

Unit 04: Repairing

Content Area: **Template**
Course(s):
Time Period: **Full Year**
Length: **FY**
Status: **Published**

Standards Alignment

New Jersey Student Learning Standards

Crosscutting Statements

1. Patterns – Observed patterns in nature guide organization and classification and prompt questions about relationships and causes underlying them.

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

2. 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.

Cause and effect relationships can be suggested and predicted for complex natural and human designed systems by examining what is known about smaller scale mechanisms within the system.

Systems can be designed to cause a desired effect.

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

4. Systems and System Models – A system is an organized group of related objects or components; models can be used for understanding and predicting the behavior of systems.

Systems can be designed to do specific tasks.

6. Structure and Function – The way an object is shaped or structured determines many of its properties and functions.

The functions and properties of natural and designed objects and systems can be inferred from their overall structure, the way their components are shaped and used, and the molecular substructures of its various materials.

7. Stability and Change – For both designed and natural systems, conditions that affect stability and factors that control rates of change are critical elements to consider and understand.

Much of science deals with constructing explanations of how things change and how they remain stable.

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

Connections to the Nature of Science: Most Closely Associated with Crosscutting Concepts Science is a Way of Knowing

Science is both a body of knowledge that represents a current understanding of natural systems and the processes used to refine, elaborate, revise, and extend this knowledge.

Science is a unique way of knowing and there are other ways of knowing.

Science is a Human Endeavor

Scientific knowledge is a result of human endeavor, imagination, and creativity.

Scientists' backgrounds, theoretical commitments, and fields of endeavor influence the nature of their findings.

Science Addresses Questions About the Natural and Material World.

Not all questions can be answered by science.

Many decisions are not made using science alone, but rely on social and cultural contexts to resolve issues.

LA.RH.11-12	Reading History Key Ideas and Details Key Ideas and Details
LA.RH.11-12.1	Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.), to support analysis of primary and secondary sources, connecting insights gained from specific details to develop an understanding of the text as a whole.
LA.K-12.NJSLSA.R1	Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
LA.K-12.NJSLSA.R2	Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
LA.RH.11-12.2	Determine the theme, central ideas, information and/or perspective(s) presented in a primary or secondary source; provide an accurate summary of how key events, ideas and/or author's perspective(s) develop over the course of the text.
LA.K-12.NJSLSA.R3	Analyze how and why individuals, events, and ideas develop and interact over the course of a text.
LA.RH.11-12.3	Evaluate various perspectives for actions or events; determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain. Integration of Knowledge and Ideas
LA.K-12.NJSLSA.R7	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
LA.RH.11-12.8	Evaluate an author's claims, reasoning, and evidence by corroborating or challenging them with other sources.
LA.K-12.NJSLSA.R8	Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
LA.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.
LA.K-12.NJSLSA.R9	Analyze and reflect on how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
LA.RST.11-12.1	Accurately cite strong and thorough evidence from the text to support analysis of science and technical texts, attending to precise details for explanations or descriptions.
LA.K-12.NJSLSA.W	Writing Text Types and Purposes
LA.K-12.NJSLSA.W1	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
LA.K-12.NJSLSA.W2	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

Production and Distribution of Writing

- LA.K-12.NJSLSA.W4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- LA.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.
- LA.K-12.NJSLSA.W6 Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
- LA.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.

Research to Build and Present Knowledge

- LA.K-12.NJSLSA.W7 Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.
- LA.K-12.NJSLSA.W8 Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
- LA.K-12.NJSLSA.W9 Draw evidence from literary or informational texts to support analysis, reflection, and research.
- LA.WHST.11-12.1 Write arguments focused on discipline-specific content.
- LA.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.
- LA.WHST.11-12.1.D Establish and maintain a style and tone appropriate to the audience and purpose (e.g., formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
- LA.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.
- LA.WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- LA.WHST.11-12.6 Use technology, including the Internet, to produce, share, and update writing products in response to ongoing feedback, including new arguments or information.
- LA.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.
- LA.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.
- LA.WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.

Integration of Career Readiness, Life Literacies and Key Skills

9.3.12.AG.2	Evaluate the nature and scope of the Agriculture, Food & Natural Resources Career Cluster and the role of agriculture, food and natural resources (AFNR) in society and the economy.
9.3.12.AG.4	Demonstrate stewardship of natural resources in AFNR activities.
9.3.12.AG.5	Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources Career Pathways.
9.3.12.AG-FD	Food Products & Processing Systems
9.3.12.AG-FD.1	Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities.
9.3.12.AG-FD.2	Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products.
9.3.12.AG-FD.3	Select and process food products for storage, distribution and consumption.
9.3.12.AG-FD.4	Explain the scope of the food industry and the historical and current developments of food products and processing.
9.3.12.AG-NR	Natural Resources Systems
9.3.12.AG-NR.2	Analyze the interrelationships between natural resources and humans.
9.3.12.AG-PL	Plant Systems
9.3.12.AG-PL.2	Apply the principles of classification, plant anatomy and plant physiology to plant production and management.
CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP3	Attend to personal health and financial well-being.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP10	Plan education and career paths aligned to personal goals.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Technology / Integration of Computer Science and Design Thinking

TECH.8.1.12	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.12.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
TECH.8.1.12.A.2	Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.
TECH.8.1.12.A.5	Create a report from a relational database consisting of at least two tables and describe the process, and explain the report results.
TECH.8.1.12.D	Digital Citizenship: Students understand human, cultural, and societal issues related to

	technology and practice legal and ethical behavior.
TECH.8.1.12.D.1	Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.
TECH.8.1.12.D.3	Compare and contrast policies on filtering and censorship both locally and globally.
TECH.8.1.12.F	Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
TECH.8.1.12.F.1	Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.
TECH.8.2.12	Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.
TECH.8.2.12.B	Technology and Society: Knowledge and understanding of human, cultural and society values are fundamental when designing technology systems and products in the global society.
TECH.8.2.12.B.1	Research and analyze the impact of the design constraints (specifications and limits) for a product or technology driven by a cultural, social, economic or political need and publish for review.

Interdisciplinary Connections: NJSL for ELA, Social Studies, Science and/or Math Section

	Key Ideas and Details
LA.K-12.NJSLSA.R1	Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
LA.K-12.NJSLSA.R2	Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
LA.K-12.NJSLSA.R3	Analyze how and why individuals, events, and ideas develop and interact over the course of a text.
	Craft and Structure
LA.K-12.NJSLSA.R4	Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
LA.K-12.NJSLSA.R5	Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
	Integration of Knowledge and Ideas
LA.K-12.NJSLSA.R7	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
LA.K-12.NJSLSA.R8	Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
LA.K-12.NJSLSA.R9	Analyze and reflect on how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.
	Range of Reading and Level of Text Complexity
LA.K-12.NJSLSA.R10	Read and comprehend complex literary and informational texts independently and

proficiently with scaffolding as needed.

LA.K-12.NJSLSA.W

Writing

LA.RI.11-12.1

Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.), to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.

Text Types and Purposes

LA.RI.11-12.2

Determine two or more central ideas of a text, and analyze their development and how they interact to provide a complex analysis; provide an objective summary of the text.

LA.K-12.NJSLSA.W1

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

LA.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.

LA.K-12.NJSLSA.W2

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

LA.K-12.NJSLSA.W3

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

LA.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).

LA.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.

Production and Distribution of Writing

LA.K-12.NJSLSA.W4

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

LA.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.

LA.K-12.NJSLSA.W6

Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

LA.RI.11-12.8

Describe and evaluate the reasoning in seminal U.S. and global 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).

Research to Build and Present Knowledge

LA.K-12.NJSLSA.W7

Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.

LA.RI.11-12.9

Analyze and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) documents of historical and literary significance for their themes, purposes and rhetorical features, including primary source documents relevant to U.S. and/or global history.

LA.K-12.NJSLSA.W8

Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

LA.RI.11-12.10a

By the end of grade 11, read and comprehend literary nonfiction at grade level text-complexity or above with scaffolding as needed.

LA.K-12.NJSLSA.W9	Draw evidence from literary or informational texts to support analysis, reflection, and research.
LA.RI.11-12.10b	By the end of grade 12, read and comprehend literary nonfiction at grade level text-complexity or above.
LA.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.
LA.K-12.NJSLSA.SL	Speaking and Listening
LA.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.
	Comprehension and Collaboration
LA.K-12.NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
LA.W.11-12.1.C	Use transitions (e.g., words, phrases, 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.
LA.W.11-12.1.D	Establish and maintain a style and tone appropriate to the audience and purpose (e.g., formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
LA.K-12.NJSLSA.SL2	Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
LA.W.11-12.1.E	Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).
LA.K-12.NJSLSA.SL3	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
	Presentation of Knowledge and Ideas
LA.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.
LA.K-12.NJSLSA.SL4	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
LA.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.
LA.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.
LA.K-12.NJSLSA.SL5	Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
LA.K-12.NJSLSA.SL6	Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.
LA.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.
LA.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.
LA.W.11-12.2.E	Establish and maintain a style and tone appropriate to the audience and purpose (e.g.,

	formal and objective for academic writing) while attending to the norms and conventions of the discipline in which they are writing.
LA.W.11-12.2.F	Provide a concluding paragraph or section that supports the argument presented (e.g., articulating implications or the significance of the topic).
LA.K-12.NJSLSA.L	Language
LA.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.
LA.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.
	Conventions of Standard English
LA.K-12.NJSLSA.L1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.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.
LA.K-12.NJSLSA.L2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LA.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).
	Knowledge of Language
LA.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.
LA.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.
LA.K-12.NJSLSA.L3	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.
	Vocabulary Acquisition and Use
LA.W.11-12.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LA.K-12.NJSLSA.L4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
LA.K-12.NJSLSA.L5	Demonstrate understanding of word relationships and nuances in word meanings.
LA.K-12.NJSLSA.L6	Acquire and use accurately a range of 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 encountering an unknown term important to comprehension or expression.
LA.W.11-12.6	Use technology, including the Internet, to produce, share, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
LA.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.
LA.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. (MLA or APA Style Manuals).

- LA.W.11-12.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.
- LA.SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with peers on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
- LA.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.
- LA.SL.11-12.1.B Collaborate with peers to promote civil, democratic discussions and decision-making, set clear goals and assessments (e.g., student developed rubrics), and establish individual roles as needed.
- LA.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.
- LA.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.
- LA.SL.11-12.2 Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, qualitatively, orally) evaluating the credibility and accuracy of each source.
- LA.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.
- LA.SL.11-12.4 Present information, findings and supporting evidence clearly, concisely, and logically. The content, organization, development, and style are appropriate to task, purpose, and audience.
- LA.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.
- LA.SL.11-12.6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
- LA.L.11-12.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- LA.L.9-10.1.A Use parallel structure.
- LA.L.6.1.C Recognize and correct inappropriate shifts in pronoun number and person.
- LA.L.7.1.C Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.
- LA.L.11-12.1.A Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.
- LA.L.8.1.D Recognize and correct inappropriate shifts in verb voice and mood.
- LA.L.6.1.D Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).
- LA.L.11-12.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- LA.L.6.1.E Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.

LA.L.11-12.2.B	Spell correctly.
LA.L.6.2.A	Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.
LA.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.
LA.L.11-12.3.A	Vary syntax for effect, apply an understanding of syntax to the study of complex texts.
LA.L.7.3.A	Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.
LA.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.
LA.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.
LA.L.5.1.D	Recognize and correct inappropriate shifts in verb tense.
LA.L.3.1.F	Ensure subject-verb and pronoun-antecedent agreement.
LA.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).
LA.L.6.3.B	Maintain consistency in style and tone.
LA.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.
LA.L.4.1.F	Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
LA.L.4.1.G	Correctly use frequently confused words (e.g., to, too, two; there, their).
LA.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).
LA.L.11-12.5	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
LA.L.11-12.5.A	Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text.
LA.L.11-12.5.B	Analyze nuances in the meaning of words with similar denotations.
LA.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.
LA.L.4.3.B	Choose punctuation for effect.
LA.L.3.3.A	Choose words and phrases for effect.

Integration of Diversity, Equity and Inclusion; Climate Change; Informational and Media Literacy **New Section**

see Crosswalks

21st Century Life and Careers

Stage I: Desired Results

Transfer/Overview/Rationale

Transfer / Overview / Rationale

Unit Rationale

The purpose of this unit...

Nutrition is the third key to high performance for young active teens. It aids in the repair of injured parts of the body which needs not only time but proper nutrition to repair. Learning the importance of repairing helps a teen continue to perform at peak performance post injury.

Meaning

Essential Questions

Essential Questions

- Why is it important to take the time to repair from injury during a sport? Wouldn't it be easier to walk it off?
- What are some of the injuries that occur and how do foods/drinks and other aids (supplements) help with the healing process?

Enduring Understanding/Indicators of Understanding

Enduring Understanding/Indicators of Understanding

- Young athletes need to be aware of the numerous injuries that can occur in a sport
- Nutrition plays a vital role in reducing injury and improving recovery times at times of injury.

Acquisition (Student Learning Objectives)

Knowledge

Knowledge

Students will know...

- The importance of nutrition in muscle and bone repair in general and when competing in a sport. How the use of certain meal plans can promote faster healing.
- Understand the different types of injuries and how nutrition can heal and lessen the chances of severe reinjury.
- Be able to create a sports nutrition plan from case studies and for themselves during training and competition.
- Building a nutrition plan takes knowledge of how the nutrients work in conjunction and allow for maximum performance.
- Learning to overcome barriers that prevent young athletes from maximizing their nutritional intake which allows for them to play longer and better over time.

Skills

Skills

Student will be skilled at ...

- Communicate a comprehension of the need for proper hydration and eating patterns in regards to the repairing stages of an active teens life.
- Collaborate with classmates about best methods of repair methods and foods that have been tried and those that have failed.
- Master an understanding of the healthy literacy available to teen athletes that will give them the prowess to create sports nutrition plans for case studies and themselves.
- Debating different points of available nutrition methods for athletes and comprehend the risks of an array of products being marketed toward teen athletes as "safe" with inherent risks unmentioned.

Stage 3: Learning Plan

Resource and Mentor Texts

Resources and Mentor Texts

- Castle, J. (2015). Eat Like a Champion. AMACOM Publishing.
- Mangieri, H (2017) Fueling Young Athletes. IL. Human Kinetics Publishing
- Al-Masri, L. & Bartlett, S. (2011). 100 Questions & Answers About Sports Nutrition and Exercise. Sudbury, MA. Jones and Barlett Publishing.
- A variety of articles from various legitimate websites to give current perspectives on a host of topics surrounding nutrition and eating patterns.

Formative Assessment Strategies

Formative Assessment Strategies

Students will be responsible for writing a Sports Nutrition Plan for their use in daily living. They will have to understand the importance of why a plan of this nature is important to follow and how it can be adjusted.

They will also have interim times of assessment of case studies to evaluate if a proper Sports Nutrition Plan is being followed properly.

Students will have labs relating to repair foods that help active teens resume normal activity faster. They will be reflecting on the lab and how the dish prepared can be integrated into a daily life.

Learning Activities/Unit of Study

Learning Activities/Unit of Study

- Students will be continuing to work on research project that began in last unit with LMC director. They will continue to comprehend and apply their learning process of the questions they posed and seek help when needed.
- The students will continue to receive discussion questions that will now become self directed response or open class discussions depending on the questions and interest level in the subject material in the course work.
- Continue to demonstrate a understanding of safety protocols and expertise in preparing recipes in lab for tasting and analysis of determination of interest to a teen palette and overall cost and viability of the dish for an active teen.
- Self reflections are in integral part of utilizing differentiated learning in the room to ensure students that are struggling with the coursework can be brought up to speed or have their assignment adjusted to meet their needs.

Modifications and/or Accommodations

Suggested Modifications (ELL, Sp. Ed, Gifted, At-risk of Failure)

English Language Learners

Native language support: The teacher provides auditory or written content to students in their native language.

Adjusted Speech: The teacher changes speech patterns to increase student comprehension. This could include facing the students, paraphrasing, clearly indicating the most important ideas, and speaking more slowly.

Visuals: The teacher uses graphics, pictures, visuals, and manipulatives. This helps ELL students better understand and comprehend the subjects at hand.

Front-Loading Vocabulary: The teacher front loads vocabulary. This means providing students with a list of important vocabulary words they will need to know for a book, lesson, etc. prior to the lesson being taught. Including pictures to go with the vocabulary words is also very beneficial for the students.

Special Education Students

Chunking: The teacher presents information in a way that makes it easy for students to understand and remember. Chunking is based on the presumption that our working memory is easily overloaded by excessive detail. The best way to deliver information is to organize it into meaningful units. Because students with special needs get overloaded easily, chunking is an effective strategy to use with them.

Checking for Understanding: It is important to constantly check for understanding, especially for students who have accommodations. Teachers want to make sure students understand the concepts being covered in a way that makes sense to them.

Extra time: The teacher provides students with special needs extra time to complete work or answer questions. It is important to give students enough time to process their thoughts.

Oral Reading: The teacher will read work orally to students. Class work such as tests and literature circles may need to be read aloud to the student.

Timers: The teacher will use timers as an instructional tool. The use of timers is beneficial for students who have trouble completing tasks. Timers can be helpful so the student is aware of how much time they have to complete an assignment.

Students with 504 Plans

Chunking: The teacher presents information in a way that makes it easy for students to understand and remember. Chunking is based on the presumption that our working memory is easily overloaded by excessive detail. The best way to deliver information is to organize it into meaningful units. Because students with special needs get overloaded easily, chunking is an effective strategy to use with them.

Checking for Understanding: It is important to constantly check for understanding, especially for students who have accommodations. Teachers want to make sure students understand the concepts being covered in a way that makes sense to them.

Extra time: The teacher provides students with special needs extra time to complete work or answer questions. It is important to give students enough time to process their thoughts.

Gifted & Talented Strategies

Extensions/Enrichments: Teachers will provide gifted and talented students with extension/enrichment projects. Students will be challenged to further their understanding, to apply acquired knowledge, and/or to produce something in reference to acquired knowledge.

Modify/Change Activities: Teachers will monitor and modify activities to accommodate those students who need to be challenged further. Additional reading, problem-solving, writing, or project work is necessary for those students who are ready to move on at a rate more accelerated than their peers. In this way, G & T students are provided the same opportunity for support as special needs students.

Students at Risk of School Failure

Directions or Instructions: Make sure directions and/or instructions are given in limited numbers. Give directions/instructions verbally and in simple written format. Ask students to repeat the instructions or directions to ensure understanding occurs. Check back with the student to ensure he/she hasn't forgotten.

Peer Support: Peers can help build confidence in other students by assisting in peer learning. Many teachers use the 'ask 3 before me' approach. This is fine, however, a student at risk may have to have a specific student or two to ask. Set this up for the student so he/she knows who to ask for clarification before going to you.

Alternate or Modified Assignments: Always ask yourself, "How can I modify this assignment to ensure the students at risk are able to complete it?" Sometimes you'll simplify the task, reduce the length of the assignment or allow for a different mode of delivery. For instance, many students may hand something in, the at-risk student may jot notes and give you the information verbally. Or, it just may be that you will need to assign an alternate assignment.

Increase One to One Time: When other students are working, always touch base with your students at risk and find out if they're on track or needing some additional support. A few minutes here and there will go a long way to intervene as the need presents itself.

Contracts: It helps to have a working contract between you and your students at risk. This helps

prioritize the tasks that need to be done and ensure completion happens. Each day write down what needs to be completed, as the tasks are done, provide a checkmark or happy face. The goal of using contracts is to eventually have the student come to you for completion sign-offs.

Hands On: As much as possible, think in concrete terms and provide hands-on tasks. This means a child doing math may require a calculator or counters. The child may need to tape record comprehension activities instead of writing them. A child may have to listen to a story being read instead of reading it him/herself.

Tests/Assessments: Tests can be done orally if need be. Break tests down in smaller increments by having a portion of the test in the morning, another portion after lunch and the final part the next day.

Seating: Seat students near a helping peer or with quick access to the teacher. Those with hearing or sight issues need to be close to the instruction which often means near the front.