

**Centerville-Abington Elementary Curriculum Mapping**  
**Science – Grade 6**  
 1<sup>st</sup> Nine Weeks  
 Ted Sanford

Unit Lessons	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
<b>Unit 1</b> <b>Chapter 1</b> <b>Lesson 1</b>	6.1.1 6.1.2	<u><b>Matter: Properties and Changes</b></u>  <b>How do particles move in solids, liquids, and gases?</b> <b>How are physical properties different from chemical properties?</b> <b>How are properties used to identify a substance?</b>	<b>Animation: States of Matter Molecular Motion</b> <b>Brain Pop States of Matter</b>	<b>Matter</b> <b>volume</b> <b>solid</b> <b>liquid</b> <b>gas</b> <b>mass</b> <b>density</b>	<b>Leveled Lesson Quizzes</b> <b>Leveled Chapter Tests</b>
6.1.1 Understand that the properties and behavior of matter can be explained by a model that depicts particles representing atoms or molecules in motion. 6.1.2 Explain the properties of solids, liquids and gases using drawings and models that represent matter as particles in motion whose state can be represented by the relative positions and movement of the particles.					
<b>Unit 1</b> <b>Chapter 1</b> <b>Lesson 2</b>	6.1.1 6.1.2 6.1.3	<b>How are physical changes different from chemical changes?</b> <b>How do physical and chemical changes affect mass?</b>	<b>Animation: States of Matter</b> <b>Brain Pop: Property Changes</b> <b>Activity: Demonstrate a Chemical Change</b>	<b>Chemical Change</b> <b>law of conservation of mass</b> <b>Physical Change</b>	<b>Leveled Lesson Quizzes</b> <b>Leveled Chapter Tests</b>
6.1.1 Understand that the properties and behavior of matter can be explained by a model that depicts particles representing atoms or molecules in motion. 6.1.2 Explain the properties of solids, liquids and gases using drawings and models that represent matter as particles in motion whose state can be represented by the relative positions and movement of the particles. 6.1.3 Using a model in which matter is composed of particles in motion, investigate that when substances undergo a change in state, mass is conserved.					

<b>Unit 1</b> <b>Chapter 2</b> <b>Lesson 1</b>	<b>6.1.4</b> <b>6.1.5</b> <b>6.1.6</b> <b>6.1.7</b>	<b><u>Energy and Energy Transformation</u></b>  <b>What is energy?</b> <b>What are potential and kinetic energy?</b> <b>How is energy related to work?</b> <b>What are different forms of energy?</b>	<b>Brain Pop: Forms of Energy</b> <b>Activity: Forms of Energy ball toss</b>	<b>Potential energy</b> <b>Kinetic energy</b> <b>energy</b> <b>work</b> <b>mechanical energy</b> <b>sound energy</b> <b>thermal energy</b> <b>electric energy</b> <b>radiant energy</b> <b>nuclear energy</b>	<b>Leveled Lesson Quizzes</b> <b>Leveled Chapter Tests</b>
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- 6.1.4 Recognize that objects in motion have kinetic energy and objects at rest have potential energy.
- 6.1.5 Describe with examples that potential energy exists in several different forms (e.g., gravitational potential energy, elastic potential energy and chemical potential energy).
- 6.1.6 Compare and contrast potential and kinetic energy and how they can be transformed from one form to another.
- 6.1.7 Explain that energy may be manifested as heat, light, electricity, mechanical motion, and sound and is often associated with chemical reactions.

<b>Unit 1</b> <b>Chapter 2</b> <b>Lesson 2</b>	<b>6.1.4</b> <b>6.1.6</b> <b>6.1.7</b> <b>6.4.1</b> <b>6.4.2</b> <b>6.4.3</b>	<b>What is the law of conservation of energy?</b> <b>How does friction affect energy transformation?</b> <b>How are different types of energy used?</b>	<b>Animation: Energy Transformation</b> <b>Activity: Energy Transformation</b> <b>Activity: Friction</b>	<b>Law of conservation of energy</b>  <b>friction</b>	<b>Leveled Lesson Quizzes</b> <b>Leveled Chapter Tests</b>
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- 6.1.7 Explain that energy may be manifested as heat, light, electricity, mechanical motion, and sound and is often associated with chemical reactions.
- 6.4.1 Understand how to apply potential or kinetic energy to power a simple device.
- 6.4.2 Construct a simple device that uses potential or kinetic energy to perform work
- 6.4.3 Describe the transfer of energy amongst energy interactions.

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 2<sup>nd</sup> Nine Weeks

Unit Lessons	Indiana Standards	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit 2 Chapter 3 Lesson 1	6.2.1 6.2.2 6.2.3 6.2.5	<p style="text-align: center;"><u><b>The Sun-Earth-Moon System</b></u></p> <p><b>How does Earth move?</b>  <b>Why is Earth warmer at the equator and colder at the poles?</b>  <b>Why do the seasons change as Earth moves around the Sun?</b></p>	<p><b>Animation: Seasons</b>  <b>Skill Practice: How does Earth’s tilted rotation axis affect the seasons?</b></p>	<p>Revolution orbit revolution rotation rotation axis solstice equinox</p>	<p><b>Leveled Lesson Quizzes</b>  <b>Leveled Chapter Tests</b></p>
<p>6.2.1 Describe and model how the position, size and relative motions of the earth, moon and sun cause day and night, solar and lunar eclipses, and phases of the moon.          6.2.2 Recognize that gravity is a force that keeps celestial bodies in regular and predictable motion, holds objects to earth’s surface and is responsible for tides.          6.2.3 Understand that the sun, an average star where nuclear reactions occur, is the central and largest body in the solar system.          6.2.5 Demonstrate that the seasons in both hemispheres are the result of the inclination of the earth on its axis, which causes changes in sunlight intensity and length of day.</p>					
Unit 2 Chapter 3 Lesson 2	6.2.1	<p><b>How does the Moon move around Earth?</b>  <b>Why does the Moon’s appearance change?</b></p>	<p><b>Animation: Moon</b>  <b>Impact Theory</b>  <b>Activity: The Orbits of Earth and the Moon</b></p>	<p>maria phase waxing phase waning phase</p>	<p><b>Leveled Lesson Quizzes</b>  <b>Leveled Chapter Tests</b></p>
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Unit 2 Chapter 3 Lesson 3	6.2.1 6.2.2	<p><b>What is a solar eclipse?</b>  <b>What is a lunar eclipse?</b>  <b>How do the Moon and the Sun affect Earth’s oceans?</b></p>	<p><b>Animation: Eclipse</b>  <b>Science Video: Career Astronomer</b>  <b>Brain Pop: Tides</b>  <b>Earth and Moon virtual lab</b></p>	<p>lunar eclipse solar eclipse umbra penumbra tide</p>	<p><b>Leveled Lesson Quizzes</b>  <b>Leveled Chapter Tests</b></p>
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<b>Unit 2 Chapter 4 Lesson 1</b>	<b>6.2.2 6.2.3 6.2.4</b>	<b><u>The Solar System</u></b>  <b>How are inner planets different from the outer planets? What is an astronomical unit and why is it used? What is the shape of a planet's orbit?</b>	<b>Animation: Kuiper Belt Brain Pop: Solar System Skill Practice: What can we learn about planets by graphing their characteristics?</b>	<b>asteroid comet astronomical unit</b>  period of revolution  period of rotation	<b>Leveled Lesson Quizzes Leveled Chapter Tests</b>
6.2.2 Recognize that gravity is a force that keeps celestial bodies in regular and predictable motion, holds objects to earth's surface and is responsible for tides.					
6.2.3 Understand that the sun, an average star where nuclear reactions occur, is the central and largest body in the solar system.					
6.2.4 With regard to their size, composition, distance from sun, surface features and ability to support life, compare and contrast the planets of the solar system with one another and with asteroids and comets.					
<b>Unit 2 Chapter 4 Lesson 2</b>	<b>6.2.4</b>	<b>How are the inner planets similar? Why is Venus hotter than Mercury? What kind of atmosphere do the inner planets have?</b>	<b>Launch Lab: What affects temperature on the inner planets?</b>	<b>terrestrial planet greenhouse effect</b>	<b>Leveled Lesson Quizzes Leveled Chapter Tests</b>
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<b>Unit 2 Chapter 4 Lesson 3</b>	<b>6.2.4</b>	<b>How are the outer planets similar? What are each of the outer planets made of?</b>	<b>Activity: size comparison</b>	<b>Galilean moons</b>	<b>Leveled Lesson Quizzes Leveled Chapter Tests</b>
6.2.4 With regard to their size, composition, distance from sun, surface features and ability to support life, compare and contrast the planets of the solar system with one another and with asteroids and comets					
<b>Unit 2 Chapter 4 Lesson 4</b>	<b>6.2.4</b>	<b>What is a dwarf planet? What are the characteristics of comets and asteroids? How does an impact crater form?</b>	<b>Activity: identify objects Mini-lab: How do impact craters form?</b>	<b>meteoroid meteor meteorite impact crater</b>	<b>Leveled Lesson Quizzes Leveled Chapter Tests</b>
6.2.4 With regard to their size, composition, distance from sun, surface features and ability to support life, compare and contrast the planets of the solar system with one another and with asteroids and comets					

# Curriculum Mapping

## Science – Grade 6

3<sup>rd</sup> Nine Weeks

Unit Lessons	Standard (Basic Skills)	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit 3 Chapter 5 Lesson 1	6.3.6	<u>Life's Classification and Structure</u> What are living things? What do living things need? How are living things classified?	Activity: Metamorphosis Visuals	autotrophs heterotrophs habitat binomial nomenclature taxon	Leveled Lesson Quizzes Leveled Chapter Tests
6.3.6 Recognize that food provides the energy for the work that cells do and is a source of the molecular building blocks that can be incorporated into a cell's structure or stored for later use.					
Unit 3 Chapter 5 Lesson 2	6.3.4 6.3.6	What is a cell made of? How do the parts of a cell enable it to survive?	Mini-lab: What can you see in a cell?	prokaryotic cell eukaryotic cell cytoplasm mitochondrion	Leveled Lesson Quizzes Leveled Chapter Tests
6.3.4 Recognize that plants use energy from the sun to make sugar (i.e., glucose) by the process of photosynthesis. 6.3.6 Recognize that food provides the energy for the work that cells do and is a source of the molecular building blocks that can be incorporated into a cell's structure or stored for later use.					
Unit 3 Chapter 6 Lesson 1	6.3.4 6.3.6	<u>Plant Processes</u> How do materials move inside plants? How do plants perform photosynthesis? How are photosynthesis and cellular respiration alike, and how are they different?	Interactive Table: comparing photosynthesis and cellular respiration Personal Tutor: Photosynthesis and cellular respiration	Photosynthesis cellular respiration	Leveled Lesson Quizzes Leveled Chapter Tests
6.3.4 Recognize that plants use energy from the sun to make sugar (i.e., glucose) by the process of photosynthesis. 6.3.6 Recognize that food provides the energy for the work that cells do and is a source of the molecular building blocks that can be incorporated into a cell's structure or stored for later use.					

<b>Unit 3</b> <b>Chapter 6</b> <b>Lesson 2</b>	<b>6.3.2</b>	<b>How do plants respond to environmental stimuli?</b> <b>How do plants respond to chemical stimuli?</b>	<b>Brain Pop: Plant Growth</b>	<b>stimulus</b> <b>tropism</b> <b>photoperiodism</b> <b>plant hormone</b>	<b>Leveled Lesson Quizzes</b> <b>Leveled Chapter Tests</b>
6.3.2 Describe how changes caused by organisms in the habitat where they live can be beneficial or detrimental to themselves or to native plants and animals.					

**Curriculum Mapping**  
**Science – Grade 6**  
**4<sup>th</sup> Nine Weeks**

Unit Lessons	Standard (Basic Skills)	Key Questions	Resources/Activities	Vocabulary	Assessments
<b>Unit 3</b> <b>Chapter 7</b> <b>Lesson 1</b>	<b>6.3.2</b> <b>6.3.3</b>	<p style="text-align: center;"><b><u>Populations and Communities</u></b></p> <p><b>What defines a population?</b>  <b>What factors affect the size of a population?</b></p>	<b>Activity: Popluation Explosion</b>	biosphere community population competition limiting factor population density biotic potential carrying capacity	<b>Leveled Lesson</b> <b>Quizzes</b> <b>Leveled Chapter Tests</b>
<p>6.3.2 Describe how changes caused by organisms in the habitat where they live can be beneficial or detrimental to themselves or to native plants and animals.</p> <p>6.3.3 Describe how certain biotic and abiotic factors, such as predators, quantity of light and water, range of temperatures and soil composition, can limit the number of organisms an ecosystem can support.</p>					
<b>Unit 3</b> <b>Chapter 7</b> <b>Lesson 2</b>	<b>6.3.2</b> <b>6.3.3</b>	<p><b>How do populations change?</b>  <b>Why do human populations change?</b></p>	<b>Skill practice: How do populations change in size?</b>	birthrate death rate extinct species endangered species threatened species migration	<b>Leveled Lesson</b> <b>Quizzes</b> <b>Leveled Chapter Tests</b>
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<b>Unit 3 Chapter 7 Lesson 3</b>	<b>6.3.1 6.3.2 6.3.3 6.3.4 6.3.5</b>	<b>What defines a community? How do the populations in a community interact?</b>	<b>Animation: Food Web Activity: Your Energy Role</b>	<b>habitat niche producer consumer symbiosis mutualism commensalisms parasitism</b>	<b>Leveled Lesson Quizzes Leveled Chapter Tests</b>
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6.3.1 Describe specific relationships (i.e., predator and prey, consumer and producer, and parasite and host) between organisms and determine whether these relationships are competitive or mutually beneficial.

6.3.2 Describe how changes caused by organisms in the habitat where they live can be beneficial or detrimental to themselves or to native plants and animals.

6.3.3 Describe how certain biotic and abiotic factors, such as predators, quantity of light and water, range of temperatures and soil composition, can limit the number of organisms an ecosystem can support

6.3.4 Recognize that plants use energy from the sun to make sugar (i.e., glucose) by the process of photosynthesis.

6.3.5 Describe how all animals, including humans, meet their energy needs by consuming other organisms, breaking down their structures, and using the materials to grow and function.

<b>Unit 4 Chapter 8 Lesson 1</b>	<b>6.3.2 6.3.3</b>	<b><u>Biomes and Ecosystems</u>  How do Earth's land biomes differ? How do humans impact land biomes?</b>	<b>Animation: Land Biomes Brain Pop: Ecosystems</b>	<b>biome desert grassland temperate taiga tundra</b>	<b>Leveled Lesson Quizzes Leveled Chapter Tests</b>
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<b>Unit 4 Chapter 8 Lesson 2</b>	<b>6.3.2 6.3.3</b>	<b>How do Earth's aquatic ecosystems differ? How do humans impact aquatic ecosystems?</b>	<b>Activity: Aquatic Ecosystems</b>	<b>salinity wetland estuary intertidal zone coral reef</b>	<b>Leveled Lesson Quizzes Leveled Chapter Tests</b>
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<b>Unit 4 Chapter 8 Lesson 3</b>	<b>6.3.2 6.3.3</b>	<b>How do land ecosystems change over time? How do aquatic ecosystems change?</b>	<b>Animation: A climax community Science Video: Out of Ashes; Wasteland</b>	<b>ecological succession climax community pioneer species eutrophication</b>	<b>Leveled Lesson Quizzes Leveled Chapter Tests</b>
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