



**SPRING GROVE AREA SCHOOL DISTRICT**



**PLANNED COURSE OVERVIEW**

<b>Course Title:</b> Science <b>Grade Level(s):</b> 3 <b>Units of Credit:</b> NA <b>Classification:</b> Required	<b>Length of Course:</b> Full Year <b>Periods Per Cycle:</b> 6 <b>Length of Period:</b> 30 Minutes <b>Total Instructional Time:</b> 90 Hours
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**Course Description**

This course provides students with a foundation of skills in Life, Earth, Physical Science, Environmental Literacy and Sustainability, and Engineering and Technology.

**Instructional Strategies, Learning Practices, Activities, and Experiences**

Anchor Charts Anticipatory Sets Bell Ringers Class Discussions Closure Critical Thinking Graphic Organizers Guided Reading Higher Level Questioning Homework	Interaction Sequence Internet Research Journals Paper and Pencil Activities Posted Objectives Practice Exercises Presentations PSSA Released Materials Question-Answer Relationships Quizzes	Reports and Speeches Research Small Group Interventions Teacher Demonstrations Teacher Made Tests Technology Integration Videos / DVDs Wait Time Wait Time Extended
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**Assessments**

Homework Oral Projects Presentations	Projects Reports Teacher Observations	Teacher Made Tests and Quizzes PSSA Practice Materials PSSA Item Samplers
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**Materials/Resources**

Core Knowledge Science Guest Speakers Internet	Leveled Readers Resource Books SAS (Standards Aligned System)	Supplemental Readings Videos / DVDs
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**Adopted:** 1/27/88

**Revised:** 9/3/91, 12/8/97, 11/15/01, 5/19/14, 5/22/23

<b>3.1 Life Sciences</b>	
<b>CONTENT/KEY CONCEPTS</b>	<b>OBJECTIVES/STANDARDS</b>
Growth and Development of Organisms Social Interactions and Group Behavior Inheritance of Traits Variation of Traits  Taught using Core Knowledge Unit Life Cycles, Traits, and Variations Lessons 1-14	3.1.3.A - Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.  3.1.3.B - Construct an argument that some animals have physical and behavioral adaptations that help members survive.  3.1.3.C - Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.  3.1.3.D - Use evidence to support the explanation that traits can be influenced by the environment.

Life Sciences - Cont'd	
CONTENT/KEY CONCEPTS	OBJECTIVES/STANDARDS
<p>Evidence of Common Ancestry and Diversity</p> <p>Natural Selection</p> <p>Adaptation</p> <p>Biodiversity and Humans</p> <p>Taught using Core Knowledge Unit Habitats and Change Lessons 1-6 and 13-16</p>	<p>3.1.3.E - Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.</p> <p>3.1.3.F - Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.</p> <p>3.1.3.G - Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.</p> <p>3.1.3.H - Make a claim supported by evidence 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.</p>

3.2 Physical Sciences	
CONTENT/KEY CONCEPTS	OBJECTIVES/STANDARDS
<p>Forces and Interactions</p> <p>Types of Interactions</p> <p>Taught using Core Knowledge Unit Investigating Forces Lessons 1-3, 6-9</p>	<p>3.2.3.A - Make and communicate observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.</p> <p>3.2.3.B - Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.</p> <p>3.2.3.C - Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.</p> <p>3.2.3.D - Define a simple design problem that can be solved by applying scientific ideas about magnets.</p>

<b>3.3 Earth and Space Sciences</b>	
<b>CONTENT/KEY CONCEPTS</b>	<b>OBJECTIVES/STANDARDS</b>
Weather and Climate  Natural Hazards  Taught using Core Knowledge Unit – Weather and Climate Lessons 7-13	3.3.3.A - Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.  3.3.3.B - Obtain and combine information to describe climates in different regions of the world.  3.3.3.C - Make a claim supported by evidence about the merit of a design solution that reduces the impacts of a weather-related hazard.

<b>3.4 Environmental Literacy and Sustainability</b>	
<b>CONTENT/KEY CONCEPTS</b>	<b>OBJECTIVES/STANDARDS</b>
Agricultural and Environmental Systems and Resources – Agricultural Systems	3.4.3-5.A – Analyze how living organisms, including humans, affect the environment in which they live, and how their environment affects them.
Agricultural and Environmental Systems and Resources – Environment and Society	3.4.3-5.B – Make a claim about the environmental and societal impacts of design solutions and civic actions, including their own actions.
Agricultural and Environmental Systems and Resources – Watersheds and Wetlands	3.4.3-5.C – Examine ways you influence your local environment and community by collecting and displaying data.
Environmental Literacy Skills – Investigating Environmental Issues	3.4.3-5.D – Develop a model to demonstrate how local environmental issues are connected to larger environment and human systems.
Environmental Literacy Skills – Evaluating Solutions	3.4.3-5.E – Construct an argument to support whether action is needed on a selected environmental issue and propose possible solutions.
Sustainability and Stewardship – Environmental Stewardship	3.4.3-5.F – Critique ways that people depend on and change the environment.
Sustainability and Stewardship – Environmental Justice	3.4.3-5.G – Investigate how perspectives over the use of resources and the development of technology have changed over time and resulted in conflict over the development of societies and nations.
Taught using Lecture, problem-based learning, demonstrations, and collaborative learning	

<b>3.5 Technology and Engineering</b>	
<b>CONTENT/KEY CONCEPTS</b>	<b>OBJECTIVES/STANDARDS</b>
<p>Applying, Maintaining, and Assessing Technological Products and Systems</p> <p>Impacts of Technology</p> <p>Influence of Society on Technological Development</p> <p>Design and Design Thinking in Technology and Engineering Education</p> <p>Integration of Knowledge, Technologies, and Practices</p> <p>Taught using NGSS lessons using hands on inquiry and design, demonstration, problem-based learning, and collaborative learning</p>	<p>3.5.3-5.A - Use appropriate symbols, numbers, and words to communicate key ideas about technological products and systems.</p> <p>3.5.3-5.B - Examine information to assess the trade-offs to using a product or system.</p> <p>3.5.3-5.C - Follow directions to complete a technological task.</p> <p>3.5.3-5.F - Classify resources used to create technologies as either renewable or nonrenewable.</p> <p>3.5.3-5.I - Design solutions by safely using tools, materials, and skills.</p> <p>3.5.3-5.K - Judge technologies to determine the best one to use to complete a given task or meet a need.</p> <p>3.5.3-5.L - Demonstrate how tools and machines extend human capabilities, such as holding, lifting, carrying, fastening, separating, and computing.</p> <p>3.5.3-5.M - Demonstrate essential skills of the engineering design process.</p> <p>3.5.3-5.N - Identify why a product or system is not working properly.</p> <p>3.5.3-5.O - Describe requirements of designing or making a product or system.</p> <p>3.5.3-5.P - Evaluate the strengths and weaknesses of existing design solutions, including their own solutions.</p> <p>3.5.3-5.Q - Practice successful design skills.</p> <p>3.5.3-5.R - Apply tools, techniques, and materials in a safe manner as part of the design process.</p> <p>3.5.3-5.S - Illustrate that there are multiple approaches to design.</p> <p>3.5.3-5.T - Apply universal principles and elements of design.</p> <p>3.5.3-5.U - Evaluate designs based on criteria, constraints, and standards.</p> <p>3.5.3-5.V - Interpret how good design improves the human condition.</p> <p>3.5.3-5.W - Describe the properties of different materials.</p> <p>3.5.3-5.X - Explain how various relationships can exist between technology and engineering and other content areas.</p>

<b>3.5 – Technology and Engineering</b>	
<b>CONTENT/KEY CONCEPTS</b>	<b>OBJECTIVES/STANDARDS</b>
<p>Integration of Knowledge, Technologies, and Practices</p> <p>Nature and Characteristics of Technology and Engineering</p> <p>Core Concepts of Technology and Engineering</p> <p>History of Technology</p> <p>Taught using Create a New Device Project, collaborative learning, problem-based learning, and demonstration</p>	<p>3.5.3-5.Y - Identify the resources needed to get a technical job done, such as people, materials, capital, tools, machines, knowledge, energy, and time.</p> <p>3.5.3-5.Z - Create a new product that improves someone's life.</p> <p>3.5.3-5.AA - Create representations of the tools people made, how they cultivated to provide food, made clothing, and built shelters to protect themselves.</p> <p>3.5.3-5.BB - Illustrate how, when parts of a system are missing, it may not work as planned.</p> <p>3.5.3-5.CC - Describe how a subsystem is a system that operates as a part of another larger system.</p> <p>3.5.3-5.DD - Demonstrate how simple technologies are often combined to form more complex systems.</p> <p>3.5.3-5.EE - Explain how solutions to problems are shaped by economic, political, and cultural forces.</p>