

East Newark Public School

**Science Curriculum
Grade 5**



5th Grade Science Curriculum

EAST NEWARK PUBLIC SCHOOL

Course Description

The East Newark Public School fifth grade science program is designed to introduce and develop a foundation in science through six major units of study. The performance expectations in fifth grade help students formulate answers to questions such as: “How can water, ice, wind, and vegetation change the land? What patterns of Earth’s features can be determined with the use of maps? How do internal and external structures support the survival, growth, behavior, and reproduction of plants and animals? What is energy and how is it related to motion? How is energy transferred? How can energy be used to solve a problem?” Students are expected to use a model to describe patterns of waves in terms of amplitude and wavelength, and understand that waves can cause objects to move. Students are expected to develop an understanding of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. Students will apply their knowledge of natural geologic processes to generate and compare multiple solutions to reduce the impacts of such processes on humans. In order to describe patterns of Earth’s features, students analyze and interpret data from maps.

Course Resources

1. Science Fusion
2. Next Generation Science Standards
3. NJSL - <https://www.state.nj.us/education/cccs/2016/science/>
4. New Jersey Center for Teaching and Learning - <https://njctl.org/courses/science/5th-grade-science/>
5. Various leveled nonfiction books for each unit of study

Pacing Guide

Unit	Unit Title	Topics Covered	Standards	Resource
1	Matter and Its Interactions	<ul style="list-style-type: none"> • What Are Solids, Liquids, and Gases? • How Does Water Change? • How Does Matter Change? • What are Mixtures and Solutions? • What is the Atomic Theory? 	5-PS1-1 5-PS1-2 5-PS1-3 5-PS1-4	Science Fusion Think Central
2	Forces and Motion	<ul style="list-style-type: none"> • What Are Forces? • How Do Forces Affect Motion? 	5-PS2-1	Science Fusion Think Central
3	Ecosystems: Interactions, Energy, and Dynamics	<ul style="list-style-type: none"> • What Are Cells? • How Do Cells Work Together? • How Do Our Bodies Move, Breathe, and Circulate Blood? • How Do Our Bodies Digest Food, Remove Wastes, and Send Messages? • How Does the Body Stay Cool? • How Do Plants Grow and Reproduce? • What Factors Affect Germination Rate? • How Do Animals Grow and Reproduce? • What are Physical and Behavioral Adaptations? • What Is An Ecosystem? • What Makes Up a Land Ecosystem? • How Do Environmental Changes Affect Organisms? • How Does Drought Affect Plants? • What Are Roles of Organisms in Ecosystems? • How Does Energy Move Through Ecosystems? • What Role Do Decomposers Play? 	5-LS1-1 5-LS2-1 5-PS3-1	Science Fusion Think Central
4	Earth's Place in the Universe	<ul style="list-style-type: none"> • What Objects Are Part of the Solar System? • How Do We Observe Objects in the Solar System? • What Are Stars and Galaxies? 	5-ESS1-1 5-ESS1-2	Science Fusion Think Central
5	Earth's Systems	<ul style="list-style-type: none"> • How Do Weathering and Erosion Shape Earth's Surface? • How Does Water Change Earth's Surface? • How Do Movements of the Crust 	5-ESS2-1 5-ESS2-2	Science Fusion Think Central

		<p>Change Earth?</p> <ul style="list-style-type: none"> ● How Do Plates Move? ● What Are the Oceans Like? ● How Does Ocean Water Move? 		
6	Earth and Human Activity	<ul style="list-style-type: none"> ● How Do People Use Resources? ● How Do People Conserve Resources? ● How Can We Conserve Natural Resources? 	5-ESS3-1	<p>Science Fusion</p> <p>Think Central</p>

Unit 1: Matter and Its Interactions

Timeframe	September
Overview	Students will understand that all matter has properties that can be observed, described and measured and will develop a model to describe that matter is made of particles too small to be seen. Students will 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. Students will make observations and take measurements to identify materials based on their properties. Additionally, students will conduct an investigation to determine whether the mixing of two or more substances results in new substances.
Resources	<ul style="list-style-type: none"> ● Science Fusion <ul style="list-style-type: none"> ○ Unit 13, Lessons 1-4, 6 ● Inquiry Flipcharts ● Online Database: www.thinkcentral.com <ul style="list-style-type: none"> ○ Digital Lessons ○ Virtual Labs ● Hands-On Activities
Essential Questions	<ol style="list-style-type: none"> 1. What Are Solids, Liquids, and Gases? 2. How Does Water Change? 3. How Does Matter Change? 4. What are Mixtures and Solutions? 5. What is the Atomic Theory?
Essential Learning Outcomes	<ol style="list-style-type: none"> 1. Students will name a common solid, liquid, and gas, and describe the physical properties of each substance. 2. Students will identify two properties that may change during a change of state. 3. Students will describe the differences between physical and chemical changes, and give an example of each. 4. Students will describe two ways that a mixture can be separated. 5. Students will describe the structure of an atom.
Technology Infusion	<ul style="list-style-type: none"> ● 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems ● 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures ● 8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue
Standards	<ul style="list-style-type: none"> ● 5-PS1-1: Develop and 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.

<p>Integrated Accommodations and Modifications</p>	<ul style="list-style-type: none"> ● Special Education Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community. ● English Language Learners <ul style="list-style-type: none"> ● Invite students to explore different points of view on a topic of study and compare ● Integrated and small-group support ● Provide visuals of vocabulary/language ● Provide students with multiple literacy strategies ● Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences) ● 504 Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Encourage creative expression and thinking by allowing students to choose how to approach a problem or assignment ● Gifted & Talented Students <ul style="list-style-type: none"> ● Encourage students to explore concepts in depth and encourage independent studies or investigations ● Modeling or independent student led research
<p>Assessments</p>	<ul style="list-style-type: none"> ● Sum it up/Brain Check (Student Edition-end of each lesson) ● Writing Prompts ● Unit Review ● Unit Quizzes ● Unit Test ● Performance Assessment (Short or Long Option) ● Online Assessment
<p>Integration of 21st Century Learning Skills</p>	<ul style="list-style-type: none"> ● 9.2.8.B.1 Research careers within the 16 Career Clusters and determine attributes of career success. ● 9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career. ● 9.2.8.B.6 Demonstrate understanding of the necessary preparation and legal requirements to enter the workforce. ● 9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions.

	<ul style="list-style-type: none"> ● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP4. Communicate clearly and effectively and with reason. ● CRP5. Consider the environmental, social and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP7: Employ valid and reliable research strategies. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP10. Plan education and career paths aligned to personal goals. ● CRP11: Use technology to enhance productivity.
<p>Career Education</p>	<p>The 12 Career Ready Practices: These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness. This unit addresses standard 9.2 (Career Awareness, Exploration, and Preparation) as it outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.</p>
<p>Interdisciplinary Connections</p>	<ul style="list-style-type: none"> ● The science curriculum includes unifying themes such as systems, changes, and models. These themes combine with connected skills such as using measurement and representations. These themes and skills, along with the shared processes of observing and predicting, provide teachers with a myriad of opportunities for making meaningful cross-curricular connections. ● For example, investigations of local issues can engage students in thinking about science and social science concepts and help develop their understanding of probability and data analysis, which are part of the mathematics standards. Learning, understanding, and using scientific vocabulary allows students to connect their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to achieve the lesson objectives. In addition, teachers may use journals, writing prompts, lab reports, and outlines to provide students with opportunities to write in the science classroom.

Unit 2: Forces and Motion

Timeframe	October
Overview	Students will explain how forces interact with objects to produce motion. They also understand that motion can be observed, measured, and described. Students will supply evidence to support an argument that the gravitational force exerted by Earth on object is directed down. [Clarification Statement: “Down” is a local description of the direction that points toward the center of the spherical Earth.]
Resources	<ul style="list-style-type: none"> ● Science Fusion <ul style="list-style-type: none"> ○ Unit 15, Lessons 1-2 ● Inquiry Flipcharts ● Online Database: www.thinkcentral.com <ul style="list-style-type: none"> ○ Digital Lessons ○ Virtual Labs ● Hands-On Activities
Essential Questions	<ol style="list-style-type: none"> 1. What Are Forces? 2. How Do Forces Affect Motion?
Essential Learning Outcomes	<ol style="list-style-type: none"> 1. Students will demonstrate two common forces. 2. Students will use a pencil to demonstrate how the size of a force affects the motion of an object.
Technology Infusion	<ul style="list-style-type: none"> ● 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems ● 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures ● 8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue
Standards	<ul style="list-style-type: none"> ● 5-PS2-1: Support an argument that the gravitational force exerted by Earth on objects is directed down.
Integrated Accommodations and Modifications	<ul style="list-style-type: none"> ● Special Education Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Structure lessons around questions that are authentic, relate to students’ interests, social/family background and knowledge of their community. ● English Language Learners <ul style="list-style-type: none"> ● Invite students to explore different points of view on a topic of study and compare ● Integrated and small-group support ● Provide visuals of vocabulary/language ● Provide students with multiple literacy strategies ● Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences)

	<ul style="list-style-type: none"> ● 504 Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Encourage creative expression and thinking by allowing students to choose how to approach a problem or assignment ● Gifted & Talented Students <ul style="list-style-type: none"> ● Encourage students to explore concepts in depth and encourage independent studies or investigations ● Modeling or independent student led research
<p>Assessments</p>	<ul style="list-style-type: none"> ● Sum it up/Brain Check (Student Edition-end of each lesson) ● Writing Prompts ● Unit Review ● Unit Quizzes ● Unit Test ● Performance Assessment (Short or Long Option) ● Online Assessment
<p>Integration of 21st Century Learning Skills</p>	<ul style="list-style-type: none"> ● 9.2.8.B.1 Research careers within the 16 Career Clusters and determine attributes of career success. ● 9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career. ● 9.2.8.B.6 Demonstrate understanding of the necessary preparation and legal requirements to enter the workforce. ● 9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions. ● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP4. Communicate clearly and effectively and with reason. ● CRP5. Consider the environmental, social and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP7: Employ valid and reliable research strategies. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP10. Plan education and career paths aligned to personal goals. ● CRP11: Use technology to enhance productivity.
<p>Career Education</p>	<p>The 12 Career Ready Practices: These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness. This unit addresses standard 9.2 (Career Awareness, Exploration, and Preparation) as it outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.</p>

Interdisciplinary Connections

- The science curriculum includes unifying themes such as systems, changes, and models. These themes combine with connected skills such as using measurement and representations. These themes and skills, along with the shared processes of observing and predicting, provide teachers with a myriad of opportunities for making meaningful cross-curricular connections.
- For example, investigations of local issues can engage students in thinking about science and social science concepts and help develop their understanding of probability and data analysis, which are part of the mathematics standards. Learning, understanding, and using scientific vocabulary allows students to connect their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to achieve the lesson objectives. In addition, teachers may use journals, writing prompts, lab reports, and outlines to provide students with opportunities to write in the science classroom.

Unit 3: Ecosystems: Interactions, Energy, and Dynamics

Timeframe	October - January
Overview	Students will understand that cells are the basic building blocks of all living things, and that they can only be observed closely using a microscope. Students will develop an understanding of the systems that allow plants and animals to grow, function, and reproduce. Models will be used to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. They will also provide evidence to support the argument that plants require air, water and sun for survival. Furthermore, students will draw a diagram to explain how matter and energy is cycled throughout an ecosystem.
Resources	<ul style="list-style-type: none"> ● Science Fusion <ul style="list-style-type: none"> ○ Unit 3, Lessons 1, 3-6 ○ Unit 4, Lessons 3-6 ○ Unit 5, Lessons 1-4 ○ Unit 6, Lessons 1-3 ● Inquiry Flipcharts ● Online Database: www.thinkcentral.com <ul style="list-style-type: none"> ○ Digital Lessons ○ Virtual Labs ● Hands-On Activities
Essential Questions	<ol style="list-style-type: none"> 1. What Are Cells? 2. How Do Cells Work Together? 3. How Do Our Bodies Move, Breathe, and Circulate Blood? 4. How Do Our Bodies Digest Food, Remove Wastes, and Send Messages? 5. How Does the Body Stay Cool? 6. How Do Plants Grow and Reproduce? 7. What Factors Affect Germination Rate? 8. How Do Animals Grow and Reproduce? 9. What are Physical and Behavioral Adaptations? 10. What Is An Ecosystem? 11. What Makes Up a Land Ecosystem? 12. How Do Environmental Changes Affect Organisms? 13. How Does Drought Affect Plants? 14. What Are Roles of Organisms in Ecosystems? 15. How Does Energy Move Through Ecosystems? 16. What Role Do Decomposers Play?
Essential Learning Outcomes	<ol style="list-style-type: none"> 1. Students will identify what a cell is. 2. Students will describe how cells work together. 3. Students will describe how our bodies digest food, remove wastes, and send messages. 4. Students will identify how our bodies move, breathe, and circulate blood. 5. Students will name ways for the body to stay cool. 6. Students will describe the role of flowers in angiosperm reproduction. 7. Students will describe the factors that can affect germination. 8. Students will draw the stages of complete and incomplete metamorphosis.

	<ol style="list-style-type: none"> 9. Students will explain the difference between physical and behavioral adaptations, and give an example of each type. 10. Students will identify one organism and explain how it interacts with living and nonliving things in its ecosystem. 11. Students will identify the living and nonliving parts of schoolyard ecosystem. 12. Students will describe an environmental change to an ecosystem, and tell how it affects organisms living there. 13. Students will describe the differences in plant growth during normal conditions, drought conditions, and flood conditions. 14. Students will name two producers and two consumers that are found in the same ecosystem. 15. Students will list the organisms in a particular food chain. 16. Students will tell what happens during the decomposition process.
<p>Technology Infusion</p>	<ul style="list-style-type: none"> ● 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems ● 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures ● 8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue
<p>Standards</p>	<ul style="list-style-type: none"> ● 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 ● 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.
<p>Integrated Accommodations and Modifications</p>	<ul style="list-style-type: none"> ● Special Education Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community. ● English Language Learners <ul style="list-style-type: none"> ● Invite students to explore different points of view on a topic of study and compare ● Integrated and small-group support ● Provide visuals of vocabulary/language ● Provide students with multiple literacy strategies ● Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences) ● 504 Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual

	<p>aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).</p> <ul style="list-style-type: none"> ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Encourage creative expression and thinking by allowing students to choose how to approach a problem or assignment <ul style="list-style-type: none"> ● Gifted & Talented Students <ul style="list-style-type: none"> ● Encourage students to explore concepts in depth and encourage independent studies or investigations ● Modeling or independent student led research
<p>Assessments</p>	<ul style="list-style-type: none"> ● Sum it up/Brain Check (Student Edition-end of each lesson) ● Writing Prompts ● Unit Review ● Unit Quizzes ● Unit Test ● Performance Assessment (Short or Long Option) ● Online Assessment
<p>Integration of 21st Century Learning Skills</p>	<ul style="list-style-type: none"> ● 9.2.8.B.1 Research careers within the 16 Career Clusters and determine attributes of career success. ● 9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career. ● 9.2.8.B.6 Demonstrate understanding of the necessary preparation and legal requirements to enter the workforce. ● 9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions. ● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP4. Communicate clearly and effectively and with reason. ● CRP5. Consider the environmental, social and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP7: Employ valid and reliable research strategies. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP10. Plan education and career paths aligned to personal goals. ● CRP11: Use technology to enhance productivity.
<p>Career Education</p>	<p>The 12 Career Ready Practices: These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness. This unit addresses standard 9.2 (Career Awareness, Exploration, and Preparation) as it outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.</p>
<p>Interdisciplinary Connections</p>	<ul style="list-style-type: none"> ● The science curriculum includes unifying themes such as systems, changes, and models. These themes combine with connected skills such as using measurement and representations. These themes and skills, along with the

shared processes of observing and predicting, provide teachers with a myriad of opportunities for making meaningful cross-curricular connections.

- For example, investigations of local issues can engage students in thinking about science and social science concepts and help develop their understanding of probability and data analysis, which are part of the mathematics standards. Learning, understanding, and using scientific vocabulary allows students to connect their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to achieve the lesson objectives. In addition, teachers may use journals, writing prompts, lab reports, and outlines to provide students with opportunities to write in the science classroom.

Unit 4: Earth's Place in the Universe

Timeframe	February
Overview	Students will explore the universe and its stars and support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth. Students will learn about the Earth and the Solar System and then use 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. Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months.
Resources	<ul style="list-style-type: none"> ● Science Fusion <ul style="list-style-type: none"> ○ Unit 12, Lessons 1-3 ● Inquiry Flipcharts ● Online Database: www.thinkcentral.com <ul style="list-style-type: none"> ○ Digital Lessons ○ Virtual Labs ● Hands-On Activities
Essential Questions	<ol style="list-style-type: none"> 1. What Objects Are Part of the Solar System? 2. How Do We Observe Objects in the Solar System? 3. What Are Stars and Galaxies?
Essential Learning Outcomes	<ol style="list-style-type: none"> 1. Students will list the names of planets and types of other objects orbiting the sun. 2. Students will explain ways that scientists collect data about solar-system objects. 3. Students will describe the differences among stars and draw pictures of the different types of galaxies that they form.
Technology Infusion	<ul style="list-style-type: none"> ● 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems ● 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures ● 8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue
Standards	<ul style="list-style-type: none"> ● 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.
Integrated Accommodations and Modifications	<ul style="list-style-type: none"> ● Special Education Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.

	<ul style="list-style-type: none"> ● English Language Learners <ul style="list-style-type: none"> ● Invite students to explore different points of view on a topic of study and compare ● Integrated and small-group support ● Provide visuals of vocabulary/language ● Provide students with multiple literacy strategies ● Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences) ● 504 Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Encourage creative expression and thinking by allowing students to choose how to approach a problem or assignment ● Gifted & Talented Students <ul style="list-style-type: none"> ● Encourage students to explore concepts in depth and encourage independent studies or investigations ● Modeling or independent student led research
<p>Assessments</p>	<ul style="list-style-type: none"> ● Sum it up/Brain Check (Student Edition-end of each lesson) ● Writing Prompts ● Unit Review ● Unit Quizzes ● Unit Test ● Performance Assessment (Short or Long Option) ● Online Assessment
<p>Integration of 21st Century Learning Skills</p>	<ul style="list-style-type: none"> ● 9.2.8.B.1 Research careers within the 16 Career Clusters and determine attributes of career success. ● 9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career. ● 9.2.8.B.6 Demonstrate understanding of the necessary preparation and legal requirements to enter the workforce. ● 9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions. ● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP4. Communicate clearly and effectively and with reason. ● CRP5. Consider the environmental, social and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP7: Employ valid and reliable research strategies. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP10. Plan education and career paths aligned to personal goals.

	<ul style="list-style-type: none"> ● CRP11: Use technology to enhance productivity.
Career Education	<p>The 12 Career Ready Practices: These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness. This unit addresses standard 9.2 (Career Awareness, Exploration, and Preparation) as it outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.</p>
Interdisciplinary Connections	<ul style="list-style-type: none"> ● The science curriculum includes unifying themes such as systems, changes, and models. These themes combine with connected skills such as using measurement and representations. These themes and skills, along with the shared processes of observing and predicting, provide teachers with a myriad of opportunities for making meaningful cross-curricular connections. ● For example, investigations of local issues can engage students in thinking about science and social science concepts and help develop their understanding of probability and data analysis, which are part of the mathematics standards. Learning, understanding, and using scientific vocabulary allows students to connect their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to achieve the lesson objectives. In addition, teachers may use journals, writing prompts, lab reports, and outlines to provide students with opportunities to write in the science classroom.

Unit 5: Earth's Systems

Timeframe	March - April
Overview	Students will develop a model using an example to describe the ways in which the geosphere, biosphere, hydrosphere, and/or atmosphere interact. Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate. Students will distinguish between water sources and create a graph to compare the availability and amount of freshwater and saltwater that exists on Earth.
Resources	<ul style="list-style-type: none"> ● Science Fusion <ul style="list-style-type: none"> ○ Unit 8, Lessons 1-4 ○ Unit 11, Lessons 1-2 ● Inquiry Flipcharts ● Online Database: www.thinkcentral.com <ul style="list-style-type: none"> ○ Digital Lessons ○ Virtual Labs ● Hands-On Activities
Essential Questions	<ol style="list-style-type: none"> 1. How Do Weathering and Erosion Shape Earth's Surface? 2. How Does Water Change Earth's Surface? 3. How Do Movements of the Crust Change Earth? 4. How Do Plates Move? 5. What Are the Oceans Like? 6. How Does Ocean Water Move?
Essential Learning Outcomes	<ol style="list-style-type: none"> 1. Students will explain the difference between weathering, erosion, and deposition. Give an example of each. 2. Students will describe how water can erode rock. 3. Students will explain how the movements of tectonic plates result in the formation of earthquakes and volcanoes. 4. Students will demonstrate how plates interact at each type of plate boundary. 5. Students will draw a cross-section of the ocean floor and label as many features as you can. 6. Students will explain what causes tides, and when tides are highest and lowest.
Technology Infusion	<ul style="list-style-type: none"> ● 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems ● 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures ● 8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue
Standards	<ul style="list-style-type: none"> ● 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 freshwater in various reservoirs to provide evidence about the distribution of water on Earth.
Integrated Accommodations and Modifications	<ul style="list-style-type: none"> ● Special Education Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual

	<p>aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).</p> <ul style="list-style-type: none"> Extended time for revisions or opportunity to identify and develop areas of personal interest Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community. <ul style="list-style-type: none"> English Language Learners <ul style="list-style-type: none"> Invite students to explore different points of view on a topic of study and compare Integrated and small-group support Provide visuals of vocabulary/language Provide students with multiple literacy strategies Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences) 504 Students <ul style="list-style-type: none"> Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). Extended time for revisions or opportunity to identify and develop areas of personal interest Encourage creative expression and thinking by allowing students to choose how to approach a problem or assignment Gifted & Talented Students <ul style="list-style-type: none"> Encourage students to explore concepts in depth and encourage independent studies or investigations Modeling or independent student led research
<p>Assessments</p>	<ul style="list-style-type: none"> Sum it up/Brain Check (Student Edition-end of each lesson) Writing Prompts Unit Review Unit Quizzes Unit Test Performance Assessment (Short or Long Option) Online Assessment
<p>Integration of 21st Century Learning Skills</p>	<ul style="list-style-type: none"> 9.2.8.B.1 Research careers within the 16 Career Clusters and determine attributes of career success. 9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career. 9.2.8.B.6 Demonstrate understanding of the necessary preparation and legal requirements to enter the workforce. 9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions. CRP1. Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason.

	<ul style="list-style-type: none"> ● CRP5. Consider the environmental, social and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP7: Employ valid and reliable research strategies. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP10. Plan education and career paths aligned to personal goals. ● CRP11: Use technology to enhance productivity.
<p>Career Education</p>	<p>The 12 Career Ready Practices: These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness. This unit addresses standard 9.2 (Career Awareness, Exploration, and Preparation) as it outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.</p>
<p>Interdisciplinary Connections</p>	<ul style="list-style-type: none"> ● The science curriculum includes unifying themes such as systems, changes, and models. These themes combine with connected skills such as using measurement and representations. These themes and skills, along with the shared processes of observing and predicting, provide teachers with a myriad of opportunities for making meaningful cross-curricular connections. ● For example, investigations of local issues can engage students in thinking about science and social science concepts and help develop their understanding of probability and data analysis, which are part of the mathematics standards. Learning, understanding, and using scientific vocabulary allows students to connect their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to achieve the lesson objectives. In addition, teachers may use journals, writing prompts, lab reports, and outlines to provide students with opportunities to write in the science classroom.

Unit 6: Earth and Human Activity

Timeframe	May - June
Overview	Students will understand that natural resources are essential to life and must be used with care. Students will gain an understanding of the various types of natural resources and how/how much they are used across the globe at this time. Students should create a graph to show what areas of the world uses the most natural resources. Students will then investigate how individual communities can work together to protect the Earth's valuable resources and environment.
Resources	<ul style="list-style-type: none"> ● Science Fusion <ul style="list-style-type: none"> ○ Unit 7, Lessons 1-3 ● Inquiry Flipcharts ● Online Database: www.thinkcentral.com <ul style="list-style-type: none"> ○ Digital Lessons ○ Virtual Labs ● Hands-On Activities
Essential Questions	<ol style="list-style-type: none"> 1. How Do People Use Resources? 2. How Do People Conserve Resources? 3. How Can We Conserve Natural Resources?
Essential Learning Outcomes	<ol style="list-style-type: none"> 1. Students will identify three renewable and three nonrenewable resources and tell how you use each one. 2. Students will make a list of ways we could conserve resources, including energy resources, at school. 3. Students will explain how making new paper out of old paper helps conserve resources.
Technology Infusion	<ul style="list-style-type: none"> ● 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems ● 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures ● 8.1.5.A.3 Use a graphic organizer to organize information about a problem or issue
Standards	<ul style="list-style-type: none"> ● 5-ESS3-1: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
Integrated Accommodations and Modifications	<ul style="list-style-type: none"> ● Special Education Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community. ● English Language Learners <ul style="list-style-type: none"> ● Invite students to explore different points of view on a topic of study and compare ● Integrated and small-group support

	<ul style="list-style-type: none"> ● Provide visuals of vocabulary/language ● Provide students with multiple literacy strategies ● Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences) <ul style="list-style-type: none"> ● 504 Students <ul style="list-style-type: none"> ● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Extended time for revisions or opportunity to identify and develop areas of personal interest ● Encourage creative expression and thinking by allowing students to choose how to approach a problem or assignment <ul style="list-style-type: none"> ● Gifted & Talented Students <ul style="list-style-type: none"> ● Encourage students to explore concepts in depth and encourage independent studies or investigations ● Modeling or independent student led research
<p style="text-align: center;">Assessments</p>	<ul style="list-style-type: none"> ● Sum it up/Brain Check (Student Edition-end of each lesson) ● Writing Prompts ● Unit Review ● Unit Quizzes ● Unit Test ● Performance Assessment (Short or Long Option) ● Online Assessment
<p style="text-align: center;">Integration of 21st Century Learning Skills</p>	<ul style="list-style-type: none"> ● 9.2.8.B.1 Research careers within the 16 Career Clusters and determine attributes of career success. ● 9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career. ● 9.2.8.B.6 Demonstrate understanding of the necessary preparation and legal requirements to enter the workforce. ● 9.2.8.B.7 Evaluate the impact of online activities and social media on employer decisions. ● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP4. Communicate clearly and effectively and with reason. ● CRP5. Consider the environmental, social and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP7: Employ valid and reliable research strategies. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP10. Plan education and career paths aligned to personal goals. ● CRP11: Use technology to enhance productivity.

Career Education	<p>The 12 Career Ready Practices: These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness. This unit addresses standard 9.2 (Career Awareness, Exploration, and Preparation) as it outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.</p>
Interdisciplinary Connections	<ul style="list-style-type: none">• The science curriculum includes unifying themes such as systems, changes, and models. These themes combine with connected skills such as using measurement and representations. These themes and skills, along with the shared processes of observing and predicting, provide teachers with a myriad of opportunities for making meaningful cross-curricular connections.• For example, investigations of local issues can engage students in thinking about science and social science concepts and help develop their understanding of probability and data analysis, which are part of the mathematics standards. Learning, understanding, and using scientific vocabulary allows students to connect their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to achieve the lesson objectives. In addition, teachers may use journals, writing prompts, lab reports, and outlines to provide students with opportunities to write in the science classroom.