

**Science Curriculum
Grade 5**

**CURRICULUM GUIDE
Approved**

August 22, 2017

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Mrs. Debra Grigoletti, Director of Curriculum & Instruction**

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**This curriculum may be modified through varying techniques,
strategies and materials, as per an individual student's
Individualized Education Plan (IEP).**

**Approved by the Great Meadows Regional School District Board of Education
At the regular meeting held on August 22, 2017**

**And
*Aligned with the New Jersey Student Learning Standards***

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Philosophy and Rationale

Science, engineering, and technology influence and permeate every aspect of modern life. Some knowledge of science and engineering is required to engage with the major public policy issues of today as well as to make informed everyday decisions, such as selecting among alternative medical treatments or determining how to invest public funds for water supply options. In addition, understanding science and the extraordinary insights it has produced can be meaningful and relevant on a personal level, opening new worlds to explore and offering lifelong opportunities for enriching people's lives. In these contexts, learning science is important for everyone, even those who eventually choose careers in fields other than science or engineering.

Scope and Sequence

Unit #1: The Engineering Process

Time Allotment: 7 Weeks

Focus Concepts/Skills

Topics:

- The design process
- How you design a solution to a problem
- How technology improves our lives
- How you use engineering to solve a problem

Unit #2: Matter

Time Allotment: 7 Weeks

Focus Concepts/Skills

Topics:

- What are solids, liquids and gasses
- How water changes
- How matter changes
- What mixtures and solutions are
- What affects the speed of dissolving/mixture vs. solutions
- The Atomic Theory

Unit #3: Energy and Ecosystems

Time Allotment: 7 Weeks

Focus Concepts/Skills

Topics:

- What is an ecosystem
- What organisms change their ecosystem
- How organisms use matter and energy to move through an ecosystem
- How organisms interact
- What roles do decomposers play

Unit #4: The Solar System and the Universe

Time Allotment: 7 Weeks

Focus Concept/Skills

Topics:

- What objects are part of the Solar system
- How do we observe objects in the solar System over time
 - Sunlight and shadows
 - Day and night
 - Tides
 - Reasons for the seasons
 - Lunar Phase Change
 - Appearance and shift of night sky
- What are Stars and Galaxies/The Sun Star

Unit # 5 Changes to the Earth's Surface and Natural Resources

Time Allotment:

Focus Concepts/Skills

Topic:

- Earth's major systems and how they interact
 - Geosphere
 - Biosphere
 - Hydrosphere
 - Atmosphere
- How people use resources
- How people conserve resources
- How we can reserve resources
- How weathering and erosion shape Earth's surface
- How water changes Earth's surface
- How movements of the crust change Earth
- How plates move

Mission Statement

The Great Meadows Regional School District will provide quality educational opportunities that ensure the individual success of all students within a safe and supportive environment and to build lifelong learners who will meet society's challenges into an beyond the 21st century. To that end, it is anticipated that all students will achieve the New Jersey Student Learning Standards at all grade levels.

Unit # 1: The Engineering Process

Time Allotment: 7 Weeks

Topic: Engineering

Stage 1: Desired Results

Specific Content Standards that will be covered are:

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Essential Questions:

- How are science and math connected to engineering?
- What is technology and how does technology improve our lives?

Enduring Understandings:

- Technology is all around us; it is global but also right in your own community.
- Engineers apply their knowledge of science to design solutions to practical problems.
- We are all engineers, critical thinkers, and problem solvers.

Knowledge and Skills:

- How science and mathematics are used in engineering
- Steps in the design process
- Scientific method
- How technology affects society

Stage 2: Evidence of Understanding, Learning Objectives and Expectations Benchmarks (embedded student proficiencies)

Students will:

- Discover how science and math are used in engineering
- Investigate the design process
- Explore real-world examples and the needs they fulfill
- Apply the scientific method to real life problems
- Explore how decisions about technology affect society
- Communicate and compare solutions with others

- Create an informative laboratory report that clearly emphasizes the objective/ purpose and correlates to the topics studied.
- Plan and conduct investigations that identify problems and test solutions
- Demonstrate the ability to complete a lab following proper laboratory procedure. Complete a laboratory report showing the main idea, the data obtained and a well written conclusion.

Assessment Methods:

Formative:

- Assessment
- Student Edition
 - Apply What You Know
 - Lesson Check
 - Self-Check
- Informational reading comprehension questions
- Extended responses
- Small group/large group discussions
- Vocabulary in context exercises
- Teacher observation

Summative:

- STEM lab activities/ experiments
- Completed science notes
- Performance tasks
- Class participation
- Independent practice
- Homework and practice pages
- Unit Tests
- Benchmark assessments

Stage 3: Learning Plan

Rationale:

In this unit the students will focus on the everyday life skill of problem solving and critical thinking. They will define engineering and technology, identify how engineers find solutions to problems and explain why a prototype is developed. Additionally, they will build a model to solve a problem, explain how redesign differs from design, test a model using a unit of measurement, redesign a model based on test results and keep accurate design records. Students will give examples of technology used in daily life, describe why new products are developed and identify consequences or tradeoffs associated with new technology.

Through STEM/STEAM activities students will gain knowledge and confidence in their problem solving skills. They will think like a scientist and transfer that thinking to science as well as other academics and real life situations. Students will be asking questions and defining problems, developing and using models, planning and carrying out investigations and analyzing and interpreting data. They will be using mathematics and computational thinking, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information throughout instruction in combination with close reading and responding to informational texts.

Differentiation/Modifications:

- One-on-one/whole group/small group instruction
- Science centers
- Leveled Readers
 - On-level
 - Extra Support
 - Enrichment
- In-Class Support
- ELL teacher strategies in this unit:
- RTI/Extra Support Strategies for students needing extra support in this unit:
- Extension Strategies for students who have mastered core content in this unit:
- Vocabulary Differentiation Strategies
- Unit Project Differentiation

21st Century Skills and Technology

Lessons will include:

- Critical Thinking
- Evidence Notebooks
- Hands-on investigations
- Real World Connections
- Problem Solving Activities
- Creativity and Imagination
- Communication and Collaboration with peers
- Media and Technology integrated lessons
- Cross curricular references
- Science and Engineering Practices Online Handbook
- Performance Tasks
- Engineering Design Process
- Immersive Digital Curriculum
- “Take It Further” (student choice)
- Student centered learning model
- Open ended simulations
- 3-D Virtual Field Trip

- Self-reflections

Resources:

- District approved science text book
- Teacher created materials
- Online Assessments
- Websites
 - www.brainpop.com
 - www.edpuzzel.com
 - www.flocabulary.com
- Videos
- Leveled Readers
- Vocabulary Cards
- Laboratory investigations
- STEM/STEAM activities
- Go Digital Virtual Lab

Unit 2: Matter

Time Allotment: 7 weeks

Topic: Matter and its Interactions

Stage 1: Desired Results

Specific Content Standards that will be covered are:

5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.

5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.

5-PS1-3. Make observations and measurements to identify materials based on their properties.

5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

Essential Questions

- How does matter change-solids/liquids/gasses?
- What are physical and chemical properties of matter?

Enduring Understandings:

- All matter has properties that can be observed, described, and measured
- Recognize that all objects are made of matter, and that matter is made of particles too small to be seen.

- There are 3 states of matter; solid, liquid, and gas.
- Matter can be observed and measured; length, weight, volume, and density.
- There is a difference between physical and chemical properties/change.

Knowledge and Skills, what will the focus of instruction be?

- Matter
- Properties of matter
- States of matter
- Phase change
- Mixtures vs. solutions

**Stage 2: Evidence of Understanding, Learning Objectives and Expectations
Benchmarks (embedded student proficiencies)**

Students will:

- Recognize that all objects are made of matter, and that matter is made of particles too small to be seen
- Identify the parts of an atom; protons, neutrons, electrons
- Identify and categorize objects into the 3 states of matter; solid, liquid, and gas
- Observed and measure matter through lab investigations; length, weight, volume, and density
- Understand the difference between physical and chemical properties/change
- Discover how science and math are used in engineering
- Investigate the design process
- Apply the scientific method to real life problems
- Explore how decisions about technology affect society
- Create an informative laboratory report that clearly emphasizes the objective/ purpose and correlates to the topics studied.
- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led)
- Demonstrate the ability to complete a lab following proper laboratory procedure. Complete a laboratory report showing the main idea, the data obtained and a well written conclusion.

Assessment Methods:

Formative:

- Assessment
- Student Edition
 - Apply What You Know
 - Lesson Check
 - Self-Check
- Informational reading comprehension questions

- Extended responses
- Small group/large group discussions
- Vocabulary in context exercises
- Teacher observation

Summative:

- STEM lab activities/ experiments
- Completed science notes
- Performance tasks
- Class participation
- Independent practice
- Homework and practice pages
- Unit Tests
- Benchmark assessments

Stage 3: The Learning Plan

Rationale:

In this unit of study, students will describe some physical properties of matter. They will relate the states of matter to temperature and the arrangement and movement of particles. In addition, they will compare solids, liquids and gases based upon their physical properties and will compare and contrast physical and chemical changes. Through exploration and engagement students will compare and contrast mixtures and solutions, determine ways to separate mixtures, classify substances based on whether they dissolve in water and relate properties of mixtures with the properties of starting materials.

Through STEM/STEAM activities students will gain knowledge and confidence in their problem solving skills. They will think like a scientist and transfer that thinking to science as well as other academics and real life situations. Students will be asking questions and defining problems, developing and using models, planning and carrying out investigations and analyzing and interpreting data. They will be using mathematics and computational thinking, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information throughout instruction in combination with close reading and responding to informational texts.

Differentiation/Modifications:

- One-on-one/whole group/small group instruction
- Science centers
- Leveled Readers
 - On-level
 - Extra Support

- Enrichment
- In-Class Support
- ELL teacher strategies in this unit:
- RTI/Extra Support Strategies for students needing extra support in this unit:
- Extension Strategies for students who have mastered core content in this unit:
- Vocabulary Differentiation Strategies
- Unit Project Differentiation

21st Century Skills and Technology

Lessons will include:

- Critical Thinking
- Evidence Notebooks
- Hands-on investigations
- Real World Connections
- Problem Solving Activities
- Creativity and Imagination
- Communication and Collaboration with peers
- Media and Technology integrated lessons
- Cross curricular references
- Science and Engineering Practices Online Handbook
- Performance Tasks
- Engineering Design Process
- Immersive Digital Curriculum
- “Take It Further” (student choice)
- Student centered learning model
- Open ended simulations
- 3-D Virtual Field Trip
- Self-reflections

Resources:

- District approved science text book
- Teacher created materials
- Online Assessments
- Websites
 - www.brainpop.com
 - www.edpuzzel.com
 - www.flocabulary.com
- Videos
- Leveled Readers
- Vocabulary Cards
- Laboratory investigations
- STEM/STEAM activities
- Go Digital Virtual Lab

Unit 3: Energy and Ecosystems

Time Allotment: 7 weeks

Topic: Matter and Energy In Organisms and Ecosystems

Stage 1: Desired Results

Specific Content Standards that will be covered are:

5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.

5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

Essential Questions:

- In what ways does Matter and energy relate to living things on Earth?
- How do living things get and use energy?

Enduring Understandings:

- Plants use energy from the sun (photosynthesis) to produce their own food.
- Organisms use matter and energy.
- Living things are interconnected (Individual, Population, Community, Ecosystem, Biome, Biosphere).
- Energy and matter move through ecosystems.
- Organisms have the ability to impact their ecosystem positively or negatively.
- Humans are also a species that impact their ecosystem.

Knowledge and Skills, what will the focus of instruction be?

- Energy gets transformed by plants
- Organisms use matter and energy
- Organisms interact
- Energy and matter move through ecosystems
- Organisms have the ability to change their ecosystem

Stage 2: Evidence of Understanding, Learning Objectives and Expectations **Benchmarks (embedded student proficiencies)**

Students will:

- Investigate how living things get energy from their environment
- Explore how organisms use energy and interact with their environment

- Detail how energy and matter move among plants, animals, decomposers, and their environment
- Identify predator prey relationships
- Create models of food chains and webs to replicate the flow of energy through a given ecosystem/ environment
- Discover how science and math are used in engineering
- Investigate the design process
- Apply the scientific method to real life problems
- Explore how decisions about technology affect society
- Produce clear and coherent writing in which the development, organization, voice and style are appropriate to task, purpose, and audience.
- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led)
- Demonstrate the ability to complete a lab following proper laboratory procedure. Complete a laboratory report showing the main idea, the data obtained and a well written conclusion.

Assessment Methods:

Formative:

- Assessment
- Student Edition
 - Apply What You Know
 - Lesson Check
 - Self-Check
- Informational reading comprehension questions
- Extended responses
- Small group/large group discussions
- Vocabulary in context exercises
- Teacher observation

Summative:

- STEM lab activities/ experiments
- Completed science notes
- Performance tasks
- Class participation
- Independent practice
- Homework and practice pages
- Unit Tests
- Benchmark assessments

Stage 3: The Learning Plan

Rationale:

In this unit, students will identify producers and consumers, define photosynthesis and learn how organisms obtain nutrients. They will develop and understanding that all living things are connected. In addition, they will describe how energy moves through an ecosystem and will understand food chains and food webs. Students will explore why decomposers are important to an ecosystem. This unit focuses on the interconnected nature of matter and energy and how they flow through the environment.

Through STEM/STEAM activities students will gain knowledge and confidence in their problem solving skills. They will think like a scientist and transfer that thinking to science as well as other academics and real life situations. Students will be asking questions and defining problems, developing and using models, planning and carrying out investigations and analyzing and interpreting data. They will be using mathematics and computational thinking, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information throughout instruction in combination with close reading and responding to informational texts.

Differentiation/Modifications:

- One-on-one/whole group/small group instruction
- Science centers
- Leveled Readers
 - On-level
 - Extra Support
 - Enrichment
- In-Class Support
- ELL teacher strategies in this unit:
- RTI/Extra Support Strategies for students needing extra support in this unit:
- Extension Strategies for students who have mastered core content in this unit:
- Vocabulary Differentiation Strategies
- Unit Project Differentiation

21st Century Skills and Technology

Lessons will include:

- Critical Thinking
- Evidence Notebooks
- Hands-on investigations
- Real World Connections
- Problem Solving Activities
- Creativity and Imagination
- Communication and Collaboration with peers
- Media and Technology integrated lessons
- Cross curricular references

- Science and Engineering Practices Online Handbook
- Performance Tasks
- Engineering Design Process
- Immersive Digital Curriculum
- “Take It Further” (student choice)
- Student centered learning model
- Open ended simulations
- 3-D Virtual Field Trip
- Self-reflections

RESOURCES:

- District approved science text book
- Teacher created materials
- Online Assessments
- Websites
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 - www.flocabulary.com
- Videos
- Leveled Readers
- Vocabulary Cards
- Laboratory investigations
- STEM/STEAM activities
- Go Digital Virtual Lab

Unit 4 : The Solar System and the Universe

Time Allotment: 7 weeks

Topic: Space Systems

Stage 1: Desired Results

Specific Content Standards that will be covered are:

5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.

5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.

5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

Essential Questions:

- What objects are part of the Solar System?
- How does gravity affect matter on Earth?

Enduring Understandings:

- Earth is part of a solar system, which is made up of many objects orbiting the sun.
- The gravity of the Earth pulls objects towards the center of the planet.
- There are many patterns that can be observed daily / annually.
 - Day and night
 - Tides
 - Lunar cycle
 - Seasons
 - Constellations / night sky
- The Sun is a star that appears large in scale due to its proximity to Earth.

Knowledge and Skills, what will the focus of instruction be?

- Gravity affects matter on Earth
- Interactions and Patterns Observed over time
 - Sunlight and shadows
 - Day and Night
 - Tides
 - Reasons for the seasons
 - Lunar phase change
 - Appearance and shift of night sky
- The Sun is a star

Stage 2: Evidence of Understanding, Learning Objectives and Expectations
Benchmarks (embedded student proficiencies)

Students will:

- Make observations of the world around them (Sun, Moon, Sky etc.)
- Use evidence to explain Earth's orbit, the moon's orbit
- Explain the Earth's rotation and predictable patterns
- Explain that the Earth is a sphere and that gravity is a force that pulls objects toward Earth
- Produce clear and coherent writing in which the development, organization, voice and style are appropriate to task, purpose, and audience. the topics studied.
- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led)

- Demonstrate the ability to complete a lab following proper laboratory procedure. Complete a laboratory report showing the main idea, the data obtained and a well written conclusion.

Assessment Methods:

Formative:

- Assessment
- Student Edition
 - Apply What You Know
 - Lesson Check
 - Self-Check
- Informational reading comprehension questions
- Extended responses
- Small group/large group discussions
- Vocabulary in context exercises
- Teacher observation

Summative:

- STEM lab activities/ experiments
- Completed science notes
- Performance tasks
- Class participation
- Independent practice
- Homework and practice pages
- Unit Tests
- Benchmark assessments

Stage 3: The Learning Plan

Rationale:

In this fourth unit students are challenged to identify the major components of the solar system, describe the major characteristics of the planets, and they will compare and contrast the inner and outer planets of the solar system. In addition, they will describe smaller objects that orbit the sun including, asteroids, meteoroids, comets and dwarf planets. Students will be able to describe and model how scientists learn about objects in the solar system and the tools they use in space. Additionally, they will explain that stars are very large and appear small in the sky because they are far away. They will explain what galaxies, how they are classified and the solar system's place in the Milky Way Galaxy.

Through STEM/STEAM activities students will gain knowledge and confidence in their problem solving skills. They will think like a scientist and transfer that thinking to science as well as other academics and real life situations. Students will be asking questions and defining problems, developing and using models, planning and carrying out

investigations and analyzing and interpreting data. They will be using mathematics and computational thinking, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information throughout instruction in combination with close reading and responding to informational texts.

Differentiation/Modifications:

- One-on-one/whole group/small group instruction
- Science centers
- Leveled Readers
 - On-level
 - Extra Support
 - Enrichment
- In-Class Support
- ELL teacher strategies in this unit:
- RTI/Extra Support Strategies for students needing extra support in this unit:
- Extension Strategies for students who have mastered core content in this unit:
- Vocabulary Differentiation Strategies
- Unit Project Differentiation

21st Century Skills and Technology

Lessons will include:

- Critical Thinking
- Evidence Notebooks
- Hands-on investigations
- Real World Connections
- Problem Solving Activities
- Creativity and Imagination
- Communication and Collaboration with peers
- Media and Technology integrated lessons
- Cross curricular references
- Science and Engineering Practices Online Handbook
- Performance Tasks
- Engineering Design Process
- Immersive Digital Curriculum
- “Take It Further” (student choice)
- Student centered learning model
- Open ended simulations
- 3-D Virtual Field Trip
- Self-reflections

RESOURCES:

- District approved science text book
- Teacher created materials
- Online Assessments
- Websites
 - www.brainpop.com
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 - www.flocabulary.com
- Videos
- Leveled Readers
- Vocabulary Cards
- Laboratory investigations
- STEM/STEAM activities
- Go Digital Virtual Lab

Unit 5: Natural Resources and Changes to Earth's Surface

Time Allotment: 7 weeks

Topic: Natural Resources and Changes to Earth's Surface

Stage 1: Desired Results

Specific Content Standards that will be covered:

5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Essential Questions:

- How do people use resources and its effect on Earth?
- How can people conserve resources and protect the environment?

Enduring Understandings:

- The Earth's surface is constantly changing.
- Major Earth's systems include: geosphere, biosphere, hydrosphere and atmosphere.
- Natural resources are essential to life and must be used with care.
- The water cycle is a vital component to all life on earth.
- Some examples of negative impact on Earth include, pollution, poaching, and deforestation.

- Some examples of positive impact on earth include, conservation, reducing, reusing and recycling.

Knowledge and Skills (SWBAT embedded course proficiencies)

- Earth's major systems and how they interact
 - Geosphere
 - Biosphere
 - Hydrosphere
 - Atmosphere
- Earth's natural resources
- Human impact on Earth positive and negative

Stage 2: Evidence of Understanding, Learning Objectives and Expectations Benchmarks (embedded student proficiencies)

Students will:

- Make observations about the world around them
- Explore weathering and erosion and how it shapes the Earth's surface
- Explain the role the ocean has on Earth and how water changes Earth's surface
- Explain how people use vs. how they conserve resources.
- Explore ways to advocate for protecting our environment.
- Produce clear and coherent writing in which the development, organization, voice and style are appropriate to task, purpose, and audience.
- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led)
- Demonstrate the ability to complete a lab following proper laboratory procedure. Complete a laboratory report showing the main idea, the data obtained and a well written conclusion.

Assessment Methods:

Formative:

- Assessment
- Student Edition
 - Apply What You Know
 - Lesson Check
 - Self-Check
- Informational reading comprehension questions
- Extended responses
- Small group/large group discussions
- Vocabulary in context exercises
- Teacher observation

Summative:

- STEM lab activities/ experiments
- Completed science notes
- Performance tasks
- Class participation
- Independent practice
- Homework and practice pages
- Unit Tests
- Benchmark assessments

Stage 3: Learning Plan

In this unit of study, students will explain what a resource is, identify some of the resources found in the United States and will describe air, water and land pollution. Students will understand conservation and its importance. They will identify ways in which people can contribute to conservation efforts and reduce, reuse and recycle to protect the environment. Students will explain how erosion and weathering can change Earth's surface and how landforms change over time. They will describe the major Earth systems and how the movement of the Earth's crust can change Earth's surface.

Through STEM/STEAM activities students will gain knowledge and confidence in their problem solving skills. They will think like a scientist and transfer that thinking to science as well as other academics and real life situations. Students will be asking questions and defining problems, developing and using models, planning and carrying out investigations and analyzing and interpreting data. They will be using mathematics and computational thinking, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information throughout instruction in combination with close reading and responding to informational texts.

Differentiation/Modifications:

- One-on-one/whole group/small group instruction
- Science centers
- Leveled Readers
 - On-level
 - Extra Support
 - Enrichment
- In-Class Support
- ELL teacher strategies in this unit:
- RTI/Extra Support Strategies for students needing extra support in this unit:
- Extension Strategies for students who have mastered core content in this unit:
- Vocabulary Differentiation Strategies
- Unit Project Differentiation

21st Century Skills and Technology

Lessons will include:

- Critical Thinking
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RESOURCES:

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- STEM/STEAM activities
- Go Digital Virtual Lab
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- Vocabulary Cards
- Laboratory investigations
- STEM/STEAM activities
- Go Digital Virtual Lab

New Jersey Student Learning Standards

<http://www.state.nj.us/education/cccs/>

Note to curriculum author- at the end of the composed curricular document, please insert this link to the standards and the 21st Century reference pages- Please delete this message.

Integration of 21st Century Theme(s)

The following websites are sources for the following 21st Century Themes and Skills: <http://www.nj.gov/education/code/current/title6a/chap8.pdf>

<http://www.p21.org/about-us/p21-framework> .

<http://www.state.nj.us/education/cccs/standards/9/index.html>

21st Century Interdisciplinary Themes (into core subjects)

- **Global Awareness**
- **Financial, Economic, Business and Entrepreneurial Literacy**
- **Civic Literacy**
- **Health Literacy**
- **Environmental Literacy**

Learning and Innovation Skills

- **Creativity and Innovation**
- **Critical Thinking and Problem Solving**
- **Communication and Collaboration**

Information, Media and Technology Skills

- **Information Literacy**
- **Media Literacy**
- **ICT (Information, Communications and Technology) Literacy**

Life and Career Skills

- **Flexibility and Adaptability**
- **Initiative and Self-Direction**
- **Social and Cross-Cultural Skills**
- **Productivity and Accountability**
- **Leadership and Responsibility**

Integration of Digital Tools

- **Classroom computers/laptops**
- **Technology Lab**
- **FM system**

- **Other software programs**