Kenilworth Public Schools

Curriculum Guide

Content Area: Science
Grade: 8
BOE Approved: 7/11/2016

Revision Date: March 2022
Submitted by: Catherine Allan
BOE Revision Approved: 5/9/22

Science- Grade 8 Scope and Sequence

Unit 1- Science and Engineering Practices	Unit 2- Earth's Systems	Unit 3- Matter and Its Interactions	Unit 4- Energy	Unit 5- Heredity and Biological Evolution
Throughout the Year	Weeks 1-13	Weeks 14-24	Weeks 25-31	Weeks 32-39
Unit Description: Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world. Students master the conceptual, mathematical, physical, and computational tools that need to be applied when constructing, evaluating and reasoning claims.	*Unit Description:* Earth materials and systems interact on a large scale through plate tectonics, and other geo-systems. These systems play a role in Earth's surface processes involving climate, and biogeology.	*Unit Description:* All objects and substances in the natural world are composed of matter. Matter can undergo changes in state, has specific chemical and physical properties, and can rearrange through chemical interactions to form new substances with distinct properties. Matter takes up space, has inertia, and contains a specific amount of energy stored in chemical bonds.	*Unit Description:* Energy has different characteristics based on its form. Energy can transfer form from one object or system to another and the total change in energy is always the same.	*Unit Description:* Organisms reproduce and transfer genetic information from parents to offspring. Genetic information is contained in the genes of all living things and is influenced over time by internal and external sources.

Unit Targets: • Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions. • Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs. • Analyze and interpret data to determine similarities and differences in findings. • Evaluate competing design	*Unit Targets:* • Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process. • Construct an explanation based on evidence for how geo-science processes have changed Earth's surface at varying time and special scales. • Develop a model to describe the cycling of water through Earth's systems driven by energy from the Sun and the force of gravity • Collect data to provide evidence for how the motions and complex	*Unit Targets:* • Develop models to describe the atomic composition of simple molecules and extended structures. • Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred. • Gather and make sense of information to describe that synthetic materials come from natural resources and impact society. • Develop and use a model to describe how the total number of atoms	*Unit Targets:* • Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and the speed of an object. • Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system. • Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer. • Plan an	*Unit Targets:* • Defend the concept that through reproduction, genetic traits are passed from one generation to the next using evidence collected from observations of inherited traits. • Explain the source of genetic variation among siblings. • Model the inheritance of genetic material utilizing Punnett squares. • Describe the environmental conditions or factors that may lead to a change in a cell's genetic information or to an organism's development and how these changes

solutions based on jointly developed and agreed-upon design criteria. • Demonstrate understanding and use interrelationships among central scientific ideas to revise explanations. • Use qualitative and quantitative evidence to develop arguments and generate relevant data. • Demonstrate how to safely use tools, instruments and supplies.	interactions of air masses results in changes in weather conditions. • Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climate.	does not change in a chemical reaction, but rather are rearranged; thus, matter is conserved. • Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.	investigation to determine the relationships among energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample. • Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.	are passed on. • Model natural selection. • Construct explanations based on the evidence to support the fundamental understandings of natural selection and evolution. • Organize and present evidence to show how the extinction of a species is related to an inability to adapt to changing environmental conditions using quantitative and qualitative data.

Science- 8th Grade Unit of Study

Unit Title: Earth's Systems

Unit Summary: Earth materials and systems interact on a large scale through plate tectonics, and other geo-systems. These systems play a role in Earth's surface processes involving climate, and bio-geology.

Primary Interdisciplinary Connections: Language Arts, Literacy, Art

Career Readiness, Life Literacies, and Key Skills: CRP1. CRP2. CRP3. CRP4. CRP5. CRP6. CRP7. CRP8. CRP9. CRP10. CRP11. CRP12.

Learning Targets

NJSLS Standards: MS-ESS2-1, MS-ESS2-2, MS-ESS2-3, MS-ESS2-4, MS-ESS2-5, MS-ESS2-6, MS-ESS3-1, MS-ESS3-2, MS-ESS3-3, MS-ESS3-4, MS-ESS3-5

Computer Science and Design Thinking Standards: 8.2.8.ETW.1, 8.2.8.ETW.2, 8.2.8.ETW.3, 8.2.8.ETW.4

Climate Change Standards: MS-ESS2-6

ELA Companion Standards: RST.6-9.1, RST.6-8.7, RST.6-8.9, WHST.6-8.2, WHST.6-8.8, SL8.5

Big Idea: Students will investigate how the dynamic nature of the Earth accounts for major geological events that have shaped the features of the Earth over time**.** Earth materials and systems interact on a large scale through plate tectonics, and other geo-systems.

Unit Essential Questions:

1. How do scientists separate the layers of the Earth using physical properties and composition?
2. How does the theory of continental drift and plate tectonics explain the changes that occur on the Earth's surface?
3. How do geologic events occurring today provide insight into Earth's past?
4. To what extent does the exchange of energy within the Earth drive geologic events on the surface?
5. How does the location of tectonic plate boundaries determine the location of earthquakes and volcanoes?
6. How does the movement between two plates determine the type of plate boundary?

Unit Enduring Understandings:

- The theory of continental drift explains that the location of the continents have changed in the past and are continuing to change today.
- Scientists discovered that the continents were once one large landmass, Pangaea, based on Darwin's fossil evidence.
- The theory of plate tectonics explains that the lithosphere is divided into plates that move due to the transfer of energy.
- Transfer of energy in the mantle causes convection currents within the Earth that cause tectonic plates to move leading to sea-floor spreading.
- There are 3 types of plate boundaries (convergent, divergent, and transform) that are classified according to what direction the plates move.
- The geologic structures that occur at plate

	boundaries are volcanoes, earthquakes, ridges, mountains, faults, rifts, and trenches. ● The Earth is not increasing in size because as new crust is formed, the old crust is being destroyed.

Unit Learning Targets

- *Students will…*
  Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- Construct an explanation based on evidence for how geo-science processes have changed Earth's surface at varying time and special scales.
- Develop a model to describe the cycling of water through Earth's systems driven by energy from the Sun and the force of gravity.
- Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.
- Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climate.

Evidence of Learning

Summative Assessment: Chapter Test, Benchmark, SGO

Formative Assessments:

- Quizzes
- Homework
- Poster/Visual
  - Seafloor Spreading
  - Alfred Wegener & Pangea Clues
  - Fault Lines
- Laboratory Explorations
  - Pangea Puzzle
  - Continental Drift Interactive Google Slides
  - Magnet Lab
  - Earthquake Building
- Projects
  - Tectonic Plate Graphing
- Presentations
  - Natural Disasters in History

Lesson Plans

Activities/Interdisciplinary Connections	*Timeframe*
• Laboratory Activities • Project Work • Group Work • Class Discussions • Individual Explorations • ELA based reading assignments • Model creation	13 weeks depending on laboratory experiments and activities
Teacher Resources	*Teacher Note*
• Integrated Science Textbook • On-Line Textbook Materials • Science Journals • Teacher-Created Labs • Chapter Labs Technology Tools: -Google Classroom -Pear Deck -BrainPOP -Blooket -Kami -Quizizz	Specific lesson plans will be posted on Genesis

Differentiating Instruction: Students with Disabilities, English Language Learners, and Gifted & Talented Students

Examples of Strategies and Practices that Support Students with Disabilities:
• Use of visual and multisensory formats
• Use of assisted technology
• Use of prompts
• Modification of content and student products
• Testing accommodations
• Authentic assessments

Examples of Strategies and Practices that Support Gifted & Talented Students:
• Adjusting the pace of lessons
• Curriculum compacting
• Inquiry-based instruction
• Independent study
• Higher-order thinking skills
• Interest-based content
• Student-driven instruction

• Real-world problems and scenarios

Examples of Strategies and Practices that Support English Language Learners:
• Pre-teaching of vocabulary and concepts
• Visual learning, including graphic organizers
• Use of cognates to increase comprehension
• Teacher modeling
• Pairing students with beginning English language skills with students who have more advanced English language skills
• Scaffolding
•Word walls
•Sentence frames
•Think-pair-share
•Cooperative learning groups

Science- 8th grade Unit of Study

Unit Title: Energy

Unit Summary: Energy has different characteristics based on its form. Energy can transfer form from one object or system to another and the total change in energy is always the same.

Primary Interdisciplinary Connections: Math, Language Arts, Literacy

Learning Targets

NJSLS Standards: MS-PS3-1, MS-PS3-2, MS-PS3-3, MS-PS3-4, MS-PS3-5

ELA Companion Standards: RST.6-8.1, RST.6-8.3, RST.6-8.7, WHST.6-8.1, WHST.6-8.7, SL.8.5

Big Idea: Exploration of the role of energy in the movement of objects.

Unit Essential Questions:

1. What is energy?
2. What is the relationship between kinetic and potential energy?
3. What factors determine an object's kinetic energy?
4. What factors determine an object's potential energy?
5. What are the types of kinetic energy?
6. What are the types of potential energy?
7. How can energy be transferred from one type to another?

Unit Enduring Understandings:

- Energy is the ability to do work or cause change.
- An object's kinetic energy can be increased by increasing its potential energy.
- Kinetic energy is dependent on the mass and speed of an object.
- Potential energy is dependent on the mass and height of an object.
- Kinetic energy is the energy an object has because of its motion.
- Electrical and mechanical energy are examples of kinetic energy.
- Potential energy is stored energy.
- Gravitational, chemical, and nuclear energy are examples of potential energy.
- Energy is not lost or made, it is transferred to or from an object.
- The total amount of energy is the same before and after any process.

Unit Learning Targets

Students will…

- Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and the speed of an object.
- Develop a model to describe that when the arrangement of objects interacting at a distance

changes, different amounts of potential energy are stored in the system.

• Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.

• Plan an investigation to determine the relationships among energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.

• Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.

Evidence of Learning

Summative Assessment: Chapter Test and Practical Assessments

Formative Assessments:

- Quiz
- Homework
- Poster/Visual
  - Comparing Types of Energy
- Lab Report
  - Speed Lab
  - Ramp Design
  - Conservation of Mass
  - ANOVA Energy Lab
- Projects
  - Solar Oven

Lesson Plans

Activities/Interdisciplinary Connections	*Timeframe*
• Laboratory Activities • Project Work • Group Work • Class Discussions • Individual Explorations	6 weeks
Teacher Resources	*Teacher Note*
• Integrated Science Textbook • On-Line Textbook Materials • Science Journals	Specific lesson plans will be posted on Genesis

• Teacher-Created Labs • Chapter Labs Technology Tools (add/delete as appropriate): -Google Classroom -Pear Deck -BrainPOP -FlipGrid -Kahoot -Kami -Quizizz (See this list for more ideas from the NJDOE) (See this list for Kenilworth Tools and Platforms)	

Differentiating Instruction: Students with Disabilities, English Language Learners, and Gifted & Talented Students

Examples of Strategies and Practices that Support Students with Disabilities:
• Use of visual and multisensory formats
• Use of assisted technology
• Use of prompts
• Modification of content and student products
• Testing accommodations
• Authentic assessments

Examples of Strategies and Practices that Support Gifted & Talented Students:
• Adjusting the pace of lessons
• Curriculum compacting
• Inquiry-based instruction
• Independent study
• Higher-order thinking skills
• Interest-based content
• Student-driven instruction
• Real-world problems and scenarios

Examples of Strategies and Practices that Support English Language Learners:
• Pre-teaching of vocabulary and concepts
• Visual learning, including graphic organizers
• Use of cognates to increase comprehension
• Teacher modeling
• Pairing students with beginning English language skills with students who have more advanced English language skills
• Scaffolding

- Word walls
- Sentence frames
- Think-pair-share
- Cooperative learning groups

Science- 8th Grade Unit of Study

Unit Title: Heredity and Biological Evolution

Unit Summary: Organisms reproduce and transfer genetic information from parents to offspring. Genetic information is contained in the genes of all living things and is influenced over time by internal and external sources.

Primary Interdisciplinary Connections: Math, Language Arts, Literacy

Learning Targets

NJSLS Standards: MS-LS3-1, MS-LS3-2, MS-LS4-4, MS-LS4-5, MS-LS4-6

ELA Companion Standards: RST.6-8.1, RST.6-8.4, RST.6-8.7, RST.6-8.9, WHST.6-8.2, WHST.6-8.8, WHST.6-8.9, SL.8.1, SL8.4, SL.8.5

Big Idea:

Unit Essential Questions:

- How do living organisms pass traits from one generation to the next?
- How do organisms change over time in response to the environment?
- How do gene mutations and sexual reproduction contribute to genetic variation?

Unit Enduring Understandings:

- Organisms reproduce, either sexually or asexually, and transfer their genetic information to their offspring.
- Genes are located on chromosomes in cells, with each chromosome pair containing two variants of each of many distinct genes.
- Variations in organisms can arise from the combining of traits on chromosomes, or from mutations altering genetic information.

Unit Learning Targets

Students will…

- Defend the concept that through reproduction, genetic traits are passed from one generation to the next using evidence collected from observations of inherited traits.
- Explain the source of genetic variation among siblings.
- Model the inheritance of genetic material utilizing Punnett squares.
- Describe the environmental conditions or factors that may lead to a change in a cell's genetic information or to an organism's development and how these changes are passed on.
- Model natural selection.
- Construct explanations based on the evidence to support the fundamental understandings of natural selection and evolution.
- Organize and present evidence to show how the extinction of a species is related to an inability to adapt to changing environmental conditions using quantitative and qualitative data.

Evidence of Learning

Summative Assessment: Chapter Test and Practical Assessments

Formative Assessments:

- Quiz
- Homework
- Poster/Visual
  - Natural Selection
  - Comparing Paths of Genetic Inheritance
- Lab Report
  - Monster Genetics
- Projects
  - Genetics Choice Board
  - SpongeBob Genetics
  - Evolution WebQuest
- Presentations
  - Family Traits

Lesson Plans

Activities/Interdisciplinary Connections	*Timeframe*
• Laboratory Activities • Project Work • Group Work • Class Discussions • Individual Explorations	7 weeks
Teacher Resources	*Teacher Note*
• Integrated Science Textbook • On-Line Textbook Materials • Science Journals • Teacher-Created Labs • Chapter Labs Technology Tools: -Google Classroom -Pear Deck -BrainPOP -Kahoot	Specific lesson plans will be posted on Genesis

-Kami -Quizizz (See this list for more ideas from the NJDOE) (See this list for Kenilworth Tools and Platforms)	

Differentiating Instruction: Students with Disabilities, English Language Learners, and Gifted & Talented Students

Examples of Strategies and Practices that Support Students with Disabilities:
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• Modification of content and student products
• Testing accommodations
• Authentic assessments

Examples of Strategies and Practices that Support Gifted & Talented Students:
• Adjusting the pace of lessons
• Curriculum compacting
• Inquiry-based instruction
• Independent study
• Higher-order thinking skills
• Interest-based content
• Student-driven instruction
• Real-world problems and scenarios

Examples of Strategies and Practices that Support English Language Learners:
• Pre-teaching of vocabulary and concepts
• Visual learning, including graphic organizers
• Use of cognates to increase comprehension
• Teacher modeling
• Pairing students with beginning English language skills with students who have more advanced English language skills
• Scaffolding
•Word walls
•Sentence frames
•Think-pair-share
•Cooperative learning groups

Science- 8th Grade Unit of Study

Unit Title: Matter and Its Interactions

Unit Summary: All objects and substances in the natural world are composed of matter. Matter can undergo changes in state, has specific chemical and physical properties, and can rearrange through chemical interactions to form new substances with distinct properties. Matter takes up space, has inertia, and contains a specific amount of energy stored in chemical bonds.

Primary Interdisciplinary Connections: Math, Language Arts, Literacy

Career Readiness, Life Literacies, and Key Skills: CRP1. CRP2. CRP3. CRP4. CRP5. CRP6. CRP7. CRP8. CRP9. CRP10. CRP11. CRP12.

Learning Targets

NJSLS Standards: MS-PS1-1, MS-PS1-2, MS-PS1-3, MS-PS1-4, MS-PS1-5, MS-PS1-6

ELA Companion Standards: RST.6-8.1 RST.6-8.3 RST.6-8.7 WHST.6-8.7 WHST.6-8.8

Big Idea: Matter can undergo changes in state, has specific chemical and physical properties, and can rearrange through chemical interactions to form new substances with distinct properties.

Unit Essential Questions:

1. How are elements classified as metals, nonmetals, and metalloids based on their chemical and physical properties?
2. How are properties of elements related to the arrangement on the periodic table?
3. How does a chemical reaction show the relationship between reactants and products?
4. How has the atomic model evolved over time?
5. How are ions used to determine the product in a chemical reaction?
6. How does the combination of metals and nonmetals create ionic and covalent bonds?
7. How do atomic and molecular interactions explain the properties of matter that we see and feel?
8. How does conservation of mass apply to interaction of matter?

Unit Enduring Understandings:

- Elements are classified according to their physical and chemical properties.
- The law of conservation of mass states that mass is conserved when substances undergo physical and chemical changes.
- Balanced chemical reactions demonstrate the law of conservation of mass.
- Chemical reactions are classified according to the number of reactants and products and the specific types of compounds involved.
- Ionic bonds form when a metal and nonmetal combine. Covalent bonds form when two nonmetals combine.
- Chemical reactions involve the making and breaking of chemical bonds which can absorb and release energy.
- Different types of chemical reactions rearrange atoms by breaking old bonds and forming new ones.

Unit Learning Targets

Students will…

- Develop models to describe the atomic composition of simple molecules and extended structures.
- Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.
- Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.
- Develop and use a model to describe how the total number of atoms does not change in a chemical reaction, but rather are rearranged; thus, matter is conserved.
- Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.

Evidence of Learning

Summative Assessment: Chapter Tests and Cumulative Projects

Formative Assessments:

- Quiz
- Homework
- Poster/Visual
- Lab Report
- Projects
- Presentations

Lesson Plans

Activities/Interdisciplinary Connections	*Timeframe*
• Laboratory Activities - Elephant Toothpaste - Separation of Water - Polar vs. Nonpolar - Tie-Dying • Project Work - Element Speed Dating • Group Work - Element Battle Ship - Modeling Atoms - Valence Electron Escape Room - Naming Covalent and Ionic Compounds - Balancing Equations	12 weeks

• Class Discussions - How are polar and nonpolar molecules used in everyday life? - What are the most effective ways to separate and form compounds? - How do pH, temperature, and extraneous molecules affect chemical reactions? • Individual Explorations - Bond Breakers Interactive Game	
Teacher Resources	*Teacher Note*
• Integrated Science Textbook • On-Line Textbook Materials • Science Journals • Teacher-Created Labs • Chapter Labs Technology Tools (add/delete as appropriate): -Google Classroom -Pear Deck -BrainPO -Kahoot -Kami -Quizizz (See this list for more ideas from the NJDOE) (See this list for Kenilworth Tools and Platforms)	Specific lesson plans will be posted on Genesis

Differentiating Instruction:
Students with Disabilities, English Language Learners, and Gifted & Talented Students

Examples of Strategies and Practices that Support Students with Disabilities:
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Examples of Strategies and Practices that Support Gifted & Talented Students:
• Adjusting the pace of lessons
• Curriculum compacting

• Inquiry-based instruction
• Independent study
• Higher-order thinking skills
• Interest-based content
• Student-driven instruction
• Real-world problems and scenarios

Examples of Strategies and Practices that Support English Language Learners:
• Pre-teaching of vocabulary and concepts
• Visual learning, including graphic organizers
• Use of cognates to increase comprehension
• Teacher modeling
• Pairing students with beginning English language skills with students who have more advanced English language skills
• Scaffolding
•Word walls
•Sentence frames
•Think-pair-share
•Cooperative learning groups

Science- 8th Grade Unit of Study

Unit Title: Science and Engineering Practices

Unit Summary: Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world. Students master the conceptual, mathematical, physical, and computational tools that need to be applied when constructing and evaluating claims.

Primary Interdisciplinary Connections: Math, Language Arts, Literacy

Career Readiness, Life Literacies, and Key Skills: CRP1. CRP2. CRP3. CRP4. CRP5. CRP6. CRP7. CRP8. CRP9. CRP10. CRP11. CRP12.

Learning Targets

NJSLS Standards: MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4

Computer Science and Design Thinking Standards: 8.2.8.ED.1, 8.2.8.ED.2, 8.2.8.ED.3, 8.2.8.ED.4, 8.2.8.ED.5, 8.2.8.ED.6, 8.2.8.ED.7

Climate Change Standards: 8.1.8.DA.6, 8.2.8.ETW.4, MS-ETS1-1, MS-ETS1-4

ELA Companion Standards: RST.6-9.1, RST.6-8.7, RST.6-8.9, WHST.6-8.2, WHST.6-8.8, SL8.5

Big Idea: Students will be introduced to scientific and engineering practices. Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world. Students master the conceptual, mathematical, physical, and computational tools that need to be applied when constructing and evaluating claims

Unit Essential Questions:

1. What steps can one take to keep safe in the science classroom?
2. What tools are essential for scientists? (Utilizing an Interactive Science Notebook)
3. How is the design process used to solve a real-world problem?
4. How does making observations differ from making inferences?
5. What are the 3 main units used in the metric system and what do they measure?
6. What practices do scientists and engineers follow when investigating problems?

Unit Enduring Understandings:

- The 3 main types of science are Life, Physical, and Earth science.
- Scientists and Engineers engage in specific ways of thinking and observing in order to add to the body of scientific knowledge.
- Scientists and Engineers follow a pathway to design, create, analyze, and edit their products.
- The metric system is a universal system of measurement used by scientists.
- Students will understand that knowing universal science procedures promotes a safe learning environment.
- Students will understand that the design process is ongoing.

	• Students will recognize how good observations lead to better inferences. • Students will identify how to best utilize their personal learning styles to ask questions and solve problems.

Unit Learning Targets
Students will…

- Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions.
- Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs.
- Analyze and interpret data to determine similarities and differences in findings.
- Evaluate competing design solutions based on jointly developed and agreed-upon design criteria.
- Demonstrate understanding and use interrelationships among central scientific to revise explanations.
- Use qualitative and quantitative evidence to develop arguments and generate relevant data.
- Demonstrate how to safely use tools, instruments and supplies.

Evidence of Learning

Summative Assessment: Design Challenges, SGOs

Formative Assessments:

- Quiz
  - Lab Safety Test
- Homework
- Poster/Visual
  - Lab Safety
- Lab experiments
  - Penny Boats
  - Moon Lander
  - Paper Bridges
- Projects
  - Laboratory Reports
  - STEM Design Challenge Formation

Lesson Plans

Activities/Interdisciplinary Connections	*Timeframe*
• Laboratory activities • Project work • Group work • Class discussions • Individual explorations	On-going throughout the school year
Teacher Resources	*Teacher Note*
• Integrated Science Textbook • On-Line Textbook Materials • Science Journals • Teacher-Created Labs • Chapter Labs Technology Tools (add/delete as appropriate): -Google Classroom -Kahoot -Kami -Quizizz	Specific lesson plans will be posted on Genesis

Differentiating Instruction: Students with Disabilities, English Language Learners, and Gifted & Talented Students

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