

Science / Grade 5
Year At A Glance

Fifth Grade Science Year-at-a-Glance
ARKANSAS STATE SCIENCE STANDARDS

Unit 1 Structure and Properties of Matter	Unit 2 Matter and Energy in Organisms and Ecosystems	Unit 3 Interaction of Earth's Systems	Unit 4 Space Systems
14 weeks	6 weeks	10 weeks	8 weeks
<ul style="list-style-type: none"> ● 5-PS1-1 ● 5-PS1-2 ● 5-PS1-3 ● 5-PS1-4 	<ul style="list-style-type: none"> ● 5-LS2-1 ● 5-LS1-1 ● 5-PS3-1 	<ul style="list-style-type: none"> ● 5-ESS2-1 ● 5-ESS2-2 ● 5-ESS3-1 	<ul style="list-style-type: none"> ● 5-PS2-1 ● 5-ESS1-1 ● 5-ESS1-2
<u>Recurring</u>			
<ul style="list-style-type: none"> ● 5-ETS1-1 Define a simple design problem reflecting a need of a want that includes specified criteria for success and constraints on materials, time, or cost. ● 5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. ● 5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. 			

[Unit 1](#)

[Unit 2](#)

[Unit 3](#)

[Unit 4](#)

Unit 1	Structure and Properties of Matter	Grade Level	5	Approx Length	10 weeks
CPSD Power Standards with Student Learning Objectives					
<p>5-PS1-1 Develop a model to describe that matter is made of particles too small to be seen.</p> <p>Student-Friendly Objectives:</p> <ul style="list-style-type: none"> ● I can describe the behavior of particles in solids, liquids and gases. ● I can explain how matter is made up of smaller particles. ● I can explain how particles can be too small to be seen. 					
Learning Indicators of Power Standards					
<p>Students will know...</p> <ul style="list-style-type: none"> ● All things contain matter ● Matter is made up of particles ● Phases: Solid, Liquid, Gas 			<p>And be able to...</p> <ul style="list-style-type: none"> ● Identify solids, liquids, and gases. ● Describe the behavior of particles in solids, liquids, and gases. ● Describe how matter is made up of smaller particles too small to be seen. 		
Additional Arkansas State Standards					
<ul style="list-style-type: none"> ● 5-PS1-2 Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. ● 5-PS1-3 Make observations and measurements to identify materials based on their properties. ● 5-PS1-4 Conduct an investigation to determine whether the mixing of two or more substances results in new substances. 					

Unit 2	Matter and Energy in Organisms and Ecosystems	Grade Level	5	Approx Length	6 weeks
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CPSD Power Standards with Student Learning Objectives

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

Student-Friendly Objectives:

- I can create a food web based on several food chains being linked together.
- I can identify different types of consumers in an ecosystem.
- I can explain the role producers play in an ecosystem.
- I can explain the role of decomposers in an ecosystem.
- I can use a food web, food chain, or energy pyramid to show the flow of the sun’s energy.

Learning Indicators of Power Standards

Students will know...

- Plants use the Sun’s energy to create food for growth
- The flow of matter through a food chain/food web
- Organisms: consumers (primary, secondary, tertiary), producers, decomposers, herbivores, carnivores, and omnivores
- Ecosystems, organisms, matter (and the difference between matter and energy)
- Energy pyramid, predator, prey, scavenger

And be able to...

- Identify an animal’s food source.
- Classify an organism as a predator, prey, or scavenger.
- Classify an organism as a producer, carnivore, herbivore, omnivore, and decomposer.
- Organize a food web.
- Track and explain the movement of matter within an ecosystem.

Additional Arkansas State Standards

- 5-PS3-1 Use models to describe that energy in animals’ food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.
- 5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water.

Unit 3	Interaction of Earth's Systems	Grade Level	5	Approx length	11 Weeks
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CPSD Power Standards with Student Learning Objectives

5-ESS2-1 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

Student-Friendly Objectives:

- I can label parts/elements of the biosphere, geosphere, atmosphere, and hydrosphere
- I can describe the general functions of the biosphere, geosphere, atmosphere, and hydrosphere.
- I can explain, using examples, how two spheres interact.
- I can explain how some elements of one sphere are also elements in another sphere.
- I can make, use, and interpret pie/circle and bar graphs.
- I can identify ways humans affect the spheres.
- I can explain how water is distributed differently on Earth.

Learning Indicators of Power Standards

<p>Students will know...</p> <ul style="list-style-type: none"> ● Spheres are interconnected ● Components of spheres ● Humans impact the spheres in positive and negative ways ● The distribution of saltwater and freshwater on Earth 	<p>And be able to...</p> <ul style="list-style-type: none"> ● Explain how two of the spheres interact. ● Explain how elements of one sphere are found in other spheres. ● Create a model of two or more spheres interacting. ● Provide specific examples of how humans positively impact the spheres. ● Provide examples of how communities positively and negatively impact the spheres. ● Graph the distribution of saltwater and freshwater on Earth. ● Create different types of graphs (pie/circle and bar).
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Additional Arkansas State Standards

- E-ESS2-2 Describe and graph the amounts of saltwater and freshwater in various reservoirs to provide evidence about the distribution of water on Earth.
- E-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Unit 4	Space Systems	Grade Level	5	Approx Length	8 weeks
CPSD Power Standards with Student Learning Objectives					
None					
Learning Indicators of Power Standards					
Students will know...			And be able to...		
<ul style="list-style-type: none"> N/A 			<ul style="list-style-type: none"> N/A 		
Additional Arkansas State Standards					
<ul style="list-style-type: none"> 5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down. 5-ESS1-1 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth. 5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. 					