

Centerville-Abington Elementary Curriculum Mapping
Science – Grade 5
1st Nine Weeks
Carol Gable

Unit Chapter Lesson	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit 1		How do we measure properties of different objects?	Pgs. 2-11 in textbook Introduce Great Rat Grow Along	hypothesis, conclusions	
Lesson 1	5.1.1 5.1.2	What is volume and how is it measured? Describe matter and what it is made of. Explain how to measure the volumes of both liquids and solids,	Pgs. 18-33 Explore-How can a light object take up more space than a heavy object? Materials (balloon, tennis ball, container of water, tape, equal balance scale) Quick Lab- Measuring Volume Materials (small metal block, ruler, 100-mL graduated cylinder, water)	gram, matter, volume, atom, meniscus	Lesson Review
<p>5.1.1 Describe and measure the volume and weight of a sample of a given material</p> <p>5.1.2 Describe the difference between weight and mass. Understand that weight is dependent on gravity and mass is the amount of matter in a given substance or material.</p>					

Lesson 2	5.1.1 5.1.2	<p>How are mass and weight different? Describe and measure the mass and weight of a given material. Describe the difference between mass and weight.</p>	<p>Pgs. 34-47 Explore-What variables affect mass and weight? Materials (equal pan balance, classroom object, gram masses, spring scale, rubber band) Quick Lab-comparing mass and weight Materials (scale, pan balance, gram masses, textbook, notebook) Practice weighing for rats</p>	<p>mass pan balance gravity weight</p>	<p>Lesson Review Charts of rats growth</p>
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Lesson 3	5.1.3	<p>How do mass, weight, and volume change when an object's parts are assembled? Demonstrate that the weight of a whole object is equal to the sum of the weights of its parts. Demonstrate that the volume of a whole object can differ from the sum of the volume of its parts.</p>	<p>Pgs. 48-59 Explore-What happens to mass and volume when an object is constructed? Materials (interlocking plastic blocks of the same size, ruler, equal pan balance, gram masses) Quick Lab-The Sum of its Parts Materials (bag of potatoes, scales)</p>	<p>conserve pressure contract expand</p>	<p>Lesson Review</p>
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5.1.3 Demonstrate that regardless of how parts of an object are assembled the weight of the whole object is identical to the sum of the weight of the parts; however, the volume can differ from the sum of the volumes.

Lesson 4	5.1.4	<p>What happens to a substance's mass and weight when it melts, freezes, and dissolves? Determine if matter has been added or lost by comparing weights when melting and freezing a sample of a substance.</p>	<p>Pgs.60-75 Explore-What happens when ice melts? Materials (ice cubes, equal pan balance, gram masses, resealable plastic bag, paper towel, watch or clock) Quick Lab-Changing Balloons Materials (balloons, string, pail or other container, cold water, ice, meterstick) Leveled Readers Foldable</p>	<p>melting freezing dissolve</p>	<p>Lesson Review Unit Review Test Prep Exam View CD</p>
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5.1.4 Determine if matter has been added or lost by comparing weights when melting, freezing or dissolving a sample of a substance.

Additional resources:

www.macmillanmh.com

<http://nsdl.org/refreshers/science>

Curriculum Mapping
Science – Grade 5
 2nd Nine Weeks

Unit Chapter Lesson	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit 4 Lesson 1	5.4.2	<p>How do we design technologies to meet our needs?</p> <p>How does technology help us meet our needs?</p> <p>1. Explain how technology is used to solve problems.</p> <p>2. Describe the different fields of technology.</p>	<p>Pgs. 220-231 in book Explore-How can we get freshwater from salt water?</p> <p>Materials (salt, water, tablespoon, measuring cups, large bowl, beaker, plastic wrap, tape, small rock)</p> <p>Quick Lab Make it Bright</p> <p>Materials (batteries, wires, switches, lightbulbs)</p>	technology	Lesson Review
<p>5.4.2 Investigate the purpose of prototypes and models when designing a solution to a problem and how limitations in cost and design features might affect their construction.</p>					

Lesson 2	5.4.1 5.4.3	<p>How can technology mimic human and animal body systems?</p> <p>1. Investigate technologies that mimic human and animal musculoskeletal systems.</p> <p>2. Describe the needs met by prosthetic and robotic technologies.</p>	<p>Pgs. 232-245 in book Explore-How can you build a model that works like a human hand?</p> <p>Materials (drinking straws, scissors, rubber bands, craft sticks, chenille stems, wire hangers, any other objects students think they can use)</p> <p>Quick Lab-How can technology mimic nature?</p> <p>Materials (several dried beans, chopsticks, tweezers, pliers, timer, cup)</p>	<p>mimic bionics prosthesis musculoskeletal system robots</p>	Lesson Review
<p>5.4.1 Investigate technologies that mimic human or animal musculoskeletal systems in order to meet a need.</p> <p>5.4.3 Design solutions to problems in the context of musculoskeletal body systems. Using suitable tools, techniques and materials, draw or build a prototype or model of a proposed design.</p>					

Lesson 3	5.4.2	<p>How are things designed?</p> <ol style="list-style-type: none"> 1. Explain how the design process is used to solve problems. 2. Investigate the purpose of prototypes and models when designing a solution to a problem. 	<p>Pgs. 246-263 in book Explore-How can you design a bridge?</p> <p>Materials (variety of objects, plastic cup, several pennies)</p> <p>Quick Lab-Design a Water filtration system.</p> <p>Materials (solution of test water, red and blue litmus paper, bowl, paper, tissue, sand, funnel, screen, or other materials)</p> <p>Leveled Readers</p> <p>Foldable</p>	<p>engineering model</p> <p>design process</p> <p>brainstorm</p> <p>criteria</p> <p>schematic</p> <p>prototype</p>	<p>Lesson Review</p> <p>Unit Review</p> <p>Unit Test</p> <p>Test Prep</p> <p>Exam View CD</p>
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5.4.2 Investigate the purpose of prototypes and models when designing a solution to a problem and how limitations in cost and design features might affect their construction.

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Curriculum Mapping
Science – Grade 5
 3rd Nine Weeks

Unit Chapter Lesson	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit 3 Lesson 1	5.3.1	<p>How do organisms interact in an ecosystem?</p> <p>How do organisms interact with other organisms in an ecosystem?</p> <p>1. Observe the relationships and interactions of organisms in their ecosystem.</p> <p>2. Classify organisms as producers, consumers, predator and prey.</p>	<p>Pgs. 148-163</p> <p>Explore-How do organisms in a food chain interact?</p> <p>Materials (blank note cards, construction paper, markers, magazines, scissors, glue stick)</p> <p>Quick Lab-Model an Indiana Food Chain</p> <p>Materials (markers, scissors, construction paper, hole punch, yarn)</p>	<p>ecosystem</p> <p>food chain</p> <p>producer</p> <p>consumer</p> <p>predator</p> <p>prey</p>	<p>Lesson Review</p>
<p>5.3.1 Observe and classify common Indiana organisms as producers, consumers, decomposers, predator and prey based on their relationships and interactions with other organisms in their ecosystem.</p>					

Lesson 2	5.3.2	<p>What role do decomposers play in an ecosystem?</p> <ol style="list-style-type: none"> 1. Describe the actions of different decomposers. 2. Compare the role of decomposers with that of producers and consumers, 	<p>Pgs. 164-177 Explore-How is matter recycled in an ecosystem? Materials (terrarium with lid, cardboard, tape, dead leaves from a wooded area, soil from a wooded area, hand lens, spray bottle, water) Quick Lab-Observe decomposers Materials (resealable sandwich bag, colored pencils, slice of bread, graph paper, dropper, water) Mission to Mars computer-Astroventure</p>	decomposers organic matter	Lesson Review
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5.3.2. Investigate the action of different decomposers and compare their role in an ecosystem with that of producers and consumers.

Lesson 3	5.3.1	<p>How do organisms in Indiana interact?</p> <ol style="list-style-type: none"> 1. Classify Indiana organisms as producers, consumers, decomposers, predators, and prey. 2. Observe food chains and food webs within Indiana ecosystems. 	<p>Pgs. 178-191 Explore-Can living things be part of more than one food chain? Materials (index cards, markers, tape, poster board, reference materials) Quick Lab-Indiana Field Guide Materials (reference materials, scissors, glue sticks, markers, construction paper)</p>	plankton food web competition	Lesson Review
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5.3.1 Observe and classify common Indiana organisms as producers, consumers, decomposers, predator and prey based on their relationships and interactions with other organisms in their ecosystem.

Lesson 4	5.3	<p>How do changes in one part of an ecosystem create changes in other parts of the ecosystem?</p> <p>1. Describe how changes in one part of an ecosystem can cause changes in other parts of the ecosystem.</p> <p>2. Describe the natural and human-caused changes in ecosystems.</p>	<p>Pgs. 192-209</p> <p>Explore-How do oil spills affect living things?</p> <p>Materials (vegetable oil, feather, 2 bowls, water, 2 hard-boiled eggs, hand lens)</p> <p>Quick Lab-Extinction Game</p> <p>Materials (20 pennies, construction paper)</p> <p>Leveled Readers</p> <p>Foldable</p>	<p>nonnative species</p> <p>extinct species</p> <p>endangered species</p> <p>threatened species</p>	<p>Lesson Review</p> <p>Unit Review</p> <p>Unit Test</p> <p>Test Prep</p> <p>Exam View CD</p>
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5.3 Observe, describe and ask questions about how changes in one part of an ecosystem create changes in other parts of the ecosystem.

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Curriculum Mapping

Science – Grade 5

4th Nine Weeks

Unit Chapter Lesson	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit 2 Lesson 1	5.2.2 5.2.3	<p>What are components of our solar system?</p> <p>What happens as Earth moves?</p> <p>1. Observe how the Sun appears to move across the sky.</p> <p>2. Explain how shadows are affected by the relative positions of Earth and the Sun.</p>	<p>Pgs. 86-103</p> <p>How do shadows change?</p> <p>Materials (50-cm length of string, small wooden block, flashlight, ruler)</p> <p>Quick Lab-Make a sundial</p> <p>Materials (poster board, pencil, modeling clay, marker, 4 rocks or other heavy objects)</p>	<p>rotation</p> <p>revolution</p> <p>shadow</p>	<p>Lesson Review</p>
Lesson 2	5.2.4	<p>Why does the Moon appear to change shape?</p> <p>Describe how the shape of the Moon changes over the course of a month.</p> <p>Describe patterns in the rising and setting times of the Moon.</p> <p>Explain how eclipses occur.</p>	<p>Pgs. 104-117</p> <p>Explore-What makes the Moon appear to change shape?</p> <p>Materials (lamp, large ball)</p> <p>Quick Lab-Modeling Eclipses</p> <p>Materials (2 balls of different sizes, lamp)</p>	<p>phase</p> <p>solar eclipse</p> <p>lunar eclipse</p>	<p>Lesson Review</p>

Lesson 3	5.2.1	What makes up a solar system? Recognize that Earth is part of our solar system. Observe that the parts of our solar system are the Sun, the Moon, eight planets and their moons, and many other smaller bodies.	Pgs. 118-137 Explore-How far apart are the planets? Materials (paper towels, markers, ruler, masking tape) Quick Lab-Planet Sizes Materials (poster board, ruler, scissors) Leveled Readers Foldable Mission to Mars-comparison of planets	star solar system planet inner planet outer planet comet meteor asteroid moon	Lesson Review Unit Review Unit Test Test Prep Exam View CD
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5.2.1 Recognize that our earth is part of the solar system in which the sun, an average star, is the central and largest body. Observe that our solar system includes the sun, moon, seven other planets and their moons, and many other smaller objects like asteroids

Mission to Mars		Can humans survive on Mars? What is needed for survival on Mars? (spacesuit, food, water, oxygen)	Experiments Trip to hydroponics lab, ecosystem with ghost shrimp, chemistry (breaking down alka-seltzer tablet),core samples, is yeast alive?, recycling water, density of liquids,		
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