

Centerville-Abington Elementary Curriculum Mapping

Science – Grade 4

1st Nine Weeks

Diane Luken

Units Chapter Lesson	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit One Lesson One	4.1.1 4.1.2 4.1.4	<p>What do heat and electricity have in common?</p> <ul style="list-style-type: none"> • How can you describe heat? • What are some ways that heat is produced? • What is heat? • What are conductors and insulators? • How does heat move? 	<p>Teacher’s Manual, pages 18-33</p> <ul style="list-style-type: none"> • Explore, pg 20; You will need rubber erasers and thick rubber bands • Quicklab, page 278; you will need balloons, empty, narrow-mouth plastic bottles, and hot and cold water • Visual Literacy, page 255-256 • Foldable, page 22; instructions on page 290 • Study Guide Foldable, page 28; instructions on page 301 • Online books, journals, vocabulary games, and review 	<p>Heat Insulator Conductor Radiation Convection</p>	<p>Lesson One review, pages 28-29</p> <p>Teacher observation</p> <p>Exam View Assessment Suite CD-ROM</p>

4.1.1 Describe and investigate the different ways in which heat can be generated.

4.1.2 Investigate the variety of ways in which heat can be generated and moved from one place to another. Explain the direction the heat moved.

4.1.4 Experiment with materials to identify conductors and insulators of heat and electricity.

Unit One Lesson Two	4.1.3 4.1.5 4.1.4	What do heat and electricity have in common? <ul style="list-style-type: none"> • How do we use electricity? • What makes a light bulb light? • What are electrical charges? • What is electrical current? • How do we use different materials in electrical circuits? • What materials complete an electrical circuit? 	Teacher’s Manual, pages 34-49 <ul style="list-style-type: none"> • Explore, pg 36-37; You will need D-cell batteries, 20 cm pieces of insulated wire, small light bulbs, materials to test as conductors (see pages 46-49) (switches and fuses optional) • Quicklab, page 279; you will need hair combs and tissue paper • Visual Literacy, page 257 • Foldable, page 39; instructions on page 290. • Foldable, page 44; instructions on page 300 • Online books, journal, vocabulary games, and review 	Static Electricity Electrical Current Discharge Circuit Switch Resistance	Lesson Two review, pages 44-45 Teacher Observation Exam View Assessment Suite CD-ROM Unit One Review, pages 50-55 Foldable, page 50; Foldable instructions, page 300 Unit One Assessment available in Assessment Book Exam View Assessment Suite CD-ROM
<p>4.1.3 Construct a complete circuit through which an electrical current can pass as evidenced by the lighting of a bulb or ringing of a bell.</p> <p>4.1.5 Demonstrate that electrical energy can be transformed into heat, light, and sound</p> <p>4.1.4 Experiment with materials to identify conductors and insulators of heat and electricity</p>					

Unit Two Lesson One	4.2.1 4.2.2	How does Earth's surface change? <ul style="list-style-type: none"> • How does the land change over a long period of time? • How can rocks change in moving water? • What is weathering? • What is erosion? • What is deposition? • What are some features of Indiana's land? 	Teacher's Manual Page 60-77 <ul style="list-style-type: none"> • Explore, pages 62-63; You will need sandstone rocks, measuring cups, 3 plastic jars with lids, a stopwatch, and hand lenses; • Quicklab-page 280; You will need clear plastic jars and lids, measuring cups, sand, soil, pebbles, and water • Visual Literacy, pages 258-259 • Foldables, page 71; instructions on page 297 • Foldable, page 72, instructions on page 301 • Foldable, page 75; instructions on page 290 • Online Animation: "A Typical River" • Online books, journals, vocabulary games, and review 	Weathering Erosion Glacier Deposition Till Moraine	Lesson Review, pages 72-73 Teacher Observation Exam View Assessment Suite CD-ROM
<p>4.2.1 Demonstrate and describe how smaller rocks come from the breakage and weathering of larger rocks in a process that occurs over a long period of time. 4.2.2 Describe how wind, water and glacial ice shape and reshape earth's land surface by eroding rock and soil in some areas and depositing them in other areas in a process that occurs over a long period of time.</p>					

Unit Two Lesson Two	4.2.3	How does Earth’s surface change? <ul style="list-style-type: none"> • What causes sudden changes to the land? • How does sudden movement change the land? • What are earthquakes? • What is a volcano? • What is a landslide? 	Teacher’s Manual Page 78-93 <ul style="list-style-type: none"> • Explore, page 80; you will need aluminum pans, sand, assorted blocks, and twigs • Quicklab-page 281; you will need small tubes of toothpaste and newspaper • Visual Literacy, pages 260-261 • Foldable, page 84; instructions on page 290 • Foldable, page 88, instructions on page 300-301 • Foldable on page 93; instructions on page 290 • Online animation: “How a Volcano Forms” • Online books, journals, vocabulary games, and review 	Earthquake Tsunami Volcano Landslide	Lesson Review, pages 88-89 Teacher Assessment Exam View Assessment Suite CD-ROM Unit Two Review, pages 94-99 Foldable, page 94, instructions on page 300-301 Unit Test provided in Assessment Book Exam View Assessment Suite CD-ROM
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4.2.3 Describe how earthquakes, volcanoes and landslides suddenly change the shape of the land.

Additional Support/Resources:
<http://nsdl.org/refreshers/science>
www.macmillanmh.com

**Curriculum Mapping
Science – Grade 4
2nd Nine Weeks**

Unit Chapter Lesson	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit Three Lesson One	4.2.4	<p>How do people use and change the land?</p> <ul style="list-style-type: none"> • What materials do we get from Earth and how do we use them? • How do we use Earth materials? • What are natural resources? • What are nonrenewable resources? • What are alternative energy sources? 	<p>Teacher’s Manual, page 102-115</p> <ul style="list-style-type: none"> • Explore, page 104-105; you will need hand lenses, chalk, ceramic pottery dishes, clay, cotton balls, fabric, limestone, pencils, and twigs • Quicklab, page 282; you will not need to provide any resources • Visual Literacy, pages 262-263 • Foldable, page 104; instructions on page 290 • Foldable, page 108; instructions on page 294 • Foldable, page 112; instructions on pages 300-301 • Foldable, page 115; instructions, page 290 • Online books, journals, vocabulary games, and review 	<p>Natural resource</p> <p>Nonrenewable resources</p> <p>Renewable resources</p>	<p>Lesson Review, page 112-113</p> <p>Teacher Review</p> <p>Exam View Assessment Suite CD-ROM</p>

4.2.4 Investigate earth materials that serve as natural resources and gather data to determine which ones are limited by supply.

<p>Unit Three Lesson Two</p>	<p>4.2.5 4.2.6</p>	<p>How do people use and change the land?</p> <ul style="list-style-type: none"> • How can people protect natural resources? • How can you clean an oil spill? • What is pollution? • How can we practice conservation? • How do people protect the environment? 	<p>Teacher’s Manual, pages 116-129</p> <ul style="list-style-type: none"> • Explore, page 118-119; you will need plastic containers, water, cork, eyedroppers, vegetable oil, paper towels, and sponges • Quicklab, page 283; you will not need to provide any resources • Visual Literacy, pages 264-265 • Foldable, page 119; instructions on page 292 • Foldable, page 123; instructions on page 294 • Foldable, page 126; instructions on pages 300-301 • Online books, journals, vocabulary games, and review 	<p>Environment Pollution Conservation Reduce Reuse Recycle</p>	<p>Lesson Review, pages 126-127</p> <p>Teacher Observation</p> <p>Exam View Assessment Suite CD-ROM</p> <p>Unit Review, pages 130-135</p> <p>Review Foldable on page 130—Instructions on pages 300-301</p> <p>Unit Test provided with published materials.</p> <p>Exam View Assessment Suite CD-ROM</p>
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4.2.5 Describe methods that humans currently use to extend the use of natural resources.

4.2.6 Describe ways in which humans have changed the natural environment. Explain if these changes have been detrimental or beneficial.

Prologue		Scientific Method: <ul style="list-style-type: none"> • What is the Scientific Method? • How is the Scientific Method used to make new knowledge? 	Teacher's Manual, pg 1-14 <ul style="list-style-type: none"> • Inferencing, page 30 • Forming a Hypothesis, page 168 • Data and Numbers, page 206 • Foldable, page 207; instructions on page 290 • Design Process, page 242 	Hypothesis Variable Data Prediction Conclusion	Science Fair Projects (Grades are based on teacher created rubrics)
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Additional Support/Resources:

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Curriculum Mapping
Science – Grade 4
 3rd Nine Weeks

Unit Chapter Lesson	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit Four Lesson One	4.3.1 4.3.2	<p>How do living things survive in their environments?</p> <ul style="list-style-type: none"> • What causes living things to look and act the way they do? • Which characteristics are passed on from parents to their young? • How do living things get their characteristics? • How do organisms differ? • Which behaviors are inherited? 	<p>Teacher Manual, pages 140-158</p> <ul style="list-style-type: none"> • Explore, page 142-143; you will need young chickens (Purdue Extension Agency—Incubating Chicks) and adult guinea pigs with babies • Quicklab, page 284; you will need two sets of inherited characteristics cards (one set on one color cardstock, the second set on another color of cardstock) • Visual Literacy, page 266 • Foldable, page 147; instructions on page 292 • Foldable, page 150; instructions on page 300-301 • Online books, journals, vocabulary games, and review 	<p>Offspring</p> <p>Inherited Characteristics</p> <p>Physical Characteristics</p> <p>Population</p> <p>Instinct</p> <p>Learned Behavior</p>	<p>Lesson Review, page 150-151</p> <p>Teacher Observation</p> <p>Exam View Assessment Suite CD-ROM</p>
<p>4.3.1 Observe and describe how offspring are very much, but not exactly, like their parents or one another. Describe how these differences in physical characteristics among individuals in a population may be advantageous for survival and reproduction.</p> <p>4.3.2 Observe and describe how offspring are very much, but not exactly, like their parents or one another. Describe how these differences in physical characteristics among individuals in a population may be advantageous for survival and reproduction.</p>					

Unit Four Lesson Two	4.3.2 4.3.3	How do living things survive in their environments? <ul style="list-style-type: none"> • How are organisms well-suited for the environments in which they live? • How do plants respond to their environment? • What are adaptations? • What are some plant adaptations? • What are some animal adaptations? • How are plants and animals adapted to harsh environments? 	Teacher Manual, pages 154-171 <ul style="list-style-type: none"> • Explore, pages 156-157; you will need a shoe box, scissors, cardboard, ruler, tape, and potted plant • Quicklab, page 285; you will need markers and modeling clay • Visual Literacy, pages 267-268 • Foldable, page 156; instructions on page 290 • Foldable, page 159; instructions, page 292 • Foldable, page 166; instructions on page 300-301 • Online Animation: “Adaptations of Desert Plants” • online books, journals, vocabulary games, and review 	Adaptations Hibernate Stimuli Mimicry Camouflage	Lesson Review, pages 166-167 Teacher Observation Exam View Assessment Suite CD-ROM
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Unit Four Lesson Three	4.3.1 4.3.2 4.3.4	How do living things survive in their environments? <ul style="list-style-type: none"> • How are organisms adapted to changing environments? • How can a change to an environment affect living things? • How do environments change? • How are living things adapted to changing environments? 	Teacher Manual, pages 172-183 <ul style="list-style-type: none"> • Explore, pages 174-175; you will need 18 green index cards, 18 yellow index cards, and 18 red index cards • Quicklab, page 286; you will need hard-boiled eggs, vinegar, and cups • Visual Literacy, page 269 • Foldable, page 178; instructions on page 290 • Foldable, page 180; instructions, page 300-301 • Online books, journals, vocabulary games, and reveiw 		Lesson Review, pages 180-181 Teacher Observation Exam View Assessment Suite CD-ROM Unit Four Review, pages 184-189 Unit Four foldable study guide, page 184—instructions on pages 300-301 Unit Four Test available in the Assessment book Exam View Assessment Suite CD-ROM
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4.3.1 Observe and describe how offspring are very much, but not exactly, like their parents or one another. Describe how these differences in physical characteristics among individuals in a population may be advantageous for survival and reproduction.

4.3.2 Observe, compare and record the physical characteristics of living plants or animals from widely different environments. Describe how each plant or animal is adapted to its environment.

4.3.4 Describe a way that a given plant or animal might adapt to a change arising from a human or non-human impact on its environment.

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4th Nine Weeks**

Unit Chapter Lesson	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit Five Lesson One	4.4.2 4.4.3	What makes objects move? <ul style="list-style-type: none"> • How can you compare moving objects? • How fast does something move? • What is motion? • What are forces? • What is acceleration? 	Teacher’s Manual pages 194-209 <ul style="list-style-type: none"> • Explore, pages 196-197; you will need 4 books, cardboard tube, marble, and stopwatch • Quicklab, page 287; you will need textbooks, string, and a spring scale • Visual Literacy, pages 270-271 • Foldable, page 196; instructions on page 292 • Foldable, page 198; instructions on page 292 • Foldable, page 204; instructions on pages 300-301 • Online Animation: “Acceleration of Different Masses” • Online books, journals, vocabulary games, and review 	Distance Speed Velocity Force Friction Gravity Acceleration	Lesson One review, pages 204-205 Teacher Observation Exam View Assessment Suite CD-ROM
<p>4.4.2 Make appropriate measurements to compare the speeds of objects in terms of the distance traveled in a given amount of time or the time required to travel a given distance.</p> <p>4.4.3 Investigate how changes in speed or direction are caused by forces: the greater the force exerted on an object, the greater the change.</p>					

Unit Five Lesson Two	4.4.1	What makes objects move? <ul style="list-style-type: none"> • How do we move people and things? • How can you make a balloon move faster? • How do rockets fly into space? • How do airplanes fly? • How do we use friction to stop and go? • How do boats float? 	Teacher’s Manual, pages 210-229 <ul style="list-style-type: none"> • Explore, pages 212-213; you will need string, plastic drinking straws, tape, chairs, 3 balloons of different sizes and shapes, a binder clip, measuring tape, and a stopwatch • Quicklab, page 288; you will need two identical plastic bottles • Visual Literacy, page 272 • Foldable, page 212; instructions on page 290 • Foldable study guide; instructions, pages 300-301 • Foldable, page 227; instructions on page 290 • Online books, journals, vocabulary games, and review 	Thrust Drag Lift	Lesson Review, pages 224-225 Teacher Observation Exam View Assessment Suite CD-ROM
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4.4.1 Investigate transportation systems and devices that operate on or in land, water, air and space and recognize the forces (lift, drag, friction, thrust and gravity) that affect their motion.

<p>Unit Five Lesson Three</p>	<p>4.4.4</p>	<p>What makes objects move?</p> <ul style="list-style-type: none"> • How do things get designed? • How can you make a rocket car? • What is technology? • How fast can an airplane fly? • What is the design process? 	<p>Teacher’s Manual, pages 230-245</p> <ul style="list-style-type: none"> • Explore, pages 232-233; you will need cardboard, a drawing compass, scissors, bendable drinking straw, a balloon, and measuring tape • Quicklab, page 289; you will need paper for constructing paper airplanes • Visual Literacy, page 273 • Foldable study guide; instructions on pages 300-301 • Online books, journals, vocabulary games, and reviews 	<p>Technology Engineer Prototype Design Process</p>	<p>Lesson Review, pages 240-241</p> <p>Teacher Observation</p> <p>Exam View Assessment SuiteCD-ROM</p> <p>Unit Five Review, pages 246-251</p> <p>Unit Five Foldable on page 246— instructions on pages 300-301</p> <p>Unit test available in Assessment Books</p> <p>Exam View Assessment SuiteCD-ROM</p>
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