

**EAST NEWARK PUBLIC SCHOOLS**

**SCIENCE CURRICULUM**

**GRADES K-2**

**REVISED 2013**

**(Adopted 2011)**

**RESOURCES:**

The text used is *ScienceFusion*, which is organized by five major strands of science. Each strand includes Big Ideas that flow throughout all grade levels and build in rigor as students move to higher grades.

**ESSENTIAL QUESTIONS:**

By incorporating Essential Questions, students will be able to reach a deeper understanding of the material in each course and thus not only retain the information, but also be able transfer the knowledge to different situations as needed.

**COURSE EVALUATION:**

Students will be evaluated by multiple criteria, which may include:

- Chapter/Unit Tests & Quizzes
- Unit Performance Assessments
- Class work assignments/investigations
- Written student reflections
- Teacher observation
- Class participation as determined by teacher

The New Jersey Core Content

**Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects:** [http://www.corestandards.org/the\\_standards](http://www.corestandards.org/the_standards)

**New Jersey Core Curriculum Content Standards for Science (2009)**

<b>Content Area</b>	<b>Science</b>		
<b>Standard</b>	<b>5.1 Science Practices:</b> Science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.		
<b>Strand</b>	<b>A. Understand Scientific Explanations:</b> Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Who, what, when, where, why, and how questions form the basis for young learners' investigations during sensory explorations, experimentation, and focused inquiry.	5.1.P.A.1	Display curiosity about science objects, materials, activities, and longer-term investigations in progress.
4	Fundamental scientific concepts and principles and the links between them are more useful than discrete facts.	5.1.4.A.1	Demonstrate understanding of the interrelationships among fundamental concepts in the physical, life, and Earth systems sciences.
4	Connections developed between fundamental concepts are used to explain, interpret, build, and refine explanations, models, and theories.	5.1.4.A.2	Use outcomes of investigations to build and refine questions, models, and explanations.
4	Outcomes of investigations are used to build and refine questions, models, and explanations.	5.1.4.A.3	Use scientific facts, measurements, observations, and patterns in nature to build and critique scientific arguments.

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<b>Strand</b>	<b>B. Generate Scientific Evidence Through Active Investigations:</b> Students master the conceptual, mathematical, physical, and computational tools that need to be applied when constructing and evaluating claims.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations and investigations form young learners' understandings of science concepts.	5.1.P.B.1	Observe, question, predict, and investigate materials, objects, and phenomena (e.g., using simple tools to crack a nut and look inside) during indoor and outdoor classroom activities and during any longer-term investigations.
P	Experiments and explorations provide opportunities for young learners to use science vocabulary and scientific terms.	5.1.P.B.2	Use basic science terms and topic-related science vocabulary.
P	Experiments and explorations give young learners opportunities to use science tools and technology.	5.1.P.B.3	Identify and use basic tools and technology to extend exploration in conjunction with science investigations.
4	Building and refining models and explanations requires generation and evaluation of evidence.	5.1.4.B.1	Design and follow simple plans using systematic observations to explore questions and predictions.
4	Tools and technology are used to gather, analyze, and communicate results.	5.1.4.B.2	Measure, gather, evaluate, and share evidence using tools and technologies.
4	Evidence is used to construct and defend arguments.	5.1.4.B.3	Formulate explanations from evidence.
4	Reasoning is used to support scientific conclusions.	5.1.4.B.4	Communicate and justify explanations with reasonable and logical arguments.

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<b>Strand</b>	<b>C. Reflect on Scientific Knowledge:</b> Scientific knowledge builds on itself over time.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Interacting with peers and adults to share questions and explorations about the natural world builds young learners' scientific knowledge.	5.1.P.C.1	Communicate with other children and adults to share observations, pursue questions, and make predictions and/or conclusions.
4	Scientific understanding changes over time as new evidence and updated arguments emerge.	5.1.4.C.1	Monitor and reflect on one's own knowledge regarding how ideas change over time.
4	Revisions of predictions and explanations occur when new arguments emerge that account more completely for available evidence.	5.1.4.C.2	Revise predictions or explanations on the basis of learning new information.
4	Scientific knowledge is a particular kind of knowledge with its own sources, justifications, and uncertainties.	5.1.4.C.3	Present evidence to interpret and/or predict cause-and-effect outcomes of investigations.

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<b>Strand</b>	<b>D. Participate Productively in Science:</b> The growth of scientific knowledge involves critique and communication, which are social practices that are governed by a core set of values and norms.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Science practices include drawing or “writing” on observation clipboards, making rubbings, or charting the growth of plants.	5.1.P.D.1	Represent observations and work through drawing, recording data, and “writing.”
4	Science has unique norms for participation. These include adopting a critical stance, demonstrating a willingness to ask questions and seek help, and developing a sense of trust and skepticism.	5.1.4.D.1	Actively participate in discussions about student data, questions, and understandings.
4	In order to determine which arguments and explanations are most persuasive, communities of learners work collaboratively to pose, refine, and evaluate questions, investigations, models, and theories (e.g., scientific argumentation and representation).	5.1.4.D.2	Work collaboratively to pose, refine, and evaluate questions, investigations, models, and theories.
4	Instruments of measurement can be used to safely gather accurate information for making scientific comparisons of objects and events.	5.1.4.D.3	Demonstrate how to safely use tools, instruments, and supplies.
4	Organisms are treated humanely, responsibly, and ethically.	5.1.4.D.4	Handle and treat organisms humanely, responsibly, and ethically.

<b>Content Area</b>	<b>Science</b>		
<b>Standard</b>	<b>5.2 Physical Science:</b> Physical science principles, including fundamental ideas about matter, energy, and motion, are powerful conceptual tools for making sense of phenomena in physical, living, and Earth systems science.		
<b>Strand</b>	<b>A. Properties of Matter:</b> All objects and substances in the natural world are composed of matter. Matter has two fundamental properties: matter takes up space, and matter has inertia.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations and investigations form a basis for young learners' understanding of the properties of matter.	5.2.P.A.1	Observe, manipulate, sort, and describe objects and materials (e.g., water, sand, clay, paint, glue, various types of blocks, collections of objects, simple household items that can be taken apart, or objects made of wood, metal, or cloth) in the classroom and outdoor environment based on size, shape, color, texture, and weight.
2	Living and nonliving things are made of parts and can be described in terms of the materials of which they are made and their physical properties.	5.2.2.A.1	Sort and describe objects based on the materials of which they are made and their physical properties.
2	Matter exists in several different states; the most commonly encountered are solids, liquids, and gases. Liquids take the shape of the part of the container they occupy. Solids retain their shape regardless of the container they occupy.	5.2.2.A.2	Identify common objects as solids, liquids, or gases.

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<b>Strand</b>	<b>B. Changes in Matter:</b> Substances can undergo physical or chemical changes to form new substances. Each change involves energy.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations and investigations form a basis for young learners' understanding of changes in matter.	5.2.P.B.1	Explore changes in liquids and solids when substances are combined, heated, or cooled (e.g., mix sand or clay with various amounts of water; mix different colors of tempera paints; freeze and melt water and other liquids).
2	Some properties of matter can change as a result of processes such as heating and cooling. Not all materials respond the same way to these processes.	5.2.2.B.1	Generate accurate data and organize arguments to show that not all substances respond the same way when heated or cooled, using common materials, such as shortening or candle wax.



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<b>Strand</b>	<b>C. Forms of Energy:</b> Knowing the characteristics of familiar forms of energy, including potential and kinetic energy, is useful in coming to the understanding that, for the most part, the natural world can be explained and is predictable.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations and investigations form a basis for young learners' understanding of forms of energy.	5.2.P.C.1	Investigate sound, heat, and light energy (e.g., the pitch and volume of sound made by commercially made and homemade instruments, looking for shadows on the playground over time and under different weather conditions) through one or more of the senses.
2	The Sun warms the land, air, and water.	5.2.2.C.1	Compare, citing evidence, the heating of different colored objects placed in full sunlight.
2	An object can be seen when light strikes it and is reflected to a viewer's eye. If there is no light, objects cannot be seen.	5.2.2.C.2	Apply a variety of strategies to collect evidence that validates the principle that if there is no light, objects cannot be seen.
2	When light strikes substances and objects through which it cannot pass, shadows result.	5.2.2.C.3	Present evidence that represents the relationship between a light source, solid object, and the resulting shadow.

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<b>Strand</b>	<b>D. Energy Transfer and Conservation:</b> The conservation of energy can be demonstrated by keeping track of familiar forms of energy as they are transferred from one object to another.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
2	Batteries supply energy to produce light, sound, or heat.	5.2.2.D.1	Predict and confirm the brightness of a light, the volume of sound, or the amount of heat when given the number of batteries, or the size of batteries.

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<b>Strand</b>	<b>E. Forces and Motion:</b> It takes energy to change the motion of objects. The energy change is understood in terms of forces.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations and investigations form a basis for young learners' understanding of motion.	5.2.P.E.1	Investigate how and why things move (e.g., slide blocks, balance structures, push structures over, use ramps to explore how far and how fast different objects move or roll).
2	Objects can move in many different ways (fast and slow, in a straight line, in a circular path, zigzag, and back and forth).	5.2.2.E.1	Investigate and model the various ways that inanimate objects can move.
2	A force is a push or a pull. Pushing or pulling can move an object. The speed an object moves is related to how strongly it is pushed or pulled. When an object does not move in response to a push or a pull, it is because another push or pull (friction) is being applied by the environment.	5.2.2.E.2	Predict an object's relative speed, path, or how far it will travel using various forces and surfaces.
2	Some forces act by touching, while other forces can act without touching.	5.2.2.E.3	Distinguish a force that acts by direct contact with an object (e.g., by pushing or pulling) from a force that can act without direct contact (e.g., the attraction between a magnet and a steel paper clip).

<b>Content Area</b>	<b>Science</b>		
<b>Standard</b>	<b>5.3 Life Science:</b> Life science principles are powerful conceptual tools for making sense of the complexity, diversity, and interconnectedness of life on Earth. Order in natural systems arises in accordance with rules that govern the physical world, and the order of natural systems can be modeled and predicted through the use of mathematics.		
<b>Strand</b>	<b>A. Organization and Development:</b> Living organisms are composed of cellular units (structures) that carry out functions required for life. Cellular units are composed of molecules, which also carry out biological functions.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations and discussions about the natural world form a basis for young learners' understanding of life science.	5.3.P.A.1	Investigate and compare the basic physical characteristics of plants, humans, and other animals.
P	Observations and discussions form a basis for young learners' understanding of the similarities and differences among living and nonliving things.	5.3.P.A.2	Observe similarities and differences in the needs of various living things, and differences between living and nonliving things.
2	Living organisms: <ul style="list-style-type: none"> <li>• Exchange nutrients and water with the environment.</li> <li>• Reproduce.</li> <li>• Grow and develop in a predictable manner.</li> </ul>	5.3.2.A.1	Group living and nonliving things according to the characteristics that they share.

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<b>Strand</b>	<b>B. Matter and Energy Transformations:</b> Food is required for energy and building cellular materials. Organisms in an ecosystem have different ways of obtaining food, and some organisms obtain their food directly from other organisms.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Investigations form a young learners' understanding of how a habitat provides for an organism's energy needs.	5.3.P.B.1	Observe and describe how plants and animals obtain food from their environment, such as by observing the interactions between organisms in a natural habitat.
2	A source of energy is needed for all organisms to stay alive and grow. Both plants and animals need to take in water, and animals need to take in food. Plants need light.	5.3.2.B.1	Describe the requirements for the care of plants and animals related to meeting their energy needs.
2	Animals have various ways of obtaining food and water. Nearly all animals drink water or eat foods that contain water.	5.3.2.B.2	Compare how different animals obtain food and water.
2	Most plants have roots to get water and leaves to gather sunlight.	5.3.2.B.3	Explain that most plants get water from soil through their roots and gather light through their leaves.

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<b>Strand</b>	<b>C. Interdependence:</b> All animals and most plants depend on both other organisms and their environment to meet their basic needs.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Investigations and observations of the interactions between plants and animals form a basis for young learners' understanding of interdependence in life science.	5.3.P.C.1	Observe and describe how natural habitats provide for the basic needs of plants and animals with respect to shelter, food, water, air, and light (e.g., dig outside in the soil to investigate the kinds of animal life that live in and around the ground).
2	Organisms interact and are interdependent in various ways; for example, they provide food and shelter to one another.	5.3.2.C.1	Describe the ways in which organisms interact with each other and their habitats in order to meet basic needs.
2	A habitat supports the growth of many different plants and animals by meeting their basic needs of food, water, and shelter.	5.3.2.C.2	Identify the characteristics of a habitat that enable the habitat to support the growth of many different plants and animals.
2	Humans can change natural habitats in ways that can be helpful or harmful for the plants and animals that live there.	5.3.2.C.3	Communicate ways that humans protect habitats and/or improve conditions for the growth of the plants and animals that live there, or ways that humans might harm habitats.

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<b>Strand</b>	<b>D. Heredity and Reproduction:</b> Organisms reproduce, develop, and have predictable life cycles. Organisms contain genetic information that influences their traits, and they pass this on to their offspring during reproduction.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations of developmental changes in a plant or animal over time form a basis for young learners' understanding of heredity and reproduction.	5.3.P.D.1	Observe and record change over time and cycles of change that affect living things (e.g., use baby photographs to discuss human change and growth, observe and photograph tree growth and leaf changes throughout the year, monitor the life cycle of a plant).
2	Plants and animals often resemble their parents.	5.3.2.D.1	Record the observable characteristics of plants and animals to determine the similarities and differences between parents and their offspring.
2	Organisms have predictable characteristics at different stages of development.	5.3.2.D.2	Determine the characteristic changes that occur during the life cycle of plants and animals by examining a variety of species, and distinguish between growth and development.

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<b>Strand</b>	<b>E. Evolution and Diversity:</b> Sometimes, differences between organisms of the same kind provide advantages for surviving and reproducing in different environments. These selective differences may lead to dramatic changes in characteristics of organisms in a population over extremely long periods of time.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
2	Variations exist within a group of the same kind of organism.	5.3.2.E.1	Describe similarities and differences in observable traits between parents and offspring.
2	Plants and animals have features that help them survive in different environments.	5.3.2.E.2	Describe how similar structures found in different organisms (e.g., eyes, ears, mouths) have similar functions and enable those organisms to survive in different environments.



<b>Content Area</b>	<b>Science</b>		
<b>Standard</b>	<b>5.4 Earth Systems Science:</b> Earth operates as a set of complex, dynamic, and interconnected systems, and is a part of the all-encompassing system of the universe.		
<b>Strand</b>	<b>A. Objects in the Universe:</b> Our universe has been expanding and evolving for 13.7 billion years under the influence of gravitational and nuclear forces. As gravity governs its expansion, organizational patterns, and the movement of celestial bodies, nuclear forces within stars govern its evolution through the processes of stellar birth and death. These same processes governed the formation of our solar system 4.6 billion years ago.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
2	The Sun is a star that can only be seen during the day. The Moon is not a star and can be seen sometimes at night and sometimes during the day. The Moon appears to have different shapes on different days.	5.4.2.A.1	Determine a set of general rules describing when the Sun and Moon are visible based on actual sky observations.

<b>Content Area</b>	<b>Science</b>		
<b>Standard</b>	<b>5.4 Earth Systems Science:</b> Earth operates as a set of complex, dynamic, and interconnected systems, and is a part of the all-encompassing system of the universe.		
<b>Strand</b>	<b>C. Properties of Earth Materials:</b> Earth's composition is unique, is related to the origin of our solar system, and provides us with the raw resources needed to sustain life.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations and investigations form a basis for young learners' understanding of properties of Earth materials.	5.4.P.C.1	Explore and describe characteristics of and concepts about soil, rocks, water, and air.
2	Soils are made of many living and nonliving substances. The attributes and properties of soil (e.g., moisture, kind and size of particles, living/organic elements, etc.) vary depending on location.	5.4.2.C.1	Describe Earth materials using appropriate terms, such as hard, soft, dry, wet, heavy, and light.

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<b>Standard</b>		<b>5.4 Earth Systems Science:</b> Earth operates as a set of complex, dynamic, and interconnected systems, and is a part of the all-encompassing system of the universe.	
<b>Strand</b>		<b>E. Energy in Earth Systems:</b> Internal and external sources of energy drive Earth systems.	
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations and investigations form the basis for young learners' understanding of energy in Earth systems.	5.4.P.E.1	Explore the effects of sunlight on living and nonliving things.
2	Plants need sunlight to grow.	5.4.2.E.1	Describe the relationship between the Sun and plant growth.

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<b>Standard</b>		<b>5.4 Earth Systems Science:</b> Earth operates as a set of complex, dynamic, and interconnected systems, and is a part of the all-encompassing system of the universe.	
<b>Strand</b>		<b>F. Climate and Weather:</b> Earth's weather and climate systems are the result of complex interactions between land, ocean, ice, and atmosphere.	
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Observations and investigations form the basis for young learners' understanding of weather and climate.	5.4.P.F.1	Observe and record weather.
2	Current weather conditions include air movement, clouds, and precipitation. Weather conditions affect our daily lives.	5.4.2.F.1	Observe and document daily weather conditions and discuss how the weather influences your activities for the day.

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<b>Standard</b>	<b>5.4 Earth Systems Science:</b> Earth operates as a set of complex, dynamic, and interconnected systems, and is a part of the all-encompassing system of the universe.		
<b>Strand</b>	<b>G. Biogeochemical Cycles:</b> The biogeochemical cycles in the Earth systems include the flow of microscopic and macroscopic resources from one reservoir in the hydrosphere, geosphere, atmosphere, or biosphere to another, are driven by Earth's internal and external sources of energy, and are impacted by human activity.		
<b>By the end of grade</b>	<b>Content Statement</b>	<b>CPI #</b>	<b>Cumulative Progress Indicator (CPI)</b>
P	Investigations in environmental awareness activities form a basis for young learners' understanding of biogeochemical changes.	5.4.P.G.1	Demonstrate emergent awareness for conservation, recycling, and respect for the environment (e.g., turning off water faucets, using paper from a classroom scrap box when whole sheets are not needed, keeping the playground neat and clean).
2	Water can disappear (evaporate) and collect (condense) on surfaces.	5.4.2.G.1	Observe and discuss evaporation and condensation.
2	There are many sources and uses of water.	5.4.2.G.2	Identify and use water conservation practices.
2	Organisms have basic needs and they meet those needs within their environment.	5.4.2.G.3	Identify and categorize the basic needs of living organisms as they relate to the environment.
2	The origin of everyday manufactured products such as paper and cans can be traced back to natural resources.	5.4.2.G.4	Identify the natural resources used in the process of making various manufactured products.

## KINDERGARTEN SCIENCE CURRICULUM MAP

Unit	Essential Questions	Objectives	Standards	Assessments
<b>Unit 1</b> Doing Science	How Do We Use Our Senses?	To identify and describe the five senses Use the five senses to observe and learn about the world Identify the sensory organ associated with each sense Observe many properties of one thing	5.1.4.A.1 5.1.4.A.2 5.1.4.A.3	Student Edition pp. 1-4  Differentiation activities: TE p. 14
	How do we use our science skills?	Observe and describe things Pose questions about things and surroundings Identify science processes Demonstrate how science processes can be used to describe things and investigate questions.	5.1.4.A.1 5.1.4.A.2 5.1.4.A.3	Student Edition pp. Inquiry Flipchart p. 2  Differentiation activities: TE p. 22
	How do we use our science tools?	Identify science tools Recognize how science tools help in investigations Use a hands lens, a measuring cup, a thermometer, a balance, and a ruler to help analyze things. Describe safe ways to conduct investigations	5.1.4.A.1 5.1.4.A.2 5.1.4.A.3	Student Edition pp.9-12 Inquiry Flipchart p.3  Unit Review Assessment
<b>Unit 2</b> Animals	What are Living Things?	Classify things as living and nonliving Describe characteristics of living and non living things Sort living and nonliving things		Student Edition pp. 13-16 Flipchart p. 4  Differentiation activities: TE p. 22
	What is Real? What is Pretend?	Recognize that some books and other media portray animals and plants with characteristics that they do not have in real life. Identify characteristics of real animals and plants and pretend animals and plants. Compare real animals and plants and pretend animals and plants.		Student Edition pp. 17-20  Differentiation activities: TE p. 54

## KINDERGARTEN SCIENCE CURRICULUM MAP

	What Are Animals Like?	<p>Compare animals by size, shape, or body coverings.</p> <p>Observe and describe similarities and differences in the appearance of animals.</p> <p>Identify and name body parts of animals.</p> <p>Identify ways animals move.</p>		<p>Student Edition pp.21-26</p> <p>Inquiry Flipchart p. 5</p> <p>Differentiation activities: TE p. 64</p>
	What do Animals Need?	<p>Observe and illustrate what an animal needs</p> <p>Recognize that animals need food, water, air, and shelter to survive</p> <p>Identify how people help pets meet their needs</p> <p>Observe similarities between the basic needs of humans and the basic needs of other animals</p>		<p>Student Edition pp.27-30</p> <p>Differentiation activities: TE p. 72</p>
	How Do Animals Grow and Change?	<p>Describe an animal's life cycle</p> <p>Recognize that an animal's growth and change occur gradually</p> <p>Recognize that some young animals look like their parents and some do not</p> <p>Sequence pictures to show how animals grow and change</p>		<p>Student Edition pp. 31-34</p> <p>Differentiation activities: TE p. 80</p> <p>Unit Review Assessment</p>
<b>Unit 3</b> Plants	What Are Plants Like?	<p>Identify trees, shrubs, and grasses as kinds of plants.</p> <p>Draw conclusions about kinds of plants</p> <p>Observe and describe the sizes and shapes of plants.</p> <p>Sort plants into groups based on their physical characteristics.</p> <p>Examine variations among individuals of the same kind of plant.</p>	5.3.2.C.2	<p>Student Edition pp. 35-38</p> <p>Differentiation activities: TE p. 96</p>

## KINDERGARTEN SCIENCE CURRICULUM MAP

	What Do Plants Need?	<p>Recognize that plants need water, air, light, soil, and space to grow.</p> <p>Observe and compare the growth of plants.</p> <p>Infer reasons why plants are healthy or not healthy</p> <p>Predict the growth of a plant based on whether it is getting what it needs.</p>	<p>5.3.2.C.3</p> <p>5.3.2.D.2</p>	<p>Student Edition pp.39-42</p> <p>Flipchart p. 6</p> <p>Differentiation activities: TE p. 104</p>
	What Are Some Plant Parts?	<p>Recognize that stems, roots, leaves, flowers, fruits and seeds are parts of plants.</p> <p>Observe and identify the parts of a plant,</p> <p>Describe how plant parts help a plant live.</p>	5.3.2.D.2	<p>Student Edition pp.43-46</p> <p>Flipchart p. 7</p> <p>Differentiation activities: TE p. 112</p>
	How Do Plants Grow and Change?	<p>Describe the sequence of stages in a plant's life cycle.</p> <p>Observe stages that are part of the life cycle of a plant; seed, seedling, plant, flower, and fruit.</p> <p>Identify ways that young plants resemble their parents.</p>	5.3.2.D.2	<p>Student Edition pp. 47-50</p> <p>Flipchart p. 8</p> <p>Unit Review Assessment</p>
<b>Unit 4</b> Habitats	Where Do Animals and Plants Live?	<p>Understand that animals and plants are found in different habitats and environments.</p> <p>Know that animals need food, water, shelter, and space to live.</p> <p>Describe different environments where animals and plants live.</p>		<p>Student Edition pp. 51-54</p> <p>Inquiry Flipchart p. 9</p> <p>Differentiation activities: TE p. 136</p>
	Why Do Animals and Plants Need One Another?	<p>Describe how many animals and plants depend on one another</p> <p>Understand how animals and plants can change their surroundings.</p>		<p>Student Edition pp. 55-58</p> <p>Inquiry Flipchart p. 10</p> <p>Differentiation activities: TE p. 144</p> <p>Unit Review Assessment</p>

## KINDERGARTEN SCIENCE CURRICULUM MAP

<p><b>Unit 5</b> Day and Night</p>	<p>What is in the Day Sky?</p>	<p>Observe and describe what the sky looks like during the day Recognize that the sun can only be seen in the daytime Recognize that things are pulled toward the ground unless something holds them up Observe that the occurrence of night and day is a repeating pattern. Observe that things can be big and things can be small as seen from Earth.</p>	<p>5.4.4.A.4</p>	<p>Student Edition pp. 59-62  Differentiation activities: TE p. 160</p>
	<p>What is in the Night Sky?</p>	<p>Describe the night sky Identify objects in the night sky Observe that the moon can be seen at night and sometimes during the day</p>	<p>5.4.2.A.1</p>	<p>Student Edition pp. 63-66  Flipchart p. 11  Differentiation activities: TE p. 168  Unit review assessment</p>
<p><b>Unit 6</b> Earth's Resources</p>	<p>What are Rocks?</p>	<p>Observe and describe rocks Compare and sort rocks Give examples of ways rocks are useful</p>	<p>5.3.2.B.1</p>	<p>Student Edition pp. 67-70  Flipchart p. 12  Differentiation activities: TE p. 184</p>
	<p>What Is Water?</p>	<p>Recognize that water is found in lakes, rivers, ponds, and oceans  Understand that rivers contain fresh water and oceans contain salt water  Describe the physical properties of water including clarity and color.</p>	<p>5.2.4.E.3</p>	<p>Student Edition pp. 71-74  Differentiation activities: TE p. 192</p>



## KINDERGARTEN SCIENCE CURRICULUM MAP

	How Do We Use and Conserve Natural Resources?	<p>Identify some natural resources</p> <p>Give examples of ways rocks, soil, and water are useful</p> <p>Describe ways to dispose of natural resources and to conserve natural resources for future use.</p> <p>Explore that some materials can be used over and over again</p> <p>Explain how to interact with the environment in ways that are respectful of it.</p>	5.3.2.E.2	<p>Student Edition pp. 75-80</p> <p>Flipchart p. 13</p> <p>Differentiation activities: TE p. 202</p>
<b>Unit 7</b> Weather and the Seasons	What is Weather?	<p>Identify and describe weather conditions</p> <p>Observe and determine the effects of weather on human activities</p> <p>Observe and describe day-to-day weather changes</p>		<p>Student Edition pp. 81-86</p> <p>Differentiation activities: TE p. 220</p>
	How can we Measure Weather?	<p>Identify and demonstrate the use of a thermometer and a windsock</p> <p>Use common tools to measure weather</p> <p>Use tools to observe and identify weather changes from day to day</p>		<p>Student Edition pp. 87-90</p> <p>Flipchart p. 15</p> <p>Differentiation activities: TE p. 228</p>
	What are the Seasons?	<p>Identify and describe the characteristics of the four seasons.</p> <p>Identify seasonal changes as a repeating pattern.</p> <p>Describe how the seasons affect plants and animals.</p>		<p>Student Edition pp. 91-96</p> <p>Differentiation activities: TE p. 238</p> <p>Unit Review Assessment</p>
<b>Unit 8</b> Matter	How Do We Describe and Sort Matter?	<p>Identify matter as a solid, a liquid, or a gas</p> <p>Observe and describe properties of objects</p> <p>Compare and sort objects based on observable properties</p>		<p>Student Edition pp. 97-102</p> <p>Flipchart p. 16</p> <p>Differentiation activities: TE p. 256</p>

## KINDERGARTEN SCIENCE CURRICULUM MAP

	How Can We Change Matter?	Describe how paper and clay can be changed  Recognize that the shape of materials can be changed by cutting, tearing, crumpling, smashing or rolling.  Recognize physical changes of matter.		Student Edition pp. 103-106  Flipchart p. 17  Differentiation activities: TE p. 264
	How Can Heating and Cooling Change Matter?	Observe, record, and discuss how matter can be changed by heating.  Observe, record, and discuss how matter can be changed by cooling.		Student Edition pp. 107-110  Differentiation activities: TE p. 272
<b>Unit 9</b> Energy	What is Sound?	Observe that sound is made when objects vibrate  Identify sounds and the sources of their vibrations.  Compare sounds for loudness, pitch, and rhythm.  Identify the ear as a receiver of vibrations that produce sound.		Student Edition pp. 111-114  Flipchart p. 18  Differentiation activities: TE p. 288
	What is Light?	Recognize the sun as Earth's source of light  Identify human-made sources of light  Recognize how paper can be changed by exposure to light.		Student Edition pp. 115-118  Flipchart p. 19  Differentiation activities: TE p. 296
	What is Heat?	Recognize the sun as Earth's source of heat  Recognize that sound, light, and heat are kinds of energy.		Student Edition pp. 119-124  Differentiation activities: TE p. 306  Unit Review Assessment

## KINDERGARTEN SCIENCE CURRICULUM MAP

<p><b>Unit 10</b> Motion</p>	<p>How Do We Describe a Location?</p>	<p>Observe the location of a thing in relation to another thing</p> <p>Use position terms such as above, below, behind, in front of, and beside to describe the location of something</p>		<p>Student Edition pp. 125-128</p> <p>Differentiation activities: TE p. 322</p>
	<p>How Things Move?</p>	<p>Observe and describe the way things can move</p> <p>Observe and describe movements as fast or slow</p>		<p>Student Edition pp. 129-134</p> <p>Differentiation activities: TE p. 332</p>
	<p>How Do We Change the Way Things Move?</p>	<p>Identify push and pull as ways to move things</p> <p>Observe that a push or a pull can change the way a thing is moving</p> <p>Identify gravity as a force</p> <p>Understand that gravity pulls things down to the ground.</p>		<p>Student Edition pp. 135-138</p> <p>Flipchart p. 20</p> <p>Differentiation activities: TE p. 340</p>
	<p>Which Objects Do Magnets Attract?</p>	<p>Observe and describe how magnets react to objects made of iron and steel</p> <p>Sort objects according to whether or not a magnet attracts them</p> <p>Observe that magnets can cause some objects to move without touching them.</p>		<p>Student Edition pp. 139-142</p> <p>Flipchart p. 21</p> <p>Differentiation activities: TE p. 348</p> <p>Unit Review Assessment</p>

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## Curriculum Map: Grade 1 Science

Unit	Essential Questions	Objectives	Standards
Unit 1 Flipchart p.2 Student Edition pp. 3-14	What are senses and other tools?	Follow directions for an investigation to use inquiry skills such as measuring.  Plan and conduct an investigation to use inquiry skills such as making models.	5.1.4.A.1 5.1.4.A.2 5.1.4.A.3
Flipchart p.3 Student Edition pp.15-16	How can we use our senses?	Use the five senses as tools to observe.  Compare observations with others.	5.1.4.A.1 5.1.4.A.2 5.1.4.A.3
Flipchart p.4 Student Edition pp. 17-26	What are inquiry skills?	Follow directions for an investigation to use inquiry skills such as measuring.  Plan and conduct an investigation to use inquiry skills such as making models.	5.1.4.A.1 5.1.4.A.2 5.1.4.A.3

<p>Flipchart p.5 Student Edition pp. 27-28</p>	<p>How do we use inquiry skills?</p>	<p>Raise questions about the natural world and investigate them.</p> <p>Plan and carry out an investigation based on questions asked.</p> <p>Generate appropriate explanations based on the investigation.</p>	<p>5.1.4.A.1 5.1.4.A.2 5.1.4.A.3</p>
<p>Flipchart p.6 Student Edition pp.29-38</p>	<p>How do scientists work?</p>	<p>Follow directions for an investigation to compare a set amount of liquid in different containers using the scientific method,</p> <p>Plan and conduct an investigation to study fingerprints using a scientific process.</p>	<p>5.1.4.A.1 5.1.4.A.2 5.1.4.A.3</p>
<p>Unit 3 Flipchart p. 11 Student Edition pp. 83-92</p>	<p>What are living and nonliving things?</p>	<p>Follow directions for an investigation to make a model as a way to differentiate between living and nonliving things.</p> <p>Plan and conduct an investigation to observe and classify living and nonliving things in an environment.</p>	<p>5.3.2.A.1 5.3.2.B.1 5.3.2.B.2</p>

<p>Flipchart p. 12</p> <p>Student Edition pp. 93-104</p>	<p>What do animals need?</p>	<p>Follow directions for an investigation to observe what mealworms need to live and grow.</p> <p>Plan and conduct an investigation to identify how local birds meet their need for food.</p>	<p>5.3.2.A.1</p> <p>5.3.2.B.1</p> <p>5.3.2.B.2</p>
<p>Flipchart p. 13</p> <p>Student Edition pp. 105-106B</p>		<p>S.T.E.M.</p> <p>Use the steps of the engineering design process to design or improve on the design of a tool.</p> <p>Apply the scientific concepts of scale and measurement.</p>	<p>5.3.2.A.1</p> <p>5.3.2.B.1</p> <p>5.3.2.B.2</p>
<p>Flipchart p. 14</p> <p>Student Edition pp. 107-118</p>	<p>How are animals different?</p>	<p>Follow directions for an investigation to sort animals by a variety of physical characteristics.</p> <p>Plan and conduct an investigation to observe animals in books and classify them by their observable characteristics.</p>	<p>5.3.2.A.1</p> <p>5.3.2.B.1</p> <p>5.3.2.B.2</p>
<p>Flipchart p. 15</p> <p>Student Edition pp. 119-122</p>	<p>How can we group animals?</p>	<p>Observe differences in physical properties.</p> <p>Classify animals by a variety of physical characteristics.</p> <p>Record observations made in a chart.</p>	<p>5.3.2.A.1</p> <p>5.3.2.B.1</p> <p>5.3.2.B.2</p>

<p><b>Unit 4</b></p> <p>Flipchart p. 16</p> <p>Student Edition pp. 131-140</p>	<p>What do plants need?</p>	<p>Follow directions for an investigation to observe whether plants grow toward light.</p> <p>Plan and conduct an investigation to observe how water moves through a plant.</p>	<p>5.3.2.B.3</p> <p>5.3.2.D.1</p> <p>5.3.2.D.2</p> <p>5.3.2.E.1</p> <p>5.3.2.E.2</p> <p>5.4.2.E.1</p>
<p>Flipchart p. 17</p> <p>Student Edition pp. 141-142</p>	<p>Why do plants grow?</p>	<p>Raise questions about plants and investigate them.</p> <p>Ask “How do you know?”</p> <p>Predict and investigate growth of plants when growing conditions are altered.</p> <p>Observe that all plants share the same basic needs.</p> <p>Explain that a plant will die if its basic needs are not met.</p>	<p>5.3.2.B.3</p> <p>5.3.2.D.1</p> <p>5.3.2.D.2</p> <p>5.3.2.E.1</p> <p>5.3.2.E.2</p> <p>5.4.2.E.1</p>
<p>Flipchart p. 18</p> <p>Student Edition pp. 143-152</p>	<p>What are some parts of plants?</p>	<p>Follow directions for an investigation to observe the differences between plant parts such as seeds.</p> <p>Plan and conduct an investigation to observe plant parts.</p>	<p>5.3.2.D.1</p> <p>5.3.2.D.2</p> <p>5.3.2.E.1</p> <p>5.3.2.E.2</p> <p>5.4.2.E.1</p>

<p>Flipchart p. 19</p> <p>Student Edition pp. 155-164</p>	<p>How are plants different?</p>	<p>Follow directions for an investigation to compare leaves from different kinds of plants by making rubbings.</p> <p>Plan and conduct an investigation to compare flowers from different kinds of plants.</p>	<p>5.3.2.B.3</p> <p>5.3.2.D.1</p> <p>5.3.2.D.2</p> <p>5.3.2.E.1</p> <p>5.3.2.E.2</p> <p>5.4.2.E.1</p>
<p>Flipchart p. 21</p> <p>Student Edition pp. 167-168B</p>		<p>S.T.E.M.</p> <p>Use the steps of the engineering design process to design and make a model of a greenhouse.</p> <p>Apply scientific concepts of systems and system models and form and function</p>	<p>5.3.2.B.3</p> <p>5.3.2.D.1</p> <p>5.3.2.D.2</p> <p>5.3.2.E.1</p> <p>5.3.2.E.2</p> <p>5.4.2.E.1</p>
<p><b>Unit 5</b></p> <p>Flipchart p. 22</p> <p>Student Edition pp. 175-186</p>	<p>Where do plants and animals live?</p>	<p>Follow directions for an investigation to observe animal and plant interdependence by modeling a food chain.</p> <p>Plan and conduct an investigation to make a pet care plan.</p>	<p>5.3.2.C.1</p> <p>5.3.2.C.2</p> <p>5.3.2.C.3</p> <p>5.3.2.D.1</p> <p>5.3.2.D.2</p> <p>5.3.2.E.1</p> <p>5.3.2.E.2</p> <p>5.4.2.G.3</p>



<p>Flipchart p. 23</p> <p>Student Edition pp. 189-190</p>	<p>What is a terrarium?</p>	<p>Collect, record, and compare information using science tools to support observations of living things in their environment.</p> <p>Explain that a terrarium has all of the things plants and animals need to survive.</p> <p>Analyze and record examples of interdependence found in various situations such as terrariums.</p> <p>Gather evidence of interdependence among living organisms.</p>	<p>5.3.2.C.1</p> <p>5.3.2.C.2</p> <p>5.3.2.C.3</p> <p>5.3.2.D.1</p> <p>5.3.2.D.2</p> <p>5.3.2.E.1</p> <p>5.3.2.E.2</p> <p>5.4.2.G.3</p>
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<p>Flipchart p. 24</p> <p>Student Edition pp. 191-192B</p>		<p>S.T.E.M.</p> <p>Use the steps of the engineering and design process to design a butterfly sanctuary.</p> <p>Apply the scientific concepts of systems and system models and form and function.</p>	<p>5.3.2.C.1</p> <p>5.3.2.C.2</p> <p>5.3.2.C.3</p> <p>5.3.2.D.1</p> <p>5.3.2.D.2</p> <p>5.3.2.E.1</p> <p>5.3.2.E.2</p> <p>5.4.2.G.3</p>
<p><b>Unit 7</b></p> <p>Flipchart p. 32</p> <p>Student Edition pp. 257-266</p>	<p>What is weather?</p>	<p>Follow directions for an investigation to find out how temperature changes during the day.</p> <p>Plan and conduct an investigation to build and observe the effects of wind on a pinwheel.</p>	<p>5.4.2.F.1</p> <p>5.4.2.G.1</p> <p>5.4.2.G.2</p> <p>5.4.2.F.1</p>

<p>Flipchart p. 33</p> <p>Student Edition pp. 267-270</p>	<p>What can we observe about weather?</p>	<p>Observe and record the weather for a period of five days.</p> <p>Record in pictures the results of an investigation.</p>	
		<p>Draw conclusions and communicate the results of an investigation.</p>	<p>5.4.2.G.1</p> <p>5.4.2.G.2</p>
<p>Flipchart p. 34</p> <p>Student Edition pp. 273-284</p>	<p>What are seasons?</p>	<p>Follow directions for an investigation to find out how fur protects animals from the cold.</p> <p>Plan and conduct an investigation to identify how trees may change in different seasons.</p>	<p>5.4.2.F.1</p> <p>5.4.2.G.1</p> <p>5.4.2.G.2</p>
<p>Flipchart p. 35</p> <p>Student Edition pp. 285--286B</p>		<p>S.T.E.M</p> <p>Use the steps of the engineering design process to design and build a rain gauge.</p> <p>Apply the scientific concepts of scale and measurement.</p>	<p>5.4.2.F.1</p> <p>5.4.2.G.1</p> <p>5.4.2.G.2</p>
<p><b>Unit 9</b></p> <p>Flipchart p. 40</p> <p>Student Edition pp. 325-336</p>	<p>What can we observe about objects?</p>	<p>Follow directions for an investigation to sort objects by physical properties such as size, shape, color, and texture.</p> <p>Plan and conduct an investigation to compare objects by physical properties such as weight.</p>	<p>5.2.4.A.2</p> <p>5.2.4.A.3</p> <p>5.2.4.A.4</p> <p>5.2.2.B.1</p>

<p>Flipchart p. 41</p> <p>Student Edition pp. 339-348</p>	<p>What are solids, liquids, and gases?</p>	<p>Follow directions for an investigation to use water, a cup, and a paper towel to observe liquids and gases.</p> <p>Plan and conduct an investigation to observe the liquid and solid properties of a cornstarch mixture.</p>	<p>5.2.4.A.2</p> <p>5.2.4.A.3</p> <p>5.2.4.A.4</p> <p>5.2.2.B.1</p>
<p>Flipchart p. 42</p> <p>Student Edition pp. 349-350</p>	<p>How can we measure temperature?</p>	<p>Sort objects based on temperature.</p> <p>Determine that dark colors make things warmer.</p> <p>Use a thermometer to measure temperature.</p>	<p>5.2.4.A.2</p> <p>5.2.4.A.3</p> <p>5.2.4.A.4</p> <p>5.2.2.B.1</p>
<p>Flipchart p. 43</p> <p>Student Edition pp. 351-360</p>	<p>How can matter change?</p>	<p>Follow directions for an investigation to study changes in matter by identifying substances that dissolve or separate in water.</p> <p>Plan and conduct an investigation to change matter in different ways.</p>	<p>5.2.4.A.2</p> <p>5.2.4.A.3</p> <p>5.2.4.A.4</p> <p>5.2.2.B.1</p>
<p>Flipchart p. 44</p> <p>Student Edition pp. 361-362</p>	<p>What dissolves in water?</p>	<p>Determine which solids dissolve more readily in hot water than in cold.</p> <p>Make observations, perform an investigation to answer a question, and record and communicate results.</p> <p>Make and confirm predictions based on an investigation.</p>	<p>5.2.4.A.2</p> <p>5.2.4.A.3</p> <p>5.2.4.A.4</p> <p>5.2.2.B.1</p>

<p>Flipchart p. 45</p> <p>Student Edition pp. 363-364B</p>		<p>S.T.E.M.</p> <p>Use the steps of the engineering design process to improve on the design of a toothbrush, comb, or lunchbox.</p> <p>Apply the scientific concepts of form and function.</p>	<p>5.2.4.A.2</p> <p>5.2.4.A.3</p> <p>5.2.4.A.4</p> <p>5.2.2.B.1</p>
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**Resources:**

**Course Textbook:** *Science Fusion New Energy for Science*

## GRADE 2 SCIENCE CURRICULUM MAP

Unit	Essential Questions	Objectives	Standards	Assessments
<p><b>Unit 1</b> Work Like a Scientist</p> <p><b>Unit 2</b> Technology and our World</p>	How do we use inquiry skills?	Lesson 1: To identify inquiry skills. To ask and raise questions about the world and investigate them by observing. To explain the difference between what you observe and what you think.	5.1.4.A.2, 5.1.4.A.3,	Student Edition pp. 3-12  Inquiry Flipchart p.2
	How do we use science tools?	Lesson 2: To identify science tools used for observing and measuring.	5.1.4.B.1, 5.1.4.B.2, 5.1.4.B.4,	Student Edition pp. 13-20  Inquiry Flipchart p. 3
	What tools can we use?	Lesson 3: To determine the role of technology in the work of scientists.	5.1.4.B.4	Student Edition pp. 23-24
	How do scientists think?	Lesson 4: To identify and demonstrate scientific methods. To ask and raise question about the world and investigate them by observing. To explain that similar results should occur when investigations.	5.1.4.A.3	Student Edition 35-34  Flipchart page 5  Balance activity
	How do we solve a problem?	Lesson 5: To ask questions about the world around you. To draw a design and build a model to help solve a problem. To communicate the effectiveness of your model.	5.1.4.A.2	Student Edition pp. 35-36  Flipchart page 6

## GRADE 2 SCIENCE CURRICULUM MAP

Unit	Essential Questions	Objectives	Standards	Assessments
Unit 1 and Unit 2	(In Unit 2) What is technology?	To identify a need or real-world problem. To design a tool or invention to meet that need. To follow the steps of the design process. To solve a real-world problem.	5.1.4.A.3, 5.1.4.B.1	Student Edition pp. 57-68  Flipchart p. 9
	How can we improve technology?	To identify an invention that can be improved. To design and construct a physical model that shows how you would improve the invention. To describe the advantages and disadvantages of new technology.	5.1.4.B.2	Student Edition pp. 69-70  Flipchart p. 10
Unit 3 All About Animals	What are Animal Needs?	To identify air, water, food, shelter, and space as the basic needs of animals and humans. To describe ways in which animals depend on plants to meet their needs.	5.3.2.C.1, 5.3.2.C.2, 5.3.2.C.3, 5.3.2.D.1, 5.3.2.D.2	Student Edition pp. 79-88  Inquiry Flipchart p.11
	What are Some Kinds of Animals?	To describe and compare different kinds of animals. To observe and compare characteristics and behaviors of animals.	5.3.2.E.1	Student Edition pp. 91-102  Flipchart p. 13
	How Do Body Coverings Help Animals?	To use a model to observe how some physical characteristics of animals help them stay warm.	5.3.2.E.2	Student Edition pp 103-104  Inquiry Flipchart p. 14
	What are Some Animal Life Cycles?	To describe the term life cycle and explain that different animals have different life cycles.	5.3.2.E.2	Student Edition pp. 105-106  Inquiry Flipchart p. 15

## GRADE 2 SCIENCE CURRICULUM MAP

	What are Fossils?	To describe the scientific contributions made by Salim Ali. To understand that scientists are always investigation new ways to solve problems.	5.4.4.B.1	Student Edition pp. 119-128  Inquiry Flipchart p. 16
	How Can We Model a Fossil?	To explain and define what a fossil is. To explain how fossils can provide information about plants and animals that lived long ago.	5.4.4.B.1	Student Edition pp. 129-130  Inquiry Flipchart p. 17
<b>Unit 4</b> <b>All About Plants</b>	What are Plant Needs?	To identify sunlight, air, water, nutrients, and space as the basic needs of plants. To explain that a living thing must meet as basic needs in order to survive.	5.3.2.C.2	Student Edition pp. 137-144  Flipchart p. 18
	What do Plants need to grow?	To predict and investigate growth of plants. To identify the basic needs of plants.	5.3.2.C.3 5.3.2.D.2	Student Edition pp. 147-148  Flipchart p. 20
	What are some plant parts?	To identify the main parts of plants. To observe, record, and compare how the physical characteristics of plants help them meet their basic needs.	5.3.2.D.2	Student Edition pp. 149-158  Flipchart p. 21
	What are some plant life cycles?	To recognize that all plants have life cycles. To explain that many plants begin life as a seed grows.	5.3.2.D.2	Student Edition pp. 159-170  Flipchart p. 22
	How does a Bean Plant Grow?	To observe and describe the life cycle of a bean plant. To examine a bean seed using a hand lens. To compare observations made over time.	5.3.2.D.2	Student Edition pp. 171-172  Flipchart p. 23



## GRADE 2 SCIENCE CURRICULUM MAP

<p><b>Unit 6</b> Earth and Its Resources</p>	<p>What changes Earth?</p>	<p>To identify ways Earth’s surface changes. To compare and contrast fast and slow Earth changes. To describe how plants reduce erosion.</p>	<p>5.4.4.A.3</p>	<p>Student Edition pp. 237-238 Inquiry Flipchart 29</p>
	<p>What are Natural Resources?</p>	<p>To explain what a geologist does. To explain how geologists help us understand Earth.</p>	<p>5.4.4.A.3</p>	<p>Student Edition pp. 241-252 Inquiry Flipchart 30</p>
	<p>How can we classify Plant Products?</p>	<p>To identify and classify plants products. To communicate observations by drawing and writing.</p>	<p>5.1.4.A.2</p>	<p>Student Edition pp. 255-258 Inquiry Flipchart 32</p>
<p><b>Unit 8</b> The Solar System</p>	<p>What are planets and stars?</p>	<p>To determine what objects make up the solar system.  To identify in the sky that are only visible at night. To explain that stars and planets are always in the sky.</p>	<p>5.4.4.A.4</p>	<p>Student Edition 317-326 Flipchart 40</p>
	<p>What causes day and night?</p>	<p>To explain what an astronomer does.  To describe the scientific contributions of Annie Jump Cannon.</p>	<p>5.4.2.A.1</p>	<p>Student Edition 329-338 Flipchart 41</p>
	<p>How can we model day and night?</p>	<p>To construct a physical model that shows how Earth’s rotation causes day and night.</p>	<p>5.4.2.A.1</p>	<p>Student Edition 341-342 Flipchart 43</p>
	<p>How can water change state?</p>	<p>To experiment with adding or taking away heat to change the state of water.</p>	<p>5.42.G.1</p>	<p>Student Edition pp. 373-374 Flipchart p. 47</p>

## GRADE 2 SCIENCE CURRICULUM MAP

<p><b>Unit 10</b></p> <p>Energy and Magnets</p>	<p>What is Energy?</p>	<p>To identify heat, light, and sound as forms of energy. To identify sources of heat, light, and sound. To investigate the effects of an object by increasing or decreasing amounts of light, heat, and sound energy.</p>	<p>5.3.2.B.1</p>	<p>Student Edition pp. 383-394</p> <p>Flipchart p. 49</p>
	<p>What Are Magnets?</p>	<p>To observe and demonstrate that magnets can move objects without touching them. To sort objects based on whether they are attracted by a magnet.</p>	<p>5.2.4.E.3</p>	<p>Student Edition pp. 397-406</p> <p>Flipchart p. 50</p>
	<p>How Strong is a Magnet?</p>	<p>To demonstrate that magnets can be used to make some things move without touching them. To communicate the results of an investigation.</p>	<p>5.3.2.E.2</p>	<p>Student Edition pp.409-410</p> <p>Flipchart p. 52</p>

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