

East Newark Public School

**Science Curriculum
Kindergarten**



Science Kindergarten

EAST NEWARK PUBLIC SCHOOL

Course Description

Based on the Next Generation Science Standards, the East Newark Public School Kindergarten science program is designed to introduce and develop a foundation in science through seven major units of study. These units are: Weather, Pushes and Pulls, Effects of the Sun, Basic Needs of Life, and Basic Needs of Humans.

The performance expectations in kindergarten help students formulate answers to questions such as: “What are living things? What are animals like? What are some plant parts? How do plants grow and change? What are rocks? What is water? What is sound? What is light? What is heat? How do we describe a location? How do things move? How do we use our senses? How do we use our science skills? What is in the day sky? What is in the night sky? What is weather? How can we measure weather? What are the seasons?”

Students are expected to develop understanding of patterns and variations in local weather and the purpose of weather forecasting to prepare for, and respond to, severe weather. Students are able to apply an understanding of the effects of different strengths or different directions of pushes and pulls on the motion of an object to analyze a design solution. Students are also expected to develop understanding of what plants and animals (including humans) need to survive and the relationship between their needs and where they live. The crosscutting concepts of patterns; cause and effect; systems and system models; interdependence of science, engineering, and technology; and influence of engineering, technology, and science on society and the natural world are called out as organizing concepts for these disciplinary core ideas. In the kindergarten performance expectations, students are expected to demonstrate grade-appropriate proficiency in asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information. Students are expected to use these practices to demonstrate understanding of the core ideas (Next Generation Science Standards).

Course Resources

1. Science Fusion Teacher Edition
2. Science Fusion Student Edition
3. Inquiry Flipchart
4. www.thinkcentral.com
5. Digital Lessons
6. Virtual Lab
7. SMARTboard

Pacing Guide

Unit #	Unit Title	Standards	Resources
1	Weather	K-ESS2-1 K-ESS3-2 K-2-ETS1-1	Science Fusion
2	Pushes and Pulls	K-PS2-1 K-PS2-2 K-2-ETS1-3	Science Fusion
3	Effects of the Sun	K-PS3-1 K-PS3-2 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	Science Fusion
4	Basic Needs of Life	K-LS1-1 K-ESS3-1 K-ESS2-2	Science Fusion
5	Basic Needs of Human	K-ESS3-3 K-2-ETS1-1	Science Fusion

Unit 1: Weather

Timeframe	September - November
Overview	<p>In this unit of study, students develop an understanding of patterns and variations in local weather and the use of weather forecasting to prepare for and respond to severe weather. The crosscutting concepts of patterns; cause and effect; interdependence of science, engineering, and technology; and the influence of engineering, technology, and science on society and the natural world are called out as organizing concepts for the disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in asking questions, analyzing and interpreting data, and obtaining, evaluating, and communicating information. Students are also expected to use these practices to demonstrate understanding of the core ideas.</p>
Resources	<ul style="list-style-type: none">● Science Fusion Teacher Edition (Chapter 1: Doing Science, Chapter 5: Day and Night, and Chapter 7: Weather and the Seasons)● Science Fusion Student Edition (Chapter 1: Doing Science, Chapter 5: Day and Night, and Chapter 7: Weather and the Seasons)● Inquiry Flipchart● www.thinkcentral.com● Digital Lessons● Virtual Lab● SMARTboard
Essential Questions	<ul style="list-style-type: none">● How do we use our senses?● How do we use our science skills?● How do we use our science tools?● What is in the day sky?● What is in the night sky?● What is weather?● How can we measure weather?● What are the seasons?
Essential Learning Outcomes	<ul style="list-style-type: none">● Students will identify and describe the five senses.● Students will demonstrate how science processes can be used to describe things and investigate questions.● Students will recognize how science tools help in investigations.● Students will observe and describe what the sky looks like during the day.● Students will describe the night sky and identify objects in the night sky.● Students will observe and describe day-to-day weather changes.

	<ul style="list-style-type: none"> ● Students will identify and demonstrate the use of a thermometer and a windsock. ● Students will identify and demonstrate the characteristics of the four seasons.
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 problem or issue ● 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data
Standards	<ul style="list-style-type: none"> ● K-ESS2-1 Use and share observations of local weather conditions to describe patterns over time. ● K-ESS3-2 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. ● K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
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

	<p>backgrounds and cultures (e.g. multiple representation and multimodal experiences)</p> <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 style="text-align: center;">Assessments</p>	<ul style="list-style-type: none"> ● Sum it up (Student Edition-end of each lesson) ● Unit Wrap-Up ● Unit Test ● Performance Assessment
<p style="text-align: center;">Integration of 21st Century Learning Skills</p>	<ul style="list-style-type: none"> ● 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals. ● 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community. ● 9.2.4.A.3 Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes. ● 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success. ● 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.

	<ul style="list-style-type: none"> ● 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 curricular connections across disciplines. ● 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 parts of the mathematics standards. Learning, understanding, and using scientific vocabulary allows to students to attach their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to meet the lesson objectives. In addition, teachers may use journals, night writes, lab reports, and outlines to provide students with opportunities to write in the science classroom.

Unit 2: Pushes and Pulls

Timeframe	December - January
Overview	During this unit of study, students apply an understanding of the effects of different strengths or different directions of pushes and pulls on the motion of an object to analyze a design solution. The crosscutting concept of cause and effect is called out as the organizing concept for this disciplinary core idea. Students are expected to demonstrate grade-appropriate proficiency in planning and carrying out investigations and analyzing and interpreting data. Students are also expected to use these practices to demonstrate understanding of the core ideas.
Resources	<ul style="list-style-type: none"> ● Science Fusion Teacher Edition (Chapter 9: Energy and Chapter 10: Motion) ● Science Fusion Student Edition (Chapter 9: Energy and Chapter 10: Motion) ● Inquiry Flipchart ● www.thinkcentral.com ● Digital Lessons ● Virtual Lab ● SMARTboard
Essential Questions	<ul style="list-style-type: none"> ● What is sound? ● What is light? ● What is heat? ● How do we describe a location? ● How do things move? ● How can we change the way things move? ● Which objects do magnets attract?
Essential Learning Outcomes	<ul style="list-style-type: none"> ● Students will observe that sound is made when objects vibrate. ● Students will recognize the sun as Earth's source of light. ● Students will recognize that sound, light, and heat are kinds of energy. ● Students will use position terms such as above, below, behind, in front of, and beside to describe the location of something. ● Students will observe and describe movements as fast or slow. ● Students will identify push and pull as ways to move things. ● Students will sort objects according to whether or not a magnet attracts them.
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

	<ul style="list-style-type: none"> ● 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue ● 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data
<p style="text-align: center;">Standards</p>	<ul style="list-style-type: none"> ● K-PS2-1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. ● K-PS2-2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull. ● K-2-ETS1-3 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
<p style="text-align: center;">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

	<ul style="list-style-type: none"> ● 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
Assessments	<ul style="list-style-type: none"> ● Sum it up (Student Edition-end of each lesson) ● Unit Wrap-Up ● Unit Test ● Performance Assessment
Integration of 21st Century Learning Skills	<ul style="list-style-type: none"> ● 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals. ● 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community. ● 9.2.4.A.3 Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes. ● 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success. ● 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</p>

	informed about postsecondary and career options, career planning, and career requirements.
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 curricular connections across disciplines.• 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 parts of the mathematics standards. Learning, understanding, and using scientific vocabulary allows to students to attach their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to meet the lesson objectives. In addition, teachers may use journals, night writes, lab reports, and outlines to provide students with opportunities to write in the science classroom.

Unit 3: Effects of the Sun

Timeframe	February
Overview	During this unit of study, students apply an understanding of the effects of the sun on the Earth's surface. The crosscutting concepts of cause and effect and structure and function are called out as organizing concepts for this disciplinary core idea. Students are expected to demonstrate grade appropriate proficiency in developing and using models; planning and carrying out investigations; analyzing and interpreting data; and designing solutions. Students are also expected to use these practices to demonstrate understanding of the core ideas.
Resources	<ul style="list-style-type: none"> ● Science Fusion Teacher Edition (Chapter 6: Earth's Resource) ● Science Fusion Student Edition (Chapter 6: Earth's Resource) ● Inquiry Flipchart ● www.thinkcentral.com ● Digital Lessons ● Virtual Lab ● SMARTboard
Essential Questions	<ul style="list-style-type: none"> ● What are rocks? ● What is water? ● How do we use and conserve natural resources?
Essential Learning Outcomes	<ul style="list-style-type: none"> ● Students will observe and describe rocks. ● Students will recognize that water is found in lakes, rivers, ponds, and oceans. ● Students will identify some natural 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 problem or issue ● 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data
Standards	<ul style="list-style-type: none"> ● K-PS3-1 Make observations to determine the effect of sunlight of Earth's surface. ● K-PS3-2 Use tools and materials provided to design and build a structure that will reduce the warming effect of sunlight on Earth's surface.

	<ul style="list-style-type: none"> ● K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. ● K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
<p style="text-align: center;">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 style="text-align: center;">Assessments</p>	<ul style="list-style-type: none"> ● Sum it up (Student Edition-end of each lesson)

	<ul style="list-style-type: none"> ● Unit Wrap-Up ● Unit Test ● Performance Assessment
<p>Integration of 21st Century Learning Skills</p>	<ul style="list-style-type: none"> ● 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals. ● 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community. ● 9.2.4.A.3 Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes. ● 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success. ● 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 curricular connections across disciplines.

- 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 parts of the mathematics standards. Learning, understanding, and using scientific vocabulary allows to students to attach their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to meet the lesson objectives. In addition, teachers may use journals, night writes, lab reports, and outlines to provide students with opportunities to write in the science classroom.

Unit 4 - Basic Needs of Life

Timeframe	March - April
Overview	In this unit of study, students develop an understanding of what plants and animals need to survive and the relationship between their needs and where they live. Students compare and contrast what plants and animals need to survive and the relationship between the needs of living things and where they live. The crosscutting concepts of patterns and systems and system models are called out as organizing concepts for these disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in developing and using models, analyzing and interpreting data, and engaging in argument from evidence. Students are also expected to use these practices to demonstrate understanding of the core ideas.
Resources	<ul style="list-style-type: none"> ● Science Fusion Teacher Edition (Chapter 3: Plants) ● Science Fusion Student Edition (Chapter 3: Plants) ● Inquiry Flipchart ● www.thinkcentral.com ● Digital Lessons ● Virtual Lab ● SMARTboard
Essential Questions	<ul style="list-style-type: none"> ● What are plants like? ● What do plants need? ● What are some plant parts? ● How do plants grow and change?
Essential Learning Outcomes	<ul style="list-style-type: none"> ● Students will sort plants into groups based on their physical characteristics. ● Students will recognize that plants need water, air, light, soil, and space to grow. ● Students will recognize that stems, roots, leaves, flowers, fruits and seeds are parts of plants. ● Students will observe stages that are part of the life cycle of a plant: seed, seedling, plant, flower, and fruit.
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 problem or issue

	<ul style="list-style-type: none"> ● 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data
<p>Standards</p>	<ul style="list-style-type: none"> ● K-LS1-1 Use observation to describe patterns of what plants and animals need to survive. ● K-ESS3-1 Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live. ● K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
<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
Assessments	<ul style="list-style-type: none"> ● Sum it up (Student Edition-end of each lesson) ● Unit Wrap-Up ● Unit Test ● Performance Assessment
Integration of 21st Century Learning Skills	<ul style="list-style-type: none"> ● 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals. ● 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community. ● 9.2.4.A.3 Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes. ● 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success. ● 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

- 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 curricular connections across disciplines.
- 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 parts of the mathematics standards. Learning, understanding, and using scientific vocabulary allows to students to attach their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to meet the lesson objectives. In addition, teachers may use journals, night writes, lab reports, and outlines to provide students with opportunities to write in the science classroom.

Unit 5 - Basic Needs of Humans

Timeframe	May - June
Overview	In this unit of study, students develop an understanding of what humans need to survive and the relationship between their needs and where they live. The crosscutting concept of cause and effect is called out as the organizing concept for the disciplinary core ideas. Students demonstrate grade-appropriate proficiency in asking questions and defining problems, and in obtaining, evaluating, and communicating information. Students are also expected to use these practices to demonstrate understanding of the core ideas.
Resources	<ul style="list-style-type: none"> ● Science Fusion Teacher Edition (Chapter 2: Animals and Chapter 4: Habitats) ● Science Fusion Student Edition (Chapter 2: Animals and Chapter 4: Habitats) ● Inquiry Flipchart ● www.thinkcentral.com ● Digital Lessons ● Virtual Lab ● SMARTboard
Essential Questions	<ul style="list-style-type: none"> ● What are living things? ● What is real? What is pretend? ● What are animals like? ● What do animals need? ● How do animals grow and change? ● Where do animals and plants live? ● Why do animals and plants need one another?
Essential Learning Outcomes	<ul style="list-style-type: none"> ● Students will classify things as living and nonliving. ● Students identify characteristics of real animals and plants and pretend animals and plants. ● Students will compare animals by size, shape, or body coverings. ● Students will observe and illustrate what an animal needs. ● Students will recognize that some young animals look like their parents and some do not. ● Students will understand that animals and plants are found in different habitats and environments. ● Students will describe how many animals and plants depend on one another.
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

	<ul style="list-style-type: none"> ● 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 problem or issue ● 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data
<p style="text-align: center;">Standards</p>	<ul style="list-style-type: none"> ● K-ESS3-3 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. ● K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
<p style="text-align: center;">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

	<ul style="list-style-type: none"> ● 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 style="text-align: center;">Assessments</p>	<ul style="list-style-type: none"> ● Sum it up (Student Edition-end of each lesson) ● Unit Wrap-Up ● Unit Test ● Performance Assessment
<p style="text-align: center;">Integration of 21st Century Learning Skills</p>	<ul style="list-style-type: none"> ● 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals. ● 9.2.4.A.2 Identify various life roles and civic and work-related activities in the school, home, and community. ● 9.2.4.A.3 Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes. ● 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success. ● 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 style="text-align: center;">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</p>

	informed about postsecondary and career options, career planning, and career requirements.
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 curricular connections across disciplines.• 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 parts of the mathematics standards. Learning, understanding, and using scientific vocabulary allows to students to attach their ideas to content specific words and phrases. Students must understand appropriate levels of scientific terminology to be able to meet the lesson objectives. In addition, teachers may use journals, night writes, lab reports, and outlines to provide students with opportunities to write in the science classroom.