

Mystery Science Alignment with Ohio's Learning Standards for Science (2018)

Mystery Science - Ohio Alignment
Mystery Science aligns to the new Ohio's Learning Standards for Science (2018). The core Mystery (exploration & activity) is designed to take one hour per week. Optional Extras can extend each lesson. To view each Mystery's alignment to 3 dimensional learning (disciplinary core ideas, science and engineering practices, and crosscutting concepts) view our NGSS Alignment document. Mini-Lessons are 5-minute videos that answer K-5 student questions and can be used as a jumping off point to engage learners for a full lesson planned by the teacher.

Have extra time? "Optional Extras" are extensions to each Mystery. We recommend you use them during your unit or to extend the length of each unit. They include an informational text reading that builds on the Mystery's topic, assessments, and suggestions for supplemental activities.

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MYSTERY science

Kindergarten

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Strand	Topic	Ohio's Learning Standards	Mystery Science Unit	Mystery Science Lessons
Life Science	*Physical & Behavioral Traits of Living Things*	**K.LS.1** Living things have specific characteristics and traits.	Plant & Animal Superpowers	**Mystery 1:** Why do birds have beaks? **Mystery 2, Read Along:** Why do baby ducks follow their mother? **Mystery 3:** Why are polar bears white? **Mystery 4, Read Along:** Why do family members look alike? **Mystery 5:** Why don't trees blow down in the wind? **Mystery 6, Read Along:** What do sunflowers do when you're not looking?
		K.LS.2 Living things have physical traits and behaviors, which influence their survival.		
Earth & Space Science	*Daily & Seasonal Changes*	**K.ESS.1** Weather changes are long-term and short term.	Weather Watching	**Mystery 1:** Have you ever watched a storm? **Mystery 2, Read Along:** How can you get ready for a big storm? **Mystery 3:** What will the weather be like on your birthday? **Mystery 4, Read Along:** How do you know what to wear for the weather?
		K.ESS.2 The Moon, Sun, and stars can be observed at different times of the day or night.	Spinning Sky	**Mystery 1:** Could a statue's shadow move? **Mystery 2, Read Along:** What does your shadow do when you're not looking? **Mystery 3:** How can the sun help you if you get lost? **Mystery 4:** Why do you have to go to bed early in the summer? **Mystery 5:** Why do the stars come out at night? **Mystery 6, Read Along:** How can stars help you if you get lost?
Physical Science	*Properties of Everyday Objects & Materials*	**K.PS.1** Objects and materials can be sorted and described by their properties.	Lights & Sounds	**Mystery 1:** How do they make silly sounds in cartoons? **Mystery 2, Read Along:** Where do sounds come from? **Mystery 3:** What if there were no windows? **Mystery 4, Read Aloud:** Can you see in the dark? **Mystery 5:** How could you send a secret message to someone far away? **Mystery 6, Read Aloud:** How do boats find their way in the fog?
		K.PS.2 Some objects and materials can be made to vibrate to produce sound.		



MYSTERY science

Grade 1

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Life Science	*Basic Needs of Living Things*	**1.LS.1** Living things have basic needs, which are met by obtaining materials from the physical environment.	Plant & Animal Secrets	**Mystery 1:** Why do woodpeckers peck wood? **Mystery 2, Read Along:** Where do animals live? **Mystery 3:** How can you find animals in the woods? **Mystery 4, Read Along:** How do animals make their homes in the forest? **Mystery 5:** How do plants and trees grow? **Mystery 6, Read Along:** Why would you want an old log in your backyard?
		1.LS.2 Living things survive only in environments that meet their needs.	Plant Adventures	**Mystery 1:** How did a tree travel halfway around the world? **Mystery 2:** Do plants eat dirt? **Mystery 3:** Why do trees grow so tall? **Mystery 4:** Should you water a cactus? **Mystery 5:** Where do plants grow best?
Earth & Space Science	*Sun, Energy, & Weather*	**1.ESS.1** The Sun is the principal source of energy.	Weather Watching Mini-Lessons	**Mystery 5:** How could you warm up a frozen playground? **Mystery 6, Read Along:** How could you walk barefoot across hot parement without burning your feet? **Mini-Lesson:** Why does it get cold in winter?
		1.ESS.2 Water on Earth is present in many forms.		*Ohio specific standard*
Physical Science	*Motion & Materials*	**1.PS.1** Properties of objects and materials can change.	Force Olympics	**Mystery 1:** What's the biggest excavator? **Mystery 2, Read Along:** Why do builders need so many big machines? **Mystery 3:** How can you knock down a wall made of concrete? **Mystery 4, Read Along:** How can you knock down the most bowling pins? **Mystery 5:** How can we protect a mountain town from falling rocks? **Mystery 6:** How could you invent a trap?
		1.PS.2 Objects can be moved in a variety of ways, such as straight, zigzag, circular, and back and forth.		

Grade 2

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Strand	Topic	Ohio's Learning Standards	Mystery Science Unit	Mystery Science Lessons
Life Science	*Interactions within Habitats*	**2.LS.1** Living things cause changes on Earth.		*Ohio specific standard*
		2.LS.2 All organisms alive today result from their ancestors, some of which may be extinct. Not all kinds of organisms that lived in the past are represented by living organisms	Animals Through Time	**Mystery 1:** Where can you find whales in a desert? **Mystery 2:** How do we know what dinosaurs looked like? **Mystery 3:** Can you outrun a dinosaur?
Earth & Space Science	*The Atmosphere*	**2.ESS.1** The atmosphere is primarily made up of air.	Stormy Skies	**Mystery 1:** Where do clouds come from? **Mystery 2:** How can we predict when it's going to storm? **Mystery 3:** Why are some places always hot? **Mystery 4:** How can you keep a house from blowing away in a windstorm?
		2.ESS.2 Water is present in the atmosphere.		
		2.ESS.3 Long- and short-term weather changes occur due to changes in energy.		
Physical Science	*Changes in Motion*	**2.PS.1** Forces change the motion of an object.	Invisible Forces	**Mystery 1:** How could you win a tug-of-war against a bunch of adults? **Mystery 2:** What makes bridges so strong? **Mystery 3:** How can you go faster down a slide? **Mystery 4:** What can magnets do? **Mystery 5:** How can you unlock a door using a magnet?



MYSTERY science

Grade 3

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Strand	Topic	Ohio's Learning Standards	Mystery Science Unit	Mystery Science Lessons
Life Science	*Behavior, Growth, & Changes*	**3.LS.2** Individuals of the same kind of organism differ in their inherited traits. These differences give some individuals an advantage in surviving and/or reproducing.	Animal Adventures	**Mystery 1:** How many different kinds of animals are there? **Mystery 2:** Why do frogs say "ribbit"? **Mystery 3:** How could you get more birds to a bird feeder?
		3.LS.1 Offspring resemble their parents and each other.	Animals Through Time	**Mystery 4:** What kind of animals might there be in the future? **Mystery 5:** Can selection happen without people? **Mystery 6:** Why do dogs wag their tails?
		3.LS.3 Plants and animals have life cycles that are part of their adaptations for survival in their natural environments.	Power of Flowers*	**Mystery 1:** Why do plants grow flowers? **Mystery 2:** Why do plants give us fruit? **Mystery 3:** Why are some apples red and some green? **Mystery 4:** How could you make the biggest fruit in the world?
Earth & Space Science	*Earth's Resources*	**3.ESS.1** Earth's nonliving resources have specific properties	Watery Planet**	**Mystery 1:** How much water is in the world? **Mystery 2:** When you turn on the faucet, where does the water come from? **Mystery 3:** Can we make it rain? **Mystery 4:** How can you save a town from a hurricane?
		3.ESS.2 Earth's resources can be used for energy.		
		3.ESS.3 Some of Earth's resources are limited.		
Physical Science	*Matter & Forms of Energy*	**3.PS.1** All objects and substances in the natural world are composed of matter.	Material Magic	**Mystery 1:** Why do we wear clothes? **Mystery 2:** Can you really fry an egg on a hot sidewalk? **Mystery 3:** Why are so many toys made out of plastic? **Mystery 4:** What materials might be invented in the future? **Mystery 5:** Could you build a house out of paper?
		3.PS.2 Matter exists in different states, each of which has different properties.		
		3.PS.3 Heat, electrical energy, light, sound, and magnetic energy are forms of energy.		*Ohio specific standard*

* Tip: Power of Flowers picks up where Plant Adventures (Ohio grade 1) leaves off. If your students haven't learned about what plants need for survival, or need a refresher, we suggest you teach Plant Adventures first.

** Watery Planet was designed for grade 5 NGSS, but can taught in grade 3 with modifications. Expect aspects of this unit to be a challenge.



MYSTERY science

Grade 4

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Strand	Topic	Ohio's Learning Standards	Mystery Science Unit	Mystery Science Lessons
Life Science	*Earth's Living History*	**4.LS.2** Fossils can be compared to one another and to present-day organisms according to their similarities and differences.		*Ohio specific standard*
		4.LS.1 Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.	Animals Through Time	**Mystery 7:** What's the best way to get rid of mosquitoes? **Mystery 8:** How long can people (and animals) survive in outer space?
Earth & Space Science	*Earth's Surface*	**4.ESS.1** Earth's surface has specific characteristics and landforms that can be identified.	Work of Water*	**Mystery 1:** If you floated down a river, where would you end up? **Mystery 2:** Why is there sand at the beach? **Mystery 3:** What's strong enough to make a canyon? **Mystery 4:** How can you stop a landslide?
		4.ESS.2 The surface of Earth changes due to weathering.		
		4.ESS.3 The surface of Earth changes due to erosion and deposition.	The Birth of Rocks	**Mystery 1:** Could a volcano pop up where you live? **Mystery 2:** Why do some volcanoes explode? **Mystery 3:** Will a mountain last forever? **Mystery 4:** How could you survive a landslide?
Physical Science	*Electricity , Heat, & Matter*	**4.PS.1** When objects break into smaller pieces, dissolve, or change state, the total amount of matter is conserved.	Chemical Magic	**Mystery 1:** Are magic potions real? **Mystery 2:** Could you transform something worthless into gold? **Mystery 3:** What would happen if you drank a glass of acid? **Mystery 4:** What do fireworks, rubber, and silly putty have in common? **Mystery 5:** Why do some things explode?
		4.PS.2 Energy can be transferred from one location to another or can be transformed from one form to another.	Energizing Everything	**Mystery 6:** What if there were no electricity? **Mystery 7:** How long did it take to travel across the country before cars and planes? **Mystery 8:** Where does energy come from?



MYSTERY science

Grade 5

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Strand	Topic	Ohio's Learning Standards	Mystery Science Unit	Mystery Science Lessons
Life Science	*Inter-connections within Ecosystems*	**5.LS.1** Organisms perform a variety of roles in an ecosystem.	Web of Life	**Mystery 1:** Why would a hawk move to New York City? **Mystery 2:** What do plants eat? **Mystery 3:** Where do fallen leaves go? **Mystery 4:** Do worms really eat dirt? **Mystery 5:** Why do you have to clean a fish tank but not a pond? **Mystery 6:** Why did the dinosaurs go extinct?
		5.LS.2 All of the processes that take place within organisms require energy.	Human Machine	**Mystery 1:** Why do your biceps bulge? **Mystery 4:** How does your brain control your body?
Earth & Space Science	*Cycles & Patterns in the Solar System*	**5.ESS.1** The solar system includes the Sun and all celestial bodies that orbit the Sun. Each planet in the solar system has unique characteristics.	Spaceship Earth	**Mystery 1:** How fast does the Earth spin? **Mystery 2:** Who set the first clock? **Mystery 3:** How can the Sun tell you the season? **Mystery 4:** Why do the stars change with the seasons? **Mystery 5:** Why does the moon change shape? **Mystery 6:** What are the wandering stars? **Mystery 7:** Why is gravity different on other planets? **Mystery 8:** Could there be life on other planets?
		5.ESS.2 The Sun is one of many stars that exist in the universe.		
		5.ESS.3 Most of the cycles and patterns of motion between the Earth and Sun are predictable.		



MYSTERY science

Grade 5, continued

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Strand	Topic	Ohio's Learning Standards	Mystery Science Unit	Mystery Science Lessons
Physical Science	*Light, Sound, & Motion*	**5.PS.1** The amount of change in movement of an object is based on the mass of the object and the amount of force exerted.	Energizing Everything	**Mystery 1:** How is your body similar to a car? **Mystery 2:** What makes roller coasters go so fast? **Mystery 3:** Why is the first hill of a roller coaster always the highest? **Mystery 4:** Could you knock down a building using only dominoes? **Mystery 5:** Can you build a chain reaction machine?
		5.PS.2 Light and sound are forms of energy that behave in predictable ways.	Human Machine	**Mystery 2:** What do blind people see? **Mystery 3:** How can some animals see in the dark?
			Waves of Sound	**Mystery 1:** How far can a whisper travel? **Mystery 2:** What would happen if you screamed in outer space? **Mystery 3:** Why are some sounds high and some sounds low?