Curriculum Map: Cyber Science Grade 5
Course: 5 Science Sub-topic: General

Grade(s): 5

Course Description:

-Through the Nature of Science, The 5th grade students will complete course work in the following areas.

Physical Science: **Conservation of Energy and Energy Transfer: Energy Resources, Forms of Energy, Energy transformations, Heat energy.**

Earth Science: **Earth's Systems, Earth's Water, Human Impact on Earth's Systems, Solar System, Patterns in Space, Landforms/Geological Processes, Soil. **

Life Science: **Energy and Food, Matter and Energy in Ecosystems, Food Chains, Food Webs, Organisms in their environment, How Plants Make Food, How animals use food.**

-Through the completion of this coursework, students will be given opportunities to think critically and solve real world problems.

Essential Questions:

- Topic 1: How do you describe properties of matter?

- Topic 2: What evidence do we have that matter changes?

- Topic 3: How can you model interactions among Earth's systems?

- Topic 4: How much water can be found in different places on Earth?

- Topic 5: How can we protect Earth's resources and environments?

- Topic 6: What is Earth's place in space?

- Topic 7: How do patterns change from day to day and season to season?

- Topic 8: Where does food's energy come from and how is food used?

- Topic 9: How can you model the interaction of living things in an ecosystem?

Course Textbooks, Workbooks, Materials Citations:

-Elevate Science: Savvas Learning Company

-Chromebooks or devices capable of accessing digital resources

-Study Island

Pacing Calendar:

-Unit 1 Physical Science : Students will discover the Properties of Matter by observing and modeling matter using a variety of resources including virtual labs, interactivities, videos, and digital notebooks.

Weeks 1-9

-Properties of Matter

-Observing Matter

-Model Matter

-States of Matter

-Physical Changes of matter

-Chemical Changes of matter

-Mixtures and Solutions

-Unit 2 Earth and Space Science: Students will discover what Earth's oceans are like; Where to find fresh water; How water cycles through the environment; How clouds form and how they affect precipitation.

Weeks 10-18

-Geosphere and Biosphere

-Hydrosphere and Atmosphere

-Interactions Among Earth's Systems

-Water Cycle

-Earth's Freshwater

-Earth's Oceans

Unit 3 Earth and Space Science: Students will discover that Stars are as big and bright as the sun; Apparent brightness of stars relationship with distance from Earth; Inner planets vs. Outer planets; Position of Earth in our Solar System, Earth's gravity; Night and Day caused by rotation of Earth; Phases of the moon

Weeks 19-27

-Earth's Natural Resources

-Earth's Energy Resources

-Human Activity and Earth's Systems

-Protection of Earth's Resources and Environments

-Brightness of the Sun and Other Stars

-Inner Solar System

-Outer Solar System

-Earth's Gravitational Forces

-Earth's Movements in Space

-Patterns Over Time

Unit 4 Life Science: Students will discover how energy in an animal's food was once energy from the sun; How plants make food using sunlight, air, water, and materials in soil; How animals use energy they get from food; Components of an ecosystem; Relationships between organisms and ecosystems; How organisms use matter; How change affects an ecosystem; Characteristics of a healthy ecosystem; Movement of matter among organisms and the environment.

Weeks 28-36

-Energy in Food

-How Plants make Food

-How Animals use Food

-Ecosystems

-Organisms Within Ecosystems

-Change Within Ecosystems

-Matter and Energy Transfer Within Ecosystems

Course Interdisciplinary Connections:

-The Elevate Science Savvas Learning Company curriculum has a complete digital version of the book that students will navigate throughout 5th grade Science course that will allow them to use Science, Technology, Engineering, and Math. The students will also need to read and interpret information; integral to ELA as well. The instructor will facilitate students throughout the learning experience using email, Google meet, and digital notebooks on Savvas to give immediate feedback on student's progress.

Course Notes:

Use of digital resources from Elevate Science: Savvas Learning Company. Text to speech options available for all students.

Use of studyisland.com to show growth in concepts and essential questions.

Vocabulary acquisition for each unit based on individual student needs/differentiation of materials and or supplemented materials to meet the needs of every student.

Unit: Unit 1 Physical Science

Timeline: Week 1 to 9

Unit Description: -Students will discover the Properties of Matter by observing and modeling matter using a variety of resources including virtual labs, interactivities, videos, and digital notebooks.

Unit Essential Questions:

-How can you observe Matter?

-How can you measure the properties of Matter?

-What makes up Matter?

-What is the Atomic Theory?

-What are the properties of Matter?

-What evidence do we have that Matter changes?

-What are the three states of Matter?

-What are physical changes of Matter?

-What are Chemical changes of Matter?

Unit Big Ideas:

-How do you describe properties of Matter?

-How is Matter conserved? (Law of Conservation of Matter)

Unit Materials:

- Chromebook
- Elevate Science- The Savvas Learning Company digital resource
- Study Island

Unit Assignments:

Lesson	Objective	Standards	Assessment	Resources
Lesson 1 Observe Matter	Students will observe and measure properties of materials.	S5.C.1 S5.C.1.1	• Interactivitiy-Measuring Matter • Video- Observe Matter • eText- Observe Matter(content questions answered with a digital notebook) • Quiz: Observe Matter	Elevate Science: Savvas Learning Company(Digital)
Lesson 2 Model Matter	Students will explain that matter is made of tiny particles too small to be seen.	S5.C.1.1.1 S5.C.1.1.2	 • Engineering Connection eText: Model Matter • Virtual Lab- Water as Fuel • Interactivity- Matter is everywhere • Quiz: Model Matter	Elevate Science: Savvas Learning Company(Digital)
Lesson 3 Properties of Matter	Students will identify materials based on their properties	S5.C.1 S5.C.1.1	• eText: Properties of Matter • Video: Properties of Matter • Interactivity: Measuring Matter • Quiz: Properties of Matter • eText: Properties of Matter test(Review) • Test: Properties of Matter	Elevate Science: Savvas Learning Company(Digital)
 Lesson 4 States of Matter	Students will identify the differences among the three states of matter	S5.C.1.2.1 S5.C.1.2	 • Local-To-Global connection: States of Matter • eText: States of Matter • Video: States of Matter • Interactivity: The States of Matter • Quiz: States of Matter	Elevate Science: Savvas Learning Company(Digital)
Lesson 5 Physical Changes	Students will use evidence to show that matter is conserved during a physical change. Students will explain how temperature can affect a physical change.	S5.C.2.1.4 S5.C.3.1.1	 • STEM Connection: Physical Changes • eText: Physical Changes • Video: Physical Changes	Elevate Science: Savvas Learning Company(Digital)

			• Interactivity: Changing States • Interactivity: Physical Changes in Matter • Quiz: Physical Changes	
Lesson 6 Chemical Changes 	Students will use evidence to show that matter is conserved during a chemical change	S5.C.2.1.4 S5.C.1.2.2	• STEM Connection: Chemical Changes • eText: Chemical Changes • Video: Chemical Changes • Interactivity: Chemical Changes • Quiz: Chemical Changes	Elevate Science: Savvas Learning Company(Digital)
Lesson 7 Mixtures and Solutions	Students will explain what happens when different substances are mixed. Explain how to slow down or speed up the dissolving process when mixing materials in water. Demonstrate that mixtures of solids can be separated	S5.C.3.1.1 S5.C.1.1	• Curriculum Connection: Mixtures and Solutions • eText: Mixtures and Solutions • Video: Mixtures and Solutions • Virtual Lab: Special Effects With Matter • Interactivity: Mixtures and Solutions • Quiz: Mixtures and Solutions	

Unit Key Terminology & Definitions:

- Solid- matter with a definite shape
- Liquid- matter with no definite shape but a definite volume
- Gas- matter with no definite shape and no definite volume
- Differentiate- tell the difference between states of matter
- Physical change- a change in some properties of matter that does not form a different kind of matter.
- Chemical change- a change that produces one or more new substances.
- Conservation of matter- the law states that in any chemical change or physical change, the total mass of the matter does not change.
- Chemical Reaction- when you observe one or more substance change into on or more new substances.
- Mixture- when materials are placed together, but keep their own properties.
- Solution- a mixture in which substances spread out evenly and do not settle to the bottom of the container.
- Observe- use your senses to gather information about something.
- Measure- comparing something to a standard unit.
- Solubility- property of a material that refers to how well it dissolves in another material.
- Atom- the smallest part of an element that still has the properties of the element.
- Atomic Theory- the idea that everything is made up of small particles.
- Compound- matter made of two or more elements.
- Molecule- the smallest particle of a compound that still has the properties of that compound.
- Temperature- measure of how fast an object's particles are moving.
- Mass- the amount of matter in a substance.

- Volume- the amount of space an object takes up.

STANDARDS:

STANDARDS

STATE: Pennsylvania State Anchors (2010)

S5.C.1 (Advanced)	Structure, Properties, and Interaction of Matter and Energy	
S5.C.1.1 (Advanced)	Describe the observable physical properties of matter.	
S5.C.1.1.1 (Advanced)	Identify characteristic properties of matter that are independent of mass and volume.	
S5.C.1.1.2 (Advanced)	Differentiate between volume and mass.	
S5.C.1.2 (Advanced)	Describe that matter can undergo chemical and physical changes.	
S5.C.1.2.1 (Advanced)	Describe how water changes from one state to another.	
S5.C.1.2.2 (Advanced)	Identify differences between chemical and physical changes of matter.	
S5.C.2.1.4 (Advanced)	Explain how energy is conserved.	
S5.C.3.1.1 (Advanced)	Differentiate between the mass and weight of an object.	

This Curriculum Map Unit has no Topics to display

Unit: Unit 2: Earth and Space Science

Timeline: Week 10 to 18

Unit Description: -Students will discover what Earth's oceans are like; Where to find fresh water; How water cycles through the environment; How clouds form and how they affect precipitation.

Unit Essential Questions:

- What is a system?
- What makes up Earth's Geosphere?
- What makes up Earth's Hydrosphere?
- What makes up Earth's Biosphere?
- What makes up Earth's Atmosphere?
- What is Earth's lithosphere?
- What are the two types of water on Earth?
- How are UV rays harmful?
- How does the atmosphere protect Earth?
- How do Earth's spheres interact with one another?
- What are clouds made of?
- Are Earth's spheres interdependent?

Unit Big Ideas:

-How can you model interactions among Earth's systems?

-What allows Earth to support the existence of living things?

-What is the Atmosphere?

Unit Materials:

- Chromebook
- Elevate Science- The Savvas Learning Company digital resource
- Study Island

Unit Assignments:

Lesson	Objective	Standards	Assessment	Resources
Lesson 1 "Water Cycle"	Students will explain the parts of the water cycle. Students will recognize that the ocean is an important part of the water cycle	S5.D.2.1.1 S5.D.1.2	• Sports Connection eText: Water Cycle • eText: Water Cycle(Content questions answered with digital notebook) • Video: Water Cycle • Interactivity: Tracing the water cycle • Quiz: The Water Cycle • Local-to-Global Connection eText: Earth's Freshwater	Elevate Science: Savvas Learning Company(Digital)
Lesson 2 "Earth's Freshwater"	Students will identify that most of Earth's freshwater is in glaciers, ice caps, or underground. Students will explain that some freshwater is found in lakes, rivers, wetlands, and the atmosphere.	S5.D.1.2.2 S5.D.2.1.1 S5.D.1.2	 • eText: Earth's Freshwater • Video: Earth's Freshwater • Virtual Lab: Where has all the water gone? • Quiz: Earth's Freshwater	Elevate Science: Savvas Learning Company(Digital)
Lesson 3 "Earth's Ocean"	Students will describe how most of Earth's water is in the ocean	S5.D.2.1.2 S5.D.2.1.1	• Local-To-Global Connection:Earth's Ocean • eText: Earth's Ocean • Video: Earth's Ocean • Interactivity: Earth's Waters • Quiz: Earth's Waters	Elevate Science: Savvas Learning Company(Digital)
Lesson 4 "Geosphere and Biosphere"	Students will describe what makes up the geosphere. Students will describe what makes up the biosphere	 S5.D.1 S5.D.1.1.2	 • eText: Geosphere and Biosphere • Video: Geosphere and Biosphere • Interactivity: The Organic Geosphere • Quiz: Geosphere and Biosphere	Elevate Science: Savvas Learning Company(Digital)
Lesson 5 "Hydrosphere and Atmosphere"	Students will describe what makes up the atmosphere. Describe what makes up the hydrosphere.	S5.D.1 S5.D.1.1	• Engineering Connection eText: Hydrosphere and Atmosphere • eText: Hydrosphere and Atmosphere • Video: Hydropshere and Atmosphere • Interactivity: Earth's four Spheres • Quiz: Hydrosphere and Atmosphere	Elevate Science: Savvas Learning Company(Digital)
Lesson 6 "Interaction among Earth's Systems"	Students will describe how Earth's systems interact with each other	 S5.D.1.2 S5.D.2.1.1	 • eText: Interactions among Earth's Systems • Video: Interactions among Earth's Systems • Virtual Lab: Build your own Dream Park • Interactivity: Interactions among Earth's Spheres • Quiz: Interaction among Earth's Systems	

Unit Key Terminology & Definitions:

- System- a collection of parts that work together.
- Biosphere- Earth's system that includes all living things.
- Geosphere- Earth's system that includes rocks, soil, and sediment.
- Lithosphere- made up of the outer, rocky parts of Earth and includes the crust and the outer, rigid part of the mantle.

- Hydrosphere- makes up all the water on, under, or above Earth's surface.
- Atmosphere- the layer of mixed gases that surround Earth.
- Distinguish- make a clear difference.
- Interdependent- when two things depend on one another to function properly.
- Greenhouse Effect- the warming of Earth's atmosphere, land, and water.

STANDARDS: **STANDARDS**

STATE: Pennsylvania State Anchors (2010)

S5.D.1 (Advanced)	Earth Features and Processes That Change Earth and Its Resources	
S5.D.1.1 (Advanced)	Describe constructive and destructive natural processes that form different geologic structures and resources.	
S5.D.1.1.2 (Advanced)	Explain how geological processes observed today (e.g., erosion, changes in the composition of the atmosphere, volcanic eruptions, earthquakes) are similar to those in the past.	
S5.D.1.2 (Advanced)	Describe characteristic features of Earth's water systems and their impact on resources.	
S5.D.1.2.1 (Advanced)	Identify physical, chemical, and biological factors that affect water quality.	
S5.D.1.2.2 (Advanced)	Describe the importance of wetlands in an ecosystem.	
S5.D.2.1.1 (Advanced)	Explain how the cycling of water into and out of the atmosphere impacts climatic patterns.	
S5.D.2.1.2 (Advanced)	Explain the effects of oceans and lakes on climate.	

This Curriculum Map Unit has no Topics to display

Unit: Unit 3 Earth and Space Science

Timeline: Week 19 to 27

Unit Description: Students will discover that Stars are as big and bright as the sun; Apparent brightness of stars relationship with distance from Earth; Inner planets vs. Outer planets; Position of Earth in our Solar System, Earth's gravity; Night and Day caused by rotation of Earth; Phases of the moon

Unit Essential Questions:

-What is the main difference between a renewable resource and a nonrenewable resource?

-How are rocks and minerals related?

-How do we use mineral resources in our lives everyday?

-Why are coal, petroleum, and natural gas called fossil fuels?

-What is the original source of most energy people use?

-What is goethermal energy?

-How do humans affect Earth's natural Resources?

-How does human activity affect Earth's environments?

-What is conservation?

-What does it mean to recycle?

-How can we protect Earth's natural resources?

-What is a light year?

-How are the temperature and brightness of a star related?

-What are the characteristics of the Earth and Sun?

-How is a planet's temperature related to the sun?

-What is a star?

-What size is the sun compared to other objects in our solar system?

Unit Big Ideas:

-How can we protect Earth's resources and environments?

-What will happen to forest resources if people use them faster than nature can replace these resources?

-What is Earth's place in space?

-What are the characteristics of the inner planets

-What are the characteristics of the outer planets?

Unit Materials:

- Chromebook
- Elevate Science- The Savvas Learning Company digital resource
- Study Island

Unit Assignments:

Lesson	Objective	Standards	Assessment	Resources
Lesson 1 Earth's Natural Resources	Students will describe Earth's natural resources.	S5.A.1 S5.A.2.2.2	 • eText: Earth's Natural Resources • Video: Earth's Natural Resources • Interactivity: Drinkable Water • Quiz: Earth's Natural Resources	Elevate Science: Savvas Learning Company(Digital)
Lesson 2 Earth's Energy Resources	Students will identify where energy on Earth comes from.	S5.A.1 S5.A.3	 • Engineering Connection: Earth's Energy Resources • eText: Earth's Energy Resources • Interactivity: How we sue Earth's Energy Resources • Video: Earth's Energy Resources • Quiz: Earth's Energy Resources	Elevate Science: Savvas Learning Company(Digital)
Lesson 3 Human Activity and Earth's Systems	Students will explain how human activities affect Earth's resources and environments	S5.A.2.2.2 S5.A.3	 • STEM Connection: Human Activity and Earth's Systems • eText: Human Activity and Earth's Systems • Video: Human Activity and Earth's Systems • Interactivity: Causes of environmental damage • Quiz: Human Activity and Earth's Systems	Elevate Science: Savvas Learning Company(Digital)
Lesson 4 Brightness of the Sun and Other Stars	Students will recognize that many stars are as big and bright as the sun. Students will explain how the apparent brightness of stars is related to their distances from Earth	S5.D.3 S5.D.3.1	 • Local to Global connection: Brightness of the Sun and other stars • eText: Brightness of the Sun and other stars • Interactivity: The sun and other stars	Elevate Science: Savvas Learning Company(Digital)

			• Video: Brightness of the Sun and other Stars • Quiz: Brightness of the Sun and other stars	
Lesson 5 Inner Solar System	Students will describe the inner planets of Mercury, Venus, Earth, and Mars. Students will identify common characteristics of the inner planets. Students will recognize the position of Earth within the solar system.	S5.D.3.1 S5.D.3.1.2	 • Sports Connection: Inner Solar System • eText: Inner Solar System • Video: Inner Solar System • Interactivity: The Inner Planets • Quiz: Inner Solar System	Elevate Science: Savvas Learning Company(Digital)
Lesson 6 Outer Solar System	Students will describe the outer planets of Jupiter, Saturn, Uranus, and Neptune. Students will identify common characteristics of the outer planets. Recognize that there are moons, asteroids, and comets in our solar system.	S5.A.3.2.1	 • Curriculum Connection: Outer Solar System • eText: Outer Solar System • Video: Outer Solar System • Virtual Lab: Up close with the Solar System • Interactivity: The Outer Planets • Quiz: The Outer Solar System • Test: Solar System	Elevate Science: Savvas Learning Company(Digital)

Unit Key Terminology & Definitions:

- Natural resource- something found in nature that humans use.
- Classify- put into groups.
- Nonrenewable resource- a resource that is not made as fast as it can be replaced.
- Renewable resource- a resource made at least as quickly as people use it.
- Minerals- naturally occurring, nonliving solids in Earth's crust.
- Rocks- natural substances made up of one or more minerals.
- Natural gas- a flammable gas.
- Hydroelectric energy- energy that comes from the movement of water.
- Pollution- the presence of substances in the environment that are harmful to humans or other organisms.
- Conservation- the practice of protecting the environment and using resources carefully.
- Star- huge ball of very hot matter that gives off energy.
- Orbit- the curved path of an object around a star, a planet, or a moon.
- Moon- a satellite made of rock and ice that orbits a planet.
- Asteroids- chunks of rock that measure in size from a meter to several kilometers in diameter.
- Comets- chunks of ice and dust or rock that have stretched-out orbits around the sun.

STANDARDS: **STANDARDS**

STATE: Pennsylvania State Anchors (2010)

S5.A.1 (Advanced)	Explain, interpret, and apply scientific, environmental, or technological knowledge presented in a variety of formats (visuals, scenarios, graphs).	
S5.A.1.1.2 (Advanced)	Explain how observations and/or experimental results are used to support inferences and claims about an investigation or relationship (e.g., make a claim based on information on a graph).	
S5.A.2.2.2 (Advanced)	Explain how technology extends and enhances human abilities for specific purposes (e.g., use hand lens to examine crystals in evaporation dishes; use graduated cylinders to measure the amount of water used in a	

	controlled plant experiment).	
S5.A.3 (Advanced)	Systems, Models, and Patterns	
S5.A.3 (Advanced)	Apply knowledge of systems and patterns to make predictions.	
S5.A.3.2.1 (Advanced)	Describe how models are used to better understand the relationships in natural systems (e.g., water cycle, Sun-Earth- Moon system, ecosystems, observe and draw a diagram to show the effects of flowing water in a watershed).	
S5.D.3 (Advanced)	Composition and Structure of the Universe	
S5.D.3.1 (Advanced)	Explain the relationships between objects in our solar system.	
S5.D.3.1.1 (Advanced)	Describe the patterns of Earth's rotation and revolution in relation to the Sun and Moon (i.e., solar eclipse, phases of the Moon, and time).	
S5.D.3.1.2 (Advanced)	Compare the general characteristics of the inner planets of our solar system (i.e., size, orbital path, surface characteristics, and moons).	

This Curriculum Map Unit has no Topics to display

Unit: Unit 4 Life Science

Timeline: Week 27 to 35

Unit Description: Students will discover how energy in an animal's food was once energy from the sun; How plants make food using sunlight, air, water, and materials in soil; How animals use energy they get from food; Components of an ecosystem; Relationships between organisms and ecosystems; How organisms use matter; How change affects an ecosystem; Characteristics of a healthy ecosystem; Movement of matter among organisms and the environment.

Unit Essential Questions:

-How are a herbivore and a carnivore different?

-What are two ways that plants use energy from food?

-How does a plant make glucose?

-What materials can farmers add to a field in order to help their plants grow?

-What are two ways you use energy that cannot be seen?

-What are two ways you use energy that can be seen?

-What is an ecosystem?

-What are biotic factors in an ecosystem?

-What are abiotic factors in an ecosystem?

-How do organisms use matter?

-What is a producer?

-What is a consumer?

-What is a decomposer?

-What are two characteristics of a healthy ecosystem?

-How can introducing a new species into an ecosystem negatively affect the ecosystem?

Unit Big Ideas:

- Where does food's energy come from and how is food used?

- How can you model the interaction of living things in an Ecosystem?

Unit Materials:

- Chromebook
- Elevate Science- The Savvas Learning Company digital resource
- Study Island

Unit Assignments:

Lesson	Objective	Standards	Assessment	Resources
Lesson 1 Energy in Food	Students will use a model to describe how the energy in an animal's food was once energy from the sun	S5.B.2 S5.B.2.1.3	 • Curriculum Connection: Energy in Food • eText: Energy in Food • Video: Energy in Food • Interactivity: Energy in Food Chains • Quiz: Energy in Food	Elevate Science: Savvas Learning Company(Digital)
Lesson 2 How Plants Make Food	Students will describe how plants make food using sunlight, air, water, and materials in soil	S5.B.3.1.1	• STEM Connection: How Plants Make Food • eText: How Plants Make Food • Video: How Plants Make Food • Virtual Lab: Solving Crop Problems • Interactivity: Photosynthesis • Quiz: How Plants Make Food	Elevate Science: Savvas Learning Company(Digital)
Lesson 3 How Animals use Food	Students will explain how animals use the energy they get from food	S5.B.2.1.3	• Sports Connection: How animals use Food • eText: How animals use Food • Video: How animals use Food • Interactivity: Ectotherms and Endotherms • Quest Check-in: Animals Using Energy • Quiz: How Animals use Food	Elevate Science: Savvas Learning Company(Digital)
Lesson 4 Ecosystems	Students will describe the components of an ecosystem.	S5.B.3	• eText: Matter and Energy in Ecosystems • Sports Connection: Ecosystems • eText: Ecosystems • Video: Ecosystems • Interactivity: Interactions in an Ecosystem • Quest Check-In eText: Unwelcome Inhabitants • Quiz: Ecosystems • eText: Career Connection: Nutritionist • eText: Energy in Food(Assessment Review) • Test: Energy and Food	Elevate Science: Savvas Learning Company(Digital)
Lesson 5 Organisms within Ecosystems	Students will describe how organisms use matter. Describe the relationships between organisms in an ecosystem.	S5.B.3.2 S5.B.3.1.2	• STEM Connection: Organisms Within Ecosystems • eText: Organisms Within Ecosystems • Video: Organisms Within Ecosystems • Interactivity: producers, Consumers, and Decomposers • Quiz: Organisms Within Ecosystems	Elevate Science: Savvas Learning Company(Digital)
Lesson 6 Change Within Ecosystems	Students will identify the characteristics of a healthy ecosystem. Describe how change affects an ecosystem	S5.B.3.1	• Local-To-Global Connection: Change within Ecoystems • eText: Change Within Ecosystems • Video: Change Within Ecosystems • Interactivity: The Forest of Change • Quiz: Change Within Ecosystems	Elevate Science: Savvas Learning Company(Digital)
Lesson 7 Matter and Energy Transfer Within Ecosystems	Students will model the movement of matter among organisms and the environment	S5.B.3.2.3	• Engineering Connection: Matter and Energy Transfer Within Ecosystems • eText: Matter and Energy Transfer Within	Elevate Science: Savvas Learning Company(Digital)

Ecosystems
- Video: Matter and Energy Transfer Within Ecosystems
- Virtual Lab: From Garbage to garden
- Interactivity: Matter and Energy Transfer
- Quiz: Matter and Energy Transfer Within Ecosystems
- eText: Matter and Energy in Ecosystems Test(Assessment Review)
- Test: Matter and Energy in Ecosystems

Unit Key Terminology & Definitions:

- Herbivore- a consumer that only eats plants.
- Carnivore- a consumer that only eats other animals or animal products(eggs).
- Omnivore- an animal that eats both plants and animals.
- Photosynthesis- Plants use water, carbon dioxide, and sunlight to make glucose for food.
- Chlorophyll- a green, sticky substance that absorbs sunlight energy.
- Endotherm- an animal that uses energy stored in its body to keep its body within a normal range.(warm-blooded)
- Ectotherm- an animal that depends on its environment to warm its body. (cold-blooded)
- Metabolism- the collection of chemical processes that break down and build molecules in a living organism.
- Ecosystem- all the living and nonliving components in a particular area.
- Interact- when two things affect one another.
- Abiotic factor- the nonliving parts of an ecosystem.
- Biotic factor- the living parts of an ecosystem.
- Community- all the organisms living together in an ecosystem.
- Producer- an organism that makes its own food using nonfood matter and energy from the sun.
- Decomposer- organisms that break down, or decompose, other organisms' bodies after they die.
- Microbes- organisms that are too small to see. (bacteria and small fungi)
- Food chain- shows how matter and energy flow from one organism to another.
- Food web- a set of interconnected food chains.
- Succession- refers to a series of changes in a community.
- Competition- when organisms in an ecosystem need the same resources.
- Cycle- to move through a series of steps that repeat.

STANDARDS: **STANDARDS**

STATE: Pennsylvania State Anchors (2010)

S5.B.2 (Advanced)	Continuity of Life	
S5.B.2.1 (Advanced)	Explain how certain inherited traits and/or behaviors allow some organisms to survive and reproduce more successfully than others.	
S5.B.2.1.3 (Advanced)	Explain how certain behaviors help organisms survive and reproduce in different environments.	
S5.B.3 (Advanced)	Ecological Behavior and Systems	
S5.B.3.1 (Advanced)	Describe the relationships between organisms in different ecosystems.	
S5.B.3.1.1 (Advanced)	Describe the roles of producers, consumers, and decomposers within a local ecosystem.	
S5.B.3.1.2 (Advanced)	Describe the relationships between organisms in different food webs.	
S5.B.3.2 (Advanced)	Explain how renewable and nonrenewable resources provide for human needs.	

S5.B.3.2.3 (Advanced) Explain how different items are recycled and reused.

This Curriculum Map Unit has no Topics to display