit 4

Writing History/Social Studies, Science, and Technical

Text Types and Purposes

CCSS.ELA-LITERACY.WHST.9-10.1

Write arguments focused on discipline-specific content.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.1.A

Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.1.B

Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.WHST.9-10.1.C

Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.1.D

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.1.E

Provide a concluding statement or section that follows from or supports the argument presented.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.2

Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.2.A

Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.2.B

Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.2.C

Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.2.D

Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.WHST.9-10.2.E

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.2.F

Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.3

(See note; not applicable as a separate requirement)

Unit 1 Unit 2 Unit 3 Unit 4

Production and Distribution of Writing

CCSS.ELA-LITERACY.WHST.9-10.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.5

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.6

Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

Unit 1 Unit 2 Unit 3 Unit 4

Research to Build and Present Knowledge

CCSS.ELA-LITERACY.WHST.9-10.7

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.WHST.9-10.8

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.9

Draw evidence from informational texts to support analysis, reflection, and research.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.9-10.10

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Unit 1 Unit 2 Unit 3 Unit 4

Reading Literature

Key Ideas and Details

CCSS.ELA-LITERACY.RL.11-12.1

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.11-12.2

Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.11-12.3

Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).

Unit 1 Unit 2 Unit 3 Unit 4

Craft and Structure

CCSS.ELA-LITERACY.RL.11-12.4

Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.RL.11-12.5

Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.11-12.6

Analyze a case in which grasping a point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).

- Unit 1 Unit 2 Unit 3 Unit 4

Integration of Knowledge and Ideas

CCSS.ELA-LITERACY.RL.11-12.7

Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.11-12.8

(Not applicable to literature)

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.11-12.9

Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RL.11-12.10

By the end of grade 11, read and comprehend literature, including stories, dramas, and poems, in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range.

- Unit 1 Unit 2 Unit 3 Unit 4

Reading Informational Text

Key Ideas and Details

CCSS.ELA-LITERACY.RI.11-12.1

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.RI.11-12.2

Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.11-12.3

Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.

- Unit 1 Unit 2 Unit 3 Unit 4

Craft and Structure

CCSS.ELA-LITERACY.RI.11-12.4

Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.11-12.5

Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.11-12.6

Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.

- Unit 1 Unit 2 Unit 3 Unit 4

Integration of Knowledge and Ideas

CCSS.ELA-LITERACY.RI.11-12.7

Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.11-12.8

Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.RI.11-12.9

Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln’s Second Inaugural Address) for their themes, purposes, and rhetorical features.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RI.11-12.10

By the end of grade 11, read and comprehend literary nonfiction in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range.

Unit 1 Unit 2 Unit 3 Unit 4

Writing

Text Types and Purpose

CCSS.ELA-LITERACY.W.11-12.1

Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.1.A

Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.1.B

Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience’s knowledge level, concerns, values, and possible biases.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.1.C

Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.1.D

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.W.11-12.1.E

Provide a concluding statement or section that follows from and supports the argument presented.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.2

Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.2.A

Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.2.B

Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.2.C

Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.2.D

Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.2.E

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.2.F

Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.W.11-12.3

Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.3.A

Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.3.B

Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.3.C

Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.3.D

Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.3.E

Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.

- Unit 1 Unit 2 Unit 3 Unit 4

Production and Distribution of Writing

CCSS.ELA-LITERACY.W.11-12.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.5

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.W.11-12.6

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

- Unit 1 Unit 2 Unit 3 Unit 4

Research to Build and Present Knowledge

CCSS.ELA-LITERACY.W.11-12.7

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.8

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.9

Draw evidence from literary or informational texts to support analysis, reflection, and research.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.9.A

Apply grades 11–12 Reading standards to literature (e.g., “Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics”).

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.W.11-12.9.B

Apply grades 11–12 Reading standards to literary nonfiction (e.g., “Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., The Federalist, presidential addresses]”).

- Unit 1 Unit 2 Unit 3 Unit 4

Range of Writing

CCSS.ELA-LITERACY.W.11-12.10

Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

Speaking and Listening

Comprehension and Collaboration

CCSS.ELA-LITERACY.SL.11-12.1

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.11-12.1.A

Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.11-12.1.B

Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.11-12.1.C

Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.11-12.1.D

Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.11-12.2

Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.11-12.3

Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

Presentation of Knowledge and Ideas

CCSS.ELA-LITERACY.SL.11-12.4

Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.11-12.5

Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.SL.11-12.6

Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.

Unit 1 Unit 2 Unit 3 Unit 4

Language

Conventions of Standard English

CCSS.ELA-LITERACY.L.11-12.1

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.1.A

Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.1.B

Resolve issues of complex or contested usage, consulting references (e.g., Merriam-Webster's Dictionary of English Usage, Garner's Modern American Usage) as needed.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.2

Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.2.B

Spell correctly.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

Knowledge of Language

CCSS.ELA-LITERACY.L.11-12.3

Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.3.A

Vary syntax for effect, consulting references (e.g., Tufte's *Artful Sentences*) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.

- Unit 1 Unit 2 Unit 3 Unit 4

Vocabulary Acquisition and Use

CCSS.ELA-LITERACY.L.11-12.4

Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.4.A

Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.4.B

Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., conceive, conception, conceivable).

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.4.C

Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.4.D

Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

- Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.5

Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

- Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.L.11-12.5.A

Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.5.B

Analyze nuances in the meaning of words with similar denotations.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.L.11-12.6

Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Unit 1 Unit 2 Unit 3 Unit 4

Conventions of Standard English

CCSS.ELA-LITERACY.L.11-12.2.A

Observe hyphenation conventions.

Unit 1 Unit 2 Unit 3 Unit 4

Reading History/Social Studies

Key Ideas and Details

CCSS.ELA-LITERACY.RH.11-12.1

Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.11-12.2

Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.11-12.3

Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

Craft and Structure

CCSS.ELA-LITERACY.RH.11-12.4

Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines faction in Federalist No. 10).

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.11-12.5

Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.11-12.6

Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.

Unit 1 Unit 2 Unit 3 Unit 4

Integration of Knowledge and Ideas

CCSS.ELA-LITERACY.RH.11-12.7

Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.11-12.8

Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RH.11-12.9

Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

Unit 1 Unit 2 Unit 3 Unit 4

Range of Reading and Level of Text Complexity

CCSS.ELA-LITERACY.RH.11-12.10

By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

Reading Science and Technical

Key Ideas and Details

CCSS.ELA-LITERACY.RST.11-12.1

Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.11-12.2

Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.11-12.3

Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

Unit 1 Unit 2 Unit 3 Unit 4

Craft and Structure

CCSS.ELA-LITERACY.RST.11-12.4

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.11-12.5

Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.11-12.6

Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

Unit 1 Unit 2 Unit 3 Unit 4

Integration of Knowledge and Ideas

CCSS.ELA-LITERACY.RST.11-12.7

Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.RST.11-12.8

Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.RST.11-12.9

Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

Unit 1 Unit 2 Unit 3 Unit 4

Range of Reading and Level of Text Complexity

CCSS.ELA-LITERACY.RST.11-12.10

By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.

Unit 1 Unit 2 Unit 3 Unit 4

Writing History/Social Studies, Science, and Technical

Text Types and Purposes

CCSS.ELA-LITERACY.WHST.11-12.1

Write arguments focused on discipline-specific content.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.1.A

Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.1.B

Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.1.C

Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.WHST.11-12.1.D

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.1.E

Provide a concluding statement or section that follows from or supports the argument presented.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.2

Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.2.A

Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.2.B

Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.2.C

Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.2.D

Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.2.E

Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

CCSS.ELA-LITERACY.WHST.11-12.3

(See note; not applicable as a separate requirement)

Unit 1 Unit 2 Unit 3 Unit 4

Production and Distribution of Writing

CCSS.ELA-LITERACY.WHST.11-12.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.5

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.6

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Unit 1 Unit 2 Unit 3 Unit 4

Research to Build and Present Knowledge

CCSS.ELA-LITERACY.WHST.11-12.7

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.8

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Unit 1 Unit 2 Unit 3 Unit 4

CCSS.ELA-LITERACY.WHST.11-12.9

Draw evidence from informational texts to support analysis, reflection, and research.

Unit 1 Unit 2 Unit 3 Unit 4

Range of Writing

CCSS.ELA-LITERACY.WHST.11-12.10

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Unit 1 Unit 2 Unit 3 Unit 4

Common Core State Standards for English Language Arts

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Next Generation Science Standards

From Molecules to Organisms: Structures and Processes

HS.LS1.1

Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

Unit 1 Unit 2 Unit 3 Unit 4

HS.LS1.3

Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

Unit 1 Unit 2 Unit 3 Unit 4

HS.LS1.6

Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

Unit 1 Unit 2 Unit 3 Unit 4

Heredity: Inheritance and Variation of Traits

HS.LS3.1

Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.

Unit 1 Unit 2 Unit 3 Unit 4

HS.LS3.2

Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.

Unit 1 Unit 2 Unit 3 Unit 4

HS.LS3.3

Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.

Unit 1 Unit 2 Unit 3 Unit 4

Disciplinary core ideas

LS1.A From Molecules to Organisms: Structures and Processes - Structure and Function

• Systems of specialized cells within organisms help them perform the essential functions of life. (HS-LS1-1)

Unit 1 Unit 2 Unit 3 Unit 4

Next Generation Science Standards

- All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells. (HS-LS1-1), (Note: This Disciplinary Core Idea is also addressed by HS-LS3-1.)

Unit 1 Unit 2 Unit 3 Unit 4

- Multicellular organisms have a hierarchical structural organization, in which any one system is made up of numerous parts and is itself a component of the next level. (HS-LS1-2)

Unit 1 Unit 2 Unit 3 Unit 4

- Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (negative feedback) what is going on inside the living system. (HS-LS1-3)

Unit 1 Unit 2 Unit 3 Unit 4

LS3.A Heredity: Inheritance and Variation of Traits - Inheritance of Traits

- Each chromosome consists of a single very long DNA molecule, and each gene on the chromosome is a particular segment of that DNA. The instructions for forming species' characteristics are carried in DNA. All cells in an organism have the same genetic content, but the genes used (expressed) by the cell may be regulated in different ways. Not all DNA codes for a protein; some segments of DNA are involved in regulatory or structural functions, and some have no as-yet known function. (HS-LS3-1)

Unit 1 Unit 2 Unit 3 Unit 4

LS4.A Biological Evolution: Unity and Diversity - Evidence of Common Ancestry and Diversity

- Genetic information provides evidence of evolution. DNA sequences vary among species, but there are many overlaps; in fact, the ongoing branching that produces multiple lines of descent can be inferred by comparing the DNA sequences of different organisms. Such information is also derivable from the similarities and differences in amino acid sequences and from anatomical and embryological evidence. (HS-LS4-1)

Unit 1 Unit 2 Unit 3 Unit 4

Next Generation Science Standards

Science and Engineering Practice

Practice 1 - Asking questions and defining problems in 9-12 builds on K-8 experiences and progresses to formulating, refining, and evaluating empirically testable questions and design problems using models and simulations.

- Ask questions

- that arise from careful observation of phenomena, or unexpected results, to clarify and/or seek additional information.
- that arise from examining models or a theory, to clarify and/or seek additional information and relationships.
- to determine relationships, including quantitative relationships, between independent and dependent variables.
- to clarify and refine a model, an explanation, or an engineering problem.

Unit 1 Unit 2 Unit 3 Unit 4

- Ask questions that can be investigated within the scope of the school laboratory, research facilities, or field (e.g., outdoor environment) with available resources and, when appropriate, frame a hypothesis based on a model or theory.

Unit 1 Unit 2 Unit 3 Unit 4

Practice 2 Developing and Using Models

Modeling in 9-12 builds on K-8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed worlds.

- Develop, revise, and/or use a model based on evidence to illustrate and/or predict the relationships between systems or between components of a system.

Unit 1 Unit 2 Unit 3 Unit 4

- Develop and/or use multiple types of models to provide mechanistic accounts and/or predict phenomena, and move flexibly between model types based on merits and limitations.

Unit 1 Unit 2 Unit 3 Unit 4

- Develop and/or use a model (including mathematical and computational) to generate data to support explanations, predict phenomena, analyze systems, and/or solve problems.

Unit 1 Unit 2 Unit 3 Unit 4

Next Generation Science Standards

Practice 3 Planning and Carrying Out Investigations

Planning and carrying out investigations in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models.

- Plan and conduct an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design: decide on types, how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data (e.g., number of trials, cost, risk, time), and refine the design accordingly.

Unit 1 Unit 2 Unit 3 Unit 4

- Plan and conduct an investigation or test a design solution in a safe and ethical manner including considerations of environmental, social, and personal impacts.

Unit 1 Unit 2 Unit 3 Unit 4

- Select appropriate tools to collect, record, analyze, and evaluate data. Make directional hypotheses that specify what happens to a dependent variable when an independent variable is manipulated.

Unit 1 Unit 2 Unit 3 Unit 4

Practice 4 Analyzing and Interpreting Data

Analyzing data in 9-12 builds on K-8 experiences and progresses to introducing more detailed statistical analysis, the comparison of data sets for consistency, and the use of models to generate and analyze data.

- Analyze data using tools, technologies, and/or models (e.g., computational, mathematical) in order to make valid and reliable scientific claims or determine an optimal design solution.

Unit 1 Unit 2 Unit 3 Unit 4

- Apply concepts of statistics and probability (including determining function fits to data, slope, intercept, and correlation coefficient for linear fits) to scientific and engineering questions and problems, using digital tools when feasible.

Unit 1 Unit 2 Unit 3 Unit 4

- Evaluate the impact of new data on a working explanation and/or model of a proposed process or system.

Unit 1 Unit 2 Unit 3 Unit 4

Practice 5 Using Mathematics and Computational Thinking

Mathematical and computational thinking in 9- 12 builds on K-8 experiences and progresses to using algebraic thinking and analysis, a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms, and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions.

- Use mathematical, computational, and/or algorithmic representations of phenomena or design solutions to describe and/or support claims and/or explanations.

Unit 1 Unit 2 Unit 3 Unit 4

Next Generation Science Standards

- Apply techniques of algebra and functions to represent and solve scientific and engineering problems.

Unit 1 Unit 2 Unit 3 Unit 4

- Apply ratios, rates, percentages, and unit conversions in the context of complicated measurement problems involving quantities with derived or compound units (such as mg/mL, kg/m³, acre-feet, etc.)

Unit 1 Unit 2 Unit 3 Unit 4

Practice 6 Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in 9-12 builds on K-8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles, and theories.

- Make a quantitative and/or qualitative claim regarding the relationship between dependent and independent variables.

Unit 1 Unit 2 Unit 3 Unit 4

- Construct and revise an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.

Unit 1 Unit 2 Unit 3 Unit 4

- Apply scientific reasoning, theory, and/or models to link evidence to the claims to assess the extent to which the reasoning and data support the explanation or conclusion.

Unit 1 Unit 2 Unit 3 Unit 4

- Design, evaluate, and/or refine a solution to a complex real-world problem, based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and tradeoff considerations.

Unit 1 Unit 2 Unit 3 Unit 4

Practice 7 Engaging in Argument from Evidence

- Compare and evaluate competing arguments or design solutions in light of currently accepted explanations, new evidence, limitations (e.g., trade-offs), constraints, and ethical issues.

Unit 1 Unit 2 Unit 3 Unit 4

- Evaluate the claims, evidence, and/or reasoning behind currently accepted explanations or solutions to determine the merits of arguments.

Unit 1 Unit 2 Unit 3 Unit 4

- Respectfully provide and/or receive critiques on scientific arguments by probing reasoning and evidence, challenging ideas and conclusions, responding thoughtfully to diverse perspectives, and determining additional information required to resolve contradictions.

Unit 1 Unit 2 Unit 3 Unit 4

Next Generation Science Standards

- Construct, use, and/or present an oral and written argument or counterarguments based on data and evidence.

Unit 1 Unit 2 Unit 3 Unit 4

- Make and defend a claim based on evidence about the natural world or the effectiveness of a design solution that reflects scientific knowledge and student-generated evidence.

Unit 1 Unit 2 Unit 3 Unit 4

- Evaluate competing design solutions to a real-world problem based on scientific ideas and principles, empirical evidence, and/or logical arguments regarding relevant factors (e.g. economic, societal, environmental, ethical considerations).

Unit 1 Unit 2 Unit 3 Unit 4

Practice 8 Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in 9-12 builds on K-8 experiences and progresses to evaluating the validity and reliability of the claims, methods, and designs.

- Critically read scientific literature adapted for classroom use to determine the central ideas or conclusions and/or to obtain scientific and/or technical information to summarize complex evidence, concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

Unit 1 Unit 2 Unit 3 Unit 4

- Compare, integrate and evaluate sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a scientific question or solve a problem.

Unit 1 Unit 2 Unit 3 Unit 4

- Gather, read, and evaluate scientific and/or technical information from multiple authoritative sources, assessing the evidence and usefulness of each source.

Unit 1 Unit 2 Unit 3 Unit 4

- Evaluate the validity and reliability of and/or synthesize multiple claims, methods, and/or designs that appear in scientific and technical texts or media reports, verifying the data when possible. Communicate scientific and/or technical information or ideas (e.g., about phenomena and/or the process of development and the design and performance of a proposed process or system) in multiple formats (i.e., orally, graphically, textually, mathematically).

Unit 1 Unit 2 Unit 3 Unit 4

Crosscutting Concepts

Patterns

- Patterns of performance of designed systems can be analyzed and interpreted to reengineer and improve the system.

Unit 1 Unit 2 Unit 3 Unit 4

Next Generation Science Standards

Cause and Effect: Mechanism and Prediction

- Events have causes, sometimes simple, sometimes multifaceted. Deciphering causal relationships, and the mechanisms by which they are mediated, is a major activity of science and engineering.

Unit 1 Unit 2 Unit 3 Unit 4

- Systems can be designed to cause a desired effect.

Unit 1 Unit 2 Unit 3 Unit 4

- Changes in systems may have various causes that may not have equal effects.

Unit 1 Unit 2 Unit 3 Unit 4

Scale, Proportion, and Quantity

- Algebraic thinking is used to examine scientific data and predict the effect of a change in one variable on another (e.g., linear growth vs. exponential growth).

Unit 1 Unit 2 Unit 3 Unit 4

Systems and System Models

- Systems can be designed to do specific tasks.

Unit 1 Unit 2 Unit 3 Unit 4

Stability and Change

- Feedback (negative or positive) can stabilize or destabilize a system.

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

Foundation Standard 1: Academic Foundation: Understand human anatomy, physiology, common diseases and disorders, and medical math principles.

Human Anatomy and Physiology - Describe the organization of the human body and directional terms.

1.1.1 a

Identify levels of organization

- Cellular
- Chemical
- Organ
- Organism
- System
- Tissue

Unit 1 Unit 2 Unit 3 Unit 4

Human Anatomy and Physiology - Identify basic structures and describe functions of human body systems.

1.1.2 a

Skeletal

- Structures of the skeletal system
 - Distinguish between axial and appendicular skeletons
 - Describe long bone anatomy
 - Identify joint types and movement
 - Name and classify all bones (206)
- Functions of the skeletal system
 - Hematopoiesis
 - Mineral storage
 - Muscle attachment and movement
 - Ossification
 - Structure and support

Unit 1 Unit 2 Unit 3 Unit 4

1.1.2 b

Muscular

- Structures of the muscular system
 - Identify types of muscle tissue
 - Identify major muscle groups of neck, shoulder, chest, abdomen, back, arms, and legs
- Functions of the muscular system
 - Body movement
 - Posture
 - Protection

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

1.1.2 c

Integumentary

- Structures of the integumentary system
 - Identify integumentary components
 - Label the layers of skin
- Functions of the integumentary system
 - Infection protection
 - Sensory organ
 - Temperature regulation
 - UV light protection
 - Vitamin D production

Unit 1 Unit 2 Unit 3 Unit 4

1.1.2 d

Cardiovascular

- Structures of the cardiovascular system
 - Distinguish blood components
 - Identify cardiovascular organs
 - Label the parts of the heart
- Functions of the cardiovascular system
 - Blood flow through the heart and body
 - Cardiac conduction system
 - Transports nutrients, waste, antibodies, hormones, and gases

Unit 1 Unit 2 Unit 3 Unit 4

1.1.2 e

Lymphatic / Immune

- Structures of the lymphatic system
 - Identify lymphatic organs
- Functions of the lymphatic system
 - Movement of lymph fluid
 - Provide protection against disease

Unit 1 Unit 2 Unit 3 Unit 4

1.1.2 f

Respiratory

- Structures of the respiratory system
 - Identify respiratory organs
- Functions of the respiratory system
 - Gas exchange

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

1.1.2 g

Nervous

- Structures of the nervous system
 - Differentiate CNS and PNS
 - Differentiate sympathetic and parasympathetic
 - Identify organs of the nervous system
 - Identify structures of the special sense organs
- Functions of the nervous system
 - Movement
 - Processing
 - Sensation

Unit 1 Unit 2 Unit 3 Unit 4

1.1.2 h

Endocrine

- Structures of the endocrine system
 - Identify endocrine glands
- Functions of the endocrine system
 - Controls metabolism
 - Production of hormones
 - Regulation of body processes
 - Regulates growth, development, and maturation

Unit 1 Unit 2 Unit 3 Unit 4

1.1.2 i

Digestive

- Structures of the digestive system
 - Differentiate between alimentary and accessory organs
 - Identify digestive organs in sequence
- Functions of the digestive system
 - Absorption of nutrients
 - Chemical and mechanical digestion
 - Excretion of waste

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

1.1.2 j

Urinary

- Structures of the urinary system
 - Identify gross and microscopic anatomy of the kidney
 - Identify urinary organs
 - Functions of the urinary system
 - Homeostatic balance
 - Process of urine formation
 - Urine composition
- Unit 1 Unit 2 Unit 3 Unit 4

1.1.2 k

Reproductive

- Structures of the reproductive system
 - Identify female reproductive organs
 - Identify male reproductive organs
 - Functions of the reproductive system
 - Formation of gametes
 - Production of hormones
- Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

Diseases and Disorders -

1.2.1

Describe etiology, pathology, diagnosis, treatment, and prevention of common diseases and disorders, including, but not limited to the following:

- Anxiety
- Arthritis
- Asthma
- Bipolar Disorder
- Cancer
- Cataracts
- Concussion / Traumatic Brain Injury (TBI)
- Cystic Fibrosis
- Diabetes
- Dementia
- Depression
- Gastric ulcer
- Hepatitis
- Hypertension
- Melanoma
- Muscular dystrophy
- Myocardial infarction
- Sexually Transmitted Infection (STI)
- Stroke / Cerebrovascular Accident (CVA)
- Tuberculosis
- Urinary Tract Infection (UTI)

Unit 1 Unit 2 Unit 3 Unit 4

1.2.2

Describe biomedical therapies as they relate to the prevention, pathology, and treatment of disease.

- Gene editing
- Gene testing
- Gene therapy
- Immunizations
- Immunotherapy
- Stem cell research

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

Medical Mathematics - Demonstrate competency using basic math skills and mathematical conversions as they relate to healthcare.

1.3.1

Metric system

- Centi-
- Deci-
- Kilo-
- Milli-
- Micro-

Unit 1 Unit 2 Unit 3 Unit 4

1.3.1 b

Mathematical

- Addition / Subtraction
- Average
- Fractions
- Multiplication / Division
- Percentages
- Ratios

Unit 1 Unit 2 Unit 3 Unit 4

1.3.1 c

Conversions

- Height (inches/meters)
- Household measurements (Tbsp/tsp/cup/oz)
- Length (inches/meters)
- Temperature (F/C)
- Volume (ml/cc)
- Weight/mass (pounds/grams)

Unit 1 Unit 2 Unit 3 Unit 4

Medical Mathematics

1.3.2

Demonstrate the ability to analyze diagrams, charts, graphs, and tables to interpret healthcare results.

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

Foundation Standard 2: Communications Demonstrate methods of delivering and obtaining information, while communicating effectively.

Concepts of Effective Communication

2.1.1

Model verbal and nonverbal therapeutic communication.

- Active listening
- Reflecting
- Silence
- Summarizing

Unit 1 Unit 2 Unit 3 Unit 4

Concepts of Effective Communication - Identify common barriers to communication.

2.1.2 a

Physical disabilities

- Aphasia
- Developmental level
- Hearing loss
- Impaired vision

Unit 1 Unit 2 Unit 3 Unit 4

2.1.2 b

Psychological barriers

- Attitudes
- Bias
- Prejudice
- Stereotyping

Unit 1 Unit 2 Unit 3 Unit 4

Concepts of Effective Communication

2.1.3

Distinguish between subjective and objective information.

Unit 1 Unit 2 Unit 3 Unit 4

2.1.5

Modify communication to meet the needs of the patient/client and to be appropriate to the situation.

Unit 1 Unit 2 Unit 3 Unit 4

Medical Terminology

2.2.1

Use common roots, prefixes, and suffixes to communicate information.

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

Written Communication Skills

- 2.3.1
Use proper elements of written and electronic communication (spelling, grammar, and formatting).
- Unit 1 Unit 2 Unit 3 Unit 4
-

Foundation Standard 4: Employability Skills Use employability skills to enhance employment opportunities and job satisfaction.

Employability Skills

- 4.2.1
Apply employability/soft skills in healthcare.
- Chain of command
 - Communication Skills
 - Customer service
 - Decision making
 - Emotional Intelligence
 - Flexible
 - Organization
 - Problem Solving
 - Scope of practice
 - Time Management
 - Work Ethic

Unit 1 Unit 2 Unit 3 Unit 4

Career Decision-making

- 4.3.1
Research levels of education, credentialing requirements, and employment trends in health professions.
- Unit 1 Unit 2 Unit 3 Unit 4

- 4.3.2
Distinguish differences among careers within a health science pathway.
- Biotechnology research and development
 - Diagnostic services
 - Health informatics
 - Support services
 - Therapeutic services

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

Foundation Standard 6: Ethics Understand accepted ethical practices with respect to cultural, social, and ethnic differences within the healthcare environment.

Ethical Practice

6.1.1

Differentiate between ethical and legal issues impacting healthcare.

Unit 1 Unit 2 Unit 3 Unit 4

6.1.2

Identify ethical issues and their implications related to healthcare.

- Ethics committee
- Euthanasia
- Gene editing
- Immunizations
- In vitro fertilization
- Organ donation/transplantation
- Scope of practice

Unit 1 Unit 2 Unit 3 Unit 4

6.2.1

Discuss religious, social, and cultural values as they impact healthcare.

- Ageism
- Ethnicity
- Gender
- Race
- Religion

Unit 1 Unit 2 Unit 3 Unit 4

Foundation Standard 7: Safety Practices Identify existing and potential hazards to clients, co-workers, and self. Employ safe work practices and follow health and safety policies and procedures to prevent injury and illness.

Infection Control - Explain principles of infection transmission.

7.1.1 a

Identify classifications of pathogens

- Bacteria
- Fungi
- Parasites
- Protoza
- Viruses

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

7.1.1 b

Describe characteristics of microorganisms

- Aerobic
- Anaerobic
- Non-pathogenic
- Pathogenic

Unit 1 Unit 2 Unit 3 Unit 4

7.1.1 c

Recognize chain of infection

Unit 1 Unit 2 Unit 3 Unit 4

7.1.1 d

Describe mode of transmission

- Common vehicle (air, food, water)
- Direct
- Healthcare-associated infections (nosocomial)
- Indirect
- Opportunistic
- Vectors

Unit 1 Unit 2 Unit 3 Unit 4

Infection Control - Differentiate methods of controlling the spread and growth of pathogens.

7.1.2 a

Asepsis

- Antisepsis
- Disinfection
- Sanitization
- Sterile technique
- Sterilization

Unit 1 Unit 2 Unit 3 Unit 4

7.1.2 b

Standard precautions

- Environmental cleaning
- Gloving
- Handwashing
- Personal Protective Equipment (PPE)

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

7.1.2 c

Isolation precautions

- Transmission-based contact

Unit 1 Unit 2 Unit 3 Unit 4

7.1.2 d

Bloodborne pathogen precautions

Unit 1 Unit 2 Unit 3 Unit 4

7.1.2 e

Vaccinations

Unit 1 Unit 2 Unit 3 Unit 4

Personal Safety

7.2.2

Demonstrate principles of body mechanics during patient care.

- Ambulating
- Lifting
- Positioning

Unit 1 Unit 2 Unit 3 Unit 4

7.2.3

Demonstrate and apply the use of personal protective equipment (PPE).

Unit 1 Unit 2 Unit 3 Unit 4

Common Safety Hazards

7.4.1

Observe all safety standards related to the occupational exposure to hazardous chemicals standard (safety data sheets [SDS]).

Unit 1 Unit 2 Unit 3 Unit 4

7.4.2

Comply with safety signs, symbols, and labels.

Unit 1 Unit 2 Unit 3 Unit 4

Foundation Standard 8: Teamwork Identify roles and responsibilities of individual members as part of the healthcare team.

Healthcare Teams

8.1.1

Evaluate roles and responsibilities of healthcare team members.

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

8.1.2

Identify characteristics of effective teams.

- Collaboration
- Defined roles
- Effective communication
- Effective leadership
- Measurable processes and outcomes
- Mutual respect
- Shared goals

Unit 1 Unit 2 Unit 3 Unit 4

Team Member Participation

8.2.1

Recognize methods for building positive team relationships.

Unit 1 Unit 2 Unit 3 Unit 4

Team Member Participation - Analyze attributes and attitudes of an effective leader.

8.2.2 a

Characteristics

- Focused and driven
- Interpersonal skills
- Motivates and inspires
- Organized and balanced

Unit 1 Unit 2 Unit 3 Unit 4

8.2.2 b

Types

- Autocratic
- Democratic
- Laissez faire

Unit 1 Unit 2 Unit 3 Unit 4

8.2.2 c

Roles

- Communicates vision
- Leads change
- Manages accountability

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

Team Member Participation

8.2.3

Apply effective techniques for managing team conflict.

- Communicate assertively
- Gather the facts
- Mediate disputes
- Negotiate resolutions
- Set clear expectations

Unit 1 Unit 2 Unit 3 Unit 4

Foundation Standard 9: Health Maintenance Practices

Differentiate between wellness and disease. Promote disease prevention and model healthy behaviors.

Healthy Behaviors

9.1.1

Promote self-care behaviors of health and wellness.

- Exercise
- Nutrition
- Relationships
- Sleep habits
- Stress management
- Weight control

Unit 1 Unit 2 Unit 3 Unit 4

9.1.3

Describe public health strategies for prevention of disease.

- Community health education outreach programs
- Immunizations
- Medical, dental, and mental health screenings
- Routine physical exams
- Self-care behaviors

Unit 1 Unit 2 Unit 3 Unit 4

9.1.4

Investigate complementary and alternative health practices as they relate to wellness and disease prevention.

- Eastern medicine
- Holistic medicine
- Homeopathic medicine
- Manipulative medicine

Unit 1 Unit 2 Unit 3 Unit 4

National Consortium for Health Science Education

Foundation Standard 10: Technical Skills

Apply and demonstrate technical skills and knowledge common to health career specialties.

Technical Skills

10.1.1

Demonstrate procedures for measuring and recording vital signs in both normal and abnormal ranges - including but not limited to:

- Blood pressure
- Height and weight
- Oxygen saturation
- Pain
- Pulse
- Respirations
- Temperature

Unit 1 Unit 2 Unit 3 Unit 4

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