

Unit 05: Minerals

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

Standards Alignment

New Jersey Student Learning Standards

Capacities of the Literate Individual

Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, & Language

They demonstrate independence.

They build strong content knowledge.

They respond to the varying demands of audience, task, purpose, and discipline.

They comprehend as well as critique.

They value evidence.

They use technology and digital media strategically and capably.

They come to understand other perspectives and cultures.

LA.RH.11-12

Reading History

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.

Craft and Structure

- LA.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).
- 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.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.
- 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.
- LA.K-12.NJSLSA.R6 Assess how point of view or purpose shapes the content and style of a text.
- LA.RH.11-12.6 Evaluate authors' differing perspectives on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.

Integration of Knowledge and Ideas

- LA.RH.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, qualitatively, as well as in words) in order to address a question or solve a problem.
- 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.RH.11-12.8 Evaluate an author's claims, reasoning, and evidence by corroborating or challenging them with other 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.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.

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.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.

LA.RST.11-12 Reading Science and Technical Subjects

Key Ideas and Details

- 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.RST.11-12.2 Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

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	<p>Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.</p> <p>Production and Distribution of Writing</p> <p>Integration of Knowledge and Ideas</p>
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.K-12.NJSLSA.W5	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
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	<p>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.</p> <p>Research to Build and Present Knowledge</p>
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.RST.11-12.10	By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.
LA.K-12.NJSLSA.W9	<p>Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <p>Text Types and Purposes</p>
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.B	Develop claim(s) and counterclaims using sound reasoning 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.
LA.WHST.11-12.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
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.11-12.2.B	<p>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.</p> <p>Production and Distribution of Writing</p>
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.11-12.5	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.
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. Research to Build and Present Knowledge
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.
AAAA.K-12.1	Inquire, think critically, and gain knowledge.
AAAA.K-12.1.1	Skills
AAAA.K-12.1.1.1	Follow an inquiry-based process in seeking knowledge in curricular subjects, and make the real-world connection for using this process in own life.
AAAA.K-12.1.1.2	Use prior and background knowledge as context for new learning.
AAAA.K-12.1.1.3	Develop and refine a range of questions to frame the search for new understanding.
AAAA.K-12.1.1.4	Find, evaluate, and select appropriate sources to answer questions.
AAAA.K-12.1.1.5	Evaluate information found in selected sources on the basis of accuracy, validity, appropriateness for needs, importance, and social and cultural context.
AAAA.K-12.1.1.6	Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.
AAAA.K-12.1.1.7	Make sense of information gathered from diverse sources by identifying misconceptions, main and supporting ideas, conflicting information, and point of view or bias.
AAAA.K-12.1.1.8	Demonstrate mastery of technology tools for accessing information and pursuing inquiry.
AAAA.K-12.1.1.9	Collaborate with others to broaden and deepen understanding.
AAAA.K-12.1.3	Responsibilities
AAAA.K-12.1.3.1	Respect copyright/intellectual property rights of creators and producers.
AAAA.K-12.1.3.2	Seek divergent perspectives during information gathering and assessment.
AAAA.K-12.1.3.3	Follow ethical and legal guidelines in gathering and using information.
AAAA.K-12.1.3.4	Contribute to the exchange of ideas within the learning community.
AAAA.K-12.1.3.5	Use information technology responsibly.
AAAA.K-12.1.4	Self-Assessment Strategies
AAAA.K-12.1.4.1	Monitor own information-seeking processes for effectiveness and progress, and adapt as necessary.
AAAA.K-12.1.4.2	Use interaction with and feedback from teachers and peers to guide own inquiry process.
AAAA.K-12.1.4.3	Monitor gathered information, and assess for gaps or weaknesses.
AAAA.K-12.1.4.4	Seek appropriate help when it is needed.
AAAA.K-12.2	Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.

AAAA.K-12.2.1	Skills
AAAA.K-12.2.1.1	Continue an inquiry- based research process by applying critical- thinking skills (analysis, synthesis, evaluation, organization) to information and knowledge in order to construct new understandings, draw conclusions, and create new knowledge.
AAAA.K-12.2.1.2	Organize knowledge so that it is useful.
AAAA.K-12.2.1.3	Use strategies to draw conclusions from information and apply knowledge to curricular areas, real-world situations, and further investigations.
AAAA.K-12.2.1.4	Use technology and other information tools to analyze and organize information.
AAAA.K-12.2.1.5	Collaborate with others to exchange ideas, develop new understandings, make decisions, and solve problems.
AAAA.K-12.2.1.6	Use the writing process, media and visual literacy, and technology skills to create products that express new understandings.
AAAA.K-12.2.2	Dispositions in Action
AAAA.K-12.2.2.1	Demonstrate flexibility in the use of resources by adapting information strategies to each specific resource and by seeking additional resources when clear conclusions cannot be drawn.
AAAA.K-12.2.2.2	Use both divergent and convergent thinking to formulate alternative conclusions and test them against the evidence.
AAAA.K-12.2.2.3	Employ a critical stance in drawing conclusions by demonstrating that the pattern of evidence leads to a decision or conclusion.
AAAA.K-12.2.2.4	Demonstrate personal productivity by completing products to express learning.
AAAA.K-12.2.3	Responsibilities
AAAA.K-12.2.3.1	Connect understanding to the real world.
AAAA.K-12.2.3.2	Consider diverse and global perspectives in drawing conclusions.
AAAA.K-12.2.4	Self-Assessment Strategies
AAAA.K-12.2.4.1	Determine how to act on information (accept, reject, modify).
AAAA.K-12.2.4.2	Reflect on systematic process, and assess for completeness of investigation.
AAAA.K-12.2.4.3	Recognize new knowledge and understanding.
AAAA.K-12.3	Share knowledge and participate ethically and productively as members of our democratic society.
AAAA.K-12.3.1	Skills
AAAA.K-12.3.1.1	Conclude an inquiry-based research process by sharing new understandings and reflecting on the learning.
AAAA.K-12.3.1.2	Participate and collaborate as members of a social and intellectual network of learners.
AAAA.K-12.3.1.3	Use writing and speaking skills to communicate new understandings effectively.
AAAA.K-12.3.1.4	Use technology and other information tools to organize and display knowledge and understanding in ways that others can view, use, and assess.
AAAA.K-12.3.1.5	Connect learning to community issues.
AAAA.K-12.3.1.6	Use information and technology ethically and responsibly.
AAAA.K-12.3.2	Dispositions in Action
AAAA.K-12.3.2.1	Demonstrate leadership and confidence by presenting ideas to others in both formal and informal situations.
AAAA.K-12.3.2.2	Show social responsibility by participating actively with others in learning situations and by contributing questions and ideas during group discussions.

AAAA.K-12.3.2.3	Demonstrate teamwork by working productively with others.
AAAA.K-12.3.3	Responsibilities
AAAA.K-12.3.3.1	Solicit and respect diverse perspectives while searching for information, collaborating with others, and participating as a member of the community.
AAAA.K-12.3.3.2	Respect the differing interests and experiences of others, and seek a variety of viewpoints.
AAAA.K-12.3.3.3	Use knowledge and information skills and dispositions to engage in public conversation and debate around issues of common concern.
AAAA.K-12.3.3.4	Create products that apply to authentic, real-world contexts.
AAAA.K-12.3.3.5	Contribute to the exchange of ideas within and beyond the learning community.
AAAA.K-12.3.3.6	Use information and knowledge in the service of democratic values.
AAAA.K-12.3.3.7	Respect the principles of intellectual freedom.
AAAA.K-12.3.4	Self-Assessment Strategies
AAAA.K-12.3.4.1	Assess the processes by which learning was achieved in order to revise strategies and learn more effectively in the future.
AAAA.K-12.3.4.2	Assess the quality and effectiveness of the learning product.
AAAA.K-12.3.4.3	Assess own ability to work with others in a group setting by evaluating varied roles, leadership, and demonstrations of respect for other viewpoints.
AAAA.K-12.4	Pursue personal and aesthetic growth.
AAAA.K-12.4.1	Skills
AAAA.K-12.4.1.1	Read, view, and listen for pleasure and personal growth.
AAAA.K-12.4.1.2	Read widely and fluently to make connections with self, the world, and previous reading.
AAAA.K-12.4.1.3	Respond to literature and creative expressions of ideas in various formats and genres.
AAAA.K-12.4.1.4	Seek information for personal learning in a variety of formats and genres.
AAAA.K-12.4.1.5	Connect ideas to own interests and previous knowledge and experience.
AAAA.K-12.4.1.6	Organize personal knowledge in a way that can be called upon easily.
AAAA.K-12.4.1.8	Use creative and artistic formats to express personal learning.
AAAA.K-12.4.2	Dispositions in Action
AAAA.K-12.4.2.1	Display curiosity by pursuing interests through multiple resources.
AAAA.K-12.4.2.2	Demonstrate motivation by seeking information to answer personal questions and interests, trying a variety of formats and genres, and displaying a willingness to go beyond academic requirements.
AAAA.K-12.4.2.3	Maintain openness to new ideas by considering divergent opinions, changing opinions or conclusions when evidence supports the change, and seeking information about new ideas encountered through academic or personal experiences.
AAAA.K-12.4.3	Responsibilities
AAAA.K-12.4.3.1	Participate in the social exchange of ideas, both electronically and in person.
AAAA.K-12.4.3.2	Recognize that resources are created for a variety of purposes.
AAAA.K-12.4.3.3	Seek opportunities for pursuing personal and aesthetic growth.
AAAA.K-12.4.3.4	Practice safe and ethical behaviors in personal electronic communication and interaction.
AAAA.K-12.4.4	Self-Assessment Strategies
AAAA.K-12.4.4.3	Recognize how to focus efforts in personal learning.
AAAA.K-12.4.4.4	Interpret new information based on cultural and social context.

Integration of Career Readiness, Life Literacies and Key Skills

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.

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

Capacities of the Literate Individual

Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, & Language

They demonstrate independence.

They build strong content knowledge.

They comprehend as well as critique.

They use technology and digital media strategically and capably.

LA.RL.11-12	Reading Literature
	Craft and Structure
LA.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. (e.g., Shakespeare as well as other authors.)
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.R6	Assess how point of view or purpose shapes the content and style of a text.
LA.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).
LA.RI.11-12	Reading Informational Text
LA.K-12.NJSLSA.W	Writing
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.
LA.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.
LA.K-12.NJSLSA.W5	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
LA.K-12.NJSLSA.W6	Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
	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.
	Text Types and Purposes
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.

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.K-12.NJSLSA.SL5	Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
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.K-12.NJSLSA.L	Language 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.K-12.NJSLSA.L2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LA.K-12.NJSLSA.L3	Knowledge of Language 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.K-12.NJSLSA.L4	Vocabulary Acquisition and Use 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.W.11-12.5	Develop and strengthen writing as needed by planning, revising, editing, rewriting, trying a new approach, or consulting a style manual (such as MLA or APA Style), focusing on addressing what is most significant for a specific purpose and audience.
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.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.11-12.4	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.L.11-12.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
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.11-12.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LA.L.3	Language
LA.L.11-12.2.A	Observe hyphenation conventions.
LA.L.11-12.2.B	Spell correctly.
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.11-12.4	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.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.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...

The main mineral many students are familiar with is salt. In many cases they tend to use too much of it. Historical data has show the human body needs essential minerals and salt to survive each day. Students tend not to understand the importance of getting these minerals each day and the adequate quantity that is needed, though many are in minute amounts but just as important. This unit is to give insight into how these minerals were discovered and why they are so

important to the human diet and the current research that is being conducted in discovering new minerals the human body needs each day.

Meaning

Essential Questions

Essential Questions

1. Why do you need minerals everyday how do they help your health?
2. How do you get the right amount of minerals each day and what happens if you should ingest too much?
3. How do doctors and dietitians ensure a human gets the right amount of minerals each day on a diet plan?

Enduring Understanding/Indicators of Understanding

Enduring Understanding/Indicators of Understanding

1. Gain and analyze an understanding of the nutritional minerals needed to stay healthy each day.
2. Comprehend and explain the science used to discover these minerals and how they affect daily life with their importance of what they do bodily and consequences if an over indulgence of them.
3. Comprehend and critique how medical personnel and commercial manufactures aid in preventing overages or damage of too many minerals in the body, especially relating to the sports industry.
4. Assess and make judgements of the taste of the foods plentiful with these minerals with recipes they make in class.

5. Comprehend and analyze the nutritional values of each recipe to determine if this is recipe they could incorporate into their current repertoire of favorite recipes they will maintain a recipe book.

6. Determine and evaluate on the medically recommended amounts and best methods of delivery of the minerals with a debate on whether manufactured supplements are better or safer than gaining the minerals through foods.

Acquisition (Student Learning Objectives)

Knowledge

Knowledge

Students will know...

Differentiate between the bevy of minerals needed to stay healthy.

Analyze and comprehend the consequences of an overdose of these minerals with an understanding that there are more minerals being discovered through science over time.

Utilize the best resources in easy to make recipes for getting these minerals each day.

Use the mineral rich resources (foods) in recipes they researched and concluded through analyzation they would use to maximize their mineral intake.

Conduct research and debate the topic of real food mineral delivery over supplementals to get the essential minerals

Skills

Skills

Student will be skilled at ...

Develop a capability to work independently and in teams to work on labs and projects.

Judge the best delivery of essential minerals that would benefit human needs each day.

Utilize self inquiry through safe approved websites to determine their own mineral needs and the best delivery method after critiquing their own level of health and basic ways they can tweak their diet to maximize health benefits.

Conducting a self directed research project they will create and present at the end of the unit.

Explain, design and execute a self selected project of their research on their findings about minerals.

Stage 3: Learning Plan

Resource and Mentor Texts

Resources and Mentor Texts

Internet google searches

Current industry information

Personal Experience

cook books

Book: Staying Healthy with Nutrition by Elson M. Hass

Formative Assessment Strategies

Formative Assessment Strategies

Demonstrate leadership skills in forming teams and conducting labs together and building relationships for a cohesive learning experience when they pick recipes, cook together and create their project together.

Develop a self reliance on the knowledge of being able to feed themselves and assess the values of health benefits, and maximum mineral intake, from their choices over relying on fast food stops or skipping eating at all.

Create a working relationship of team work in the labs for a cohesive team of workers to complete the expectations of the class, recipes and self created project on a subject of the unit they picked for presentation at the end of the unit..

Learning Activities/Unit of Study

Learning Activities/Unit of Study

Engaging in active listening to lecture that will encourage them to question the materials given activate an open dialogue on writings and discussion of the understanding the material being presented about minerals.

Writing and assessing the different claims made by billion dollar industries about minerals and their effects.

Evaluate and justify the claims made by different manufacturers on which minerals are advertised on packaging and determining if the claims are valid or even in the best interest of the public.

Experience peer evaluated results of student's self directed interactive research projects they create and present at the end of the unit.

Engage in active research and implementation of recipes to maximize mineral intake in a recipe for a dish they can prepare and serve easily, some of which can be made ahead of time for easy travel so thus avoid the junk food temptations.

Conduct self assessment of the labs they have selected and prepared for meeting the criterion of being easy to prepare

and food they enjoy.

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

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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.