

Mystery Science Alignment with Florida Next Generation Sunshine State Standards (NGSSS)

Mystery Science - FL NGSSS Alignment
Mystery Science aligns to the Florida Next Generation Sunshine State Standards (NGSSS). 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.

Table of Contents

Kindergarten	Life Science	Earth & Space Science	Physical Science
Grade 1	Life Science	Earth & Space Science	Physical Science
Grade 2	Life Science	Earth & Space Science	Physical Science
Grade 3	Life Science	Earth & Space Science	Physical Science
Grade 4	Life Science	Earth & Space Science	Physical Science
Grade 5	Life Science	Earth & Space Science	Physical Science

NGSSS

MYSTERY science

Kindergarten

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Life Science	Organization/ Development of Living Organisms	**K.L.14.1** Recognize the five senses and related body parts.		*Florida specific standard*
		K.L.14.2 Recognize that some books and other media portray animals and plants with characteristics and behaviors they do not have in real life.		*Florida specific standard*
		K.L.14.3 Observe plants and animals, describe how they are alike and how they are different in the way they look and in the things they do.	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?
Earth & Space Science	Earth & Space in Time	**K.E.5.1** Explore the Law of Gravity by investigating how objects are pulled toward the ground unless something holds them up.		*Florida specific standard*
		K.E.5.2 Recognize the repeating pattern of day and night.	Spinning Sky	**Mystery 1**: Could a statue's shadow move? **Mystery 2, Read Along:** What does a shadow do when you're not looking? **Mystery 3:** How can the sun help you if you're lost? **Mystery 4, Read Along:** Why do you have to go to bed early in the summer?
		K.E.5.3 Recognize that the Sun can only be seen in the daytime.		
		K.E.5.4 Observe that sometimes the Moon can be seen at night and sometimes during the day.		*Florida specific standard*
		K.E.5.5 Observe that things can be big and things can be small as seen from Earth.		*Florida specific standard*
		K.E.5.6 Observe that some objects are far away and some are nearby as seen from Earth.		*Florida specific standard*



Kindergarten, continued

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Physical Science	Properties of Matter	**K.P.8.1** Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light) and texture.		*Florida specific standard*
	Changes in Matter	**K.P.9.1** Recognize that the shape of materials such as paper and clay can be changed by cutting, tearing,crumpling, smashing, or rolling.		*Florida specific standard*
	Forms of Energy	**K.P.10.1** Observe that things that make sound vibrate.	Lights & Sounds	**Mystery 1:** How do they make silly sounds in cartoons? **Mystery 2, Read Along:** Where do sounds come from? **Mystery 6, Read Along:** How do boats find their way in the fog?
	Motion of Objects	**K.P.12.1** Investigate that things move in different ways, such as fast, slow, etc.	Force Olympics	**Mystery 1:** What's the biggest excavator? **Mystery 2, Read Along:** Why do builders need so many big machines?
	Forces & Changes in Motion	**K.P.13.1** Observe that a push or pull can change the way an object is moving.		

NGSSS

MYSTERY science

Grade 1

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Life Science	Organization/ Development of Living Organisms	**1.L.14.1** Make observations of living things and their environments using the five senses.		*Florida specific standard*
		1.L.14.2 Identify the major parts of plants, including stem, roots, leaves, and flowers.	Plant & Animal Superpowers	**Mystery 5:** Why don't trees blow down in the wind? **Mystery 6, Read Along:** What do sunflowers do when you're not looking?
		1.L.14.3 Differentiate between living and nonliving things.		*Florida specific standard*
	Heredity/ Reproduction	**1.L.16.1** Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population.	Plant & Animal Superpowers	**Mystery 4, Read Along:** Why do family members look alike?
	Interdependence	**1.L.17.1** Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.	Plant & Animal Superpowers	**Mystery 1:** Why do birds have beaks? **Mystery 2, Read Along:** Why do birds follow their mother? **Mystery 3:** Why are polar bears white?
Earth & Space Science	Earth & Space in Time	**1.E.5.1** Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky.		*Florida specific standard*
		1.E.5.2 Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object.		*Florida specific standard*
		1.E.5.3 Investigate how magnifiers make things appear bigger and help people see things they could not see without them.		*Florida specific standard*
		1.E.5.4 Identify the beneficial and harmful properties of the Sun.		*Florida specific standard*



Grade 1, continued

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Earth & Space Science	Earth Structures	**1.E.6.1** Recognize that water, rocks, soil, and living organisms are found on Earth's surface.	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?
		1.E.6.3 Recognize that some things in the world around us happen fast and some happen slowly.		
		1.E.6.2 Describe the need for water and how to be safe around water.		*Florida specific standard*
Physical Science	Properties of Matter	**1.P.8.1** Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight(heavy or light), texture, and whether objects sink or float.		*Florida specific standard*
	Motion of Objects	**1.P.12.1** Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.	Force Olympics	**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, Read Along:** How could you invent a trap?
	Forces & Changes in Motion	**1.P.13.1** Demonstrate that the way to change the motion of an object is by applying a push or a pull.		

NGSSS

MYSTERY science

Grade 2

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Life Science	Organization/ Development of Living Organisms	**2.L.14.1** Distinguish human body parts (brain, heart, lungs, stomach, muscles, and skeleton) and their basic functions.	Mini-Lessons	**Mini-Lesson:** Why do our skeletons have so many bones?** **Mini-Lesson:** How does the heart pump blood?**
	Heredity/ Reproduction	**2.L.16.1** Observe and describe major stages in the life cycle of plants and animals, including beans and butterflies.		*Florida specific standard*
	Interdependence	**2.L.17.1** Compare and contrast the basic needs that all living things, including humans, have for survival.	Animal Adventures	**Mystery 2:** Why do frogs say "ribbit"? **Mystery 3:** How could you get more birds to visit a birdfeeder?
		2.L.17.2 Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.		
Earth & Space Science	Earth Structures	**2.E.6.1** Recognize that Earth is made up of rocks. Rocks come in many sizes and shapes.	Mini-Lessons	**Mini-Lesson:** Why does this rock look like a sponge?
		2.E.6.2 Describe how small pieces of rock and dead plant and animal parts can be the basis of soil and explain the process by which soil is formed.		*Florida specific standard*
		2.E.6.3 Classify soil types based on color, texture (size of particles), the ability to retain water, and the ability to support the growth of plants.		*Florida specific standard*
	Earth Systems & Patterns	**2.E.7.1** Compare and describe changing patterns in nature that repeat themselves, such as weather conditions including temperature and precipitation, day to day and season to season.	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 would the weather be like on your birthday? **Mystery 4, Read Along:** How do you know what to wear for the weather? **Mystery 5:** How could you warm up a frozen playground? **Mystery 6, Read Along:** How could you walk barefoot across hot pavement without burning your feet?
		2.E.7.2 Investigate by observing and measuring, that the Sun's energy directly and indirectly warms the water, land, and air.		

* Weather Watching is designed for Grade K NGSS, but can be taught in grade 2 with modifications.
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Grade 2, continued

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Earth & Space Science	Earth Systems & Patterns (Continued)	**2.E.7.3** Investigate, observe and describe how water left in an open container disappears (evaporates), but water in a closed container does not disappear (evaporate).	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.E.7.4 Investigate that air is all around us and that moving air is wind.		
		2.E.7.5 State the importance of preparing for severe weather, lightning, and other weather related events.		
Physical Science	Properties of Matter	**2.P.8.1** Observe and measure objects in terms of their properties, including size, shape, color, temperature, weight, texture, sinking or floating in water, and attraction and repulsion of magnets.		*Florida specific standard*
		2.P.8.2 Identify objects and materials as solid, liquid, or gas.		*Florida specific standard*
		2.P.8.3 Recognize that solids have a definite shape and that liquids and gases take the shape of their container.		*Florida specific standard*
		2.P.8.4 Observe and describe water in its solid, liquid, and gaseous states.	Stormy Skies	**Mystery 1:** Where do clouds come from?
		2.P.8.5 Measure and compare temperature taken every day at the same time.		*Florida specific standard*
		2.P.8.6 Measure and compare the volume of liquids using containers of various shapes and sizes.		*Florida specific standard*
	Changes in Matter	**2.P.9.1** Investigate that materials can be altered to change some of their properties, but not all materials respond the same way to any one alteration.	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 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?

NGSSS

MYSTERY science

Grade 2, continued

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Physical Science	Forms of Energy	**2.P.10.1** Discuss that people use electricity or other forms of energy to cook their food, cool or warm their homes, and power their cars.		*Florida specific standard*
	Forces & Changes in Motion	**2.P.13.1** Investigate the effect of applying various pushes and pulls on different objects.	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 could you go faster down a slide?
		2.P.13.3 Recognize that objects are pulled toward the ground unless something holds them up.		
		2.P.13.4 Demonstrate that the greater the force (push or pull) applied to an object, the greater the change in motion of the object.		
		2.P.13.2 Demonstrate that magnets can be used to make some things move without touching them.		*Florida specific standard*



Grade 3

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Life Science	Organization & Development of Living Organisms	**3.L.14.1** Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.	Plant Adventures	**Mystery 1:** Why 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?
		3.L.14.2 Investigate and describe how plants respond to stimuli (heat, light, gravity), such as the way plant stems grow toward light and their roots grow downward in response to gravity.		
	Diversity & Evolution of Living Organisms	**3.L.15.1** Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to their physical characteristics and behaviors.	Animal Adventures Animals Through Time Mini-Lessons	**Mystery 1:** How many different kinds of animals are there? **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? **Mini-Lesson:** What is the biggest spider in the world?** **Mini-Lesson:** Why are butterflies so colorful?**
		3.L.15.2 Classify flowering and nonflowering plants into major groups such as those that produce seeds, or those like ferns and mosses that produce spores, according to their physical characteristics.		*Florida specific standard*
	Interdependence	**3.L.17.1** Describe how animals and plants respond to changing seasons.	Mini-Lessons	**Mini-Lesson:** Why do leaves change color in the fall?** **Mini-Lesson:** How do flowers bloom in the spring?** **Mini-Lesson:** Why do birds lay eggs in the spring? **Mini-Lesson:** Where do bugs go in winter? **Mini-Lesson:** Why do animals come back after going to warm places in the winter?
		3.L.17.2 Recognize that plants use energy from the Sun, air, and water to make their own food.	Plant Adventures	**Mystery 2:** Do plants eat dirt? **Mystery 3:** Why do some trees grow so tall?

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Grade 3, continued

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Earth & Space Science	Earth & Space in Time	**3.E.5.1** Explain that stars can be different; some are smaller, some are larger, and some appear brighter than others; all except the Sun are so far away that they look like points of light.	Spinning Sky*	**Mystery 5:** Why do the stars come out at night? **Mystery 6, Read Along:** How can stars help you if you get lost?
		3.E.5.2 Identify the Sun as a star that emits energy; some of it in the form of light.		
		3.E.5.3 Recognize that the Sun appears large and bright because it is the closest star to Earth.		
		3.E.5.5 Investigate that the number of stars that can be seen through telescopes is dramatically greater than those seen by the unaided eye.		
		3.E.5.4 Explore the Law of Gravity by demonstrating that gravity is a force that can be overcome.	Mini-Lessons	**Mini-Lesson:** What is a black hole? **Mini-Lesson:** Why can't airplanes fly to space?**
	Earth Structures	**3.E.6.1** Demonstrate that radiant energy from the Sun can heat objects and when the Sun is not present, heat may be lost.		*Florida specific standard*
Physical Science	Properties of Matter	**3.P.8.1** Measure & compare temperatures of various samples of solids & liquids.		*Florida specific standard*
		3.P.8.2 Measure and compare the mass and volume of solids and liquids.		*Florida specific standard*
		3.P.8.3 Compare materials and objects according to properties such as size, shape, color, texture, and hardness.		*Florida specific standard*
	Changes in Matter	**3.P.9.1** Describe the changes water undergoes when it changes state through heating and cooling by using familiar scientific terms such as melting, freezing, boiling, evaporation, and condensation.		*Florida specific standard*

* Spinning Sky is designed for Grade 1 NGSS, but can be taught in Grade 3 with modifications.

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Grade 3, continued

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Physical Science	Forms of Energy	**3.P.10.2** Recognize that energy has the ability to cause motion or create change.	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 highest? **Mystery 4:** Could you knock down a building using only dominoes? **Mystery 5:** Can you build a chain reaction machine?
		3.P.10.1 Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.	Lights & Sounds*	**Mystery 3:** What if there were no windows? **Mystery 4, Read Along:** Can you see in the dark? **Mystery 5:** How could you send a secret message to someone far away?
		3.P.10.3 Demonstrate that light travels in a straight line until it strikes an object or travels from one medium to another.		
		3.P.10.4 Demonstrate that light can be reflected, refracted, and absorbed.	Mini-Lessons	**Mini-Lesson:** Why is snow white?** **Mini-Lesson:** How is a rainbow made?**
	Energy Transfer & Transformations	**3.P.11.1** Investigate, observe, and explain that things that give off light often also give off heat.		*Florida specific standard*
		3.P.11.2 Investigate, observe, and explain that heat is produced when one object rubs against another, such as rubbing one's hands together.		*Florida specific standard*

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NGSSS

MYSTERY science

Grade 4

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Life Science	Heredity & Reproduction	**4.L.16.1** Identify processes of sexual reproduction in flowering plants, including pollination, fertilization (seed production), seed dispersal, and germination.	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?
		4.L.16.2 Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment.	Animals Through Time	**Mystery 8:** How long can people (and animals) survive in outer space?
		4.L.16.3 Recognize that animal behaviors may be shaped by heredity and learning.	Animals Through Time	**Mystery 6:** Why do dogs wag their tails?
		4.L.16.4 Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo incomplete and complete metamorphosis, and flowering and non-flowering seed-bearing plants.		*Florida specific standard*
	Interdependence	**4.L.17.1** Compare the seasonal changes in Florida plants and animals to those in other regions of the country.		*Florida specific standard*
		4L.17.2 Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.	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?
		4.L.17.3 Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers.		
		4.L.17.4 Recognize ways plants and animals, including humans, can impact the environment.		



Grade 4, continued

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Earth & Space Science	Earth & Space in Time	**4.E.5.1** Observe the patterns of stars in the sky stay the same although they appear to shift across the sky nightly, and different stars can be seen in different seasons,	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 stars change with the seasons? **Mystery 5:** Why does the moon change shape?
		4.E.5.2 Describe the changes in the observable shape of the moon over the course of about a month.		
		4.E.5.4 Relate that the rotation of Earth (day and night) and apparent movements of the Sun, moon, and stars are connected.		
		4.E.5.3 Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.		
		4.E.5.5 Investigate and report the effects of space research and exploration on the economy and culture of Florida.		*Florida Specific Standard*
	Earth Structures	**4.E.6.1** Identify three categories of rocks: igneous, (formed from molten); sedimentary (pieces of other rocks and fossilized organisms); and metamorphic (formed from heat and pressure).	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?
		4.E.6.2 Identify the physical properties of common earth-forming materials, including hardness, color, luster, cleavage, and streak color, and recognize the role of minerals in the formation of rocks.		
		4.E.6.4 Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice).		
		4.E.6.3 Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.	Energizing Everything	**Mystery 8:** Where does energy come from?
		4.E.6.6 Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy).		
		4.E.6.5 Investigate how technology & tools help extend the ability of humans to observe very small things & very large things.	Mini-Lessons	**Mini-Lesson:** Is Pluto a planet? **Mini-Lesson:** How deep does the ocean go?

NGSSS

MYSTERY science

Grade 4, continued

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Physical Science	Properties of Matter	**4.P.8.1** Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, texture, odor,taste, attraction to magnets.		*Florida specific standard*
		4.P.8.2 Identify properties and common uses of water in each of its states.		*Florida specific standard*
		4.P.8.3 Explore the Law of Conservation of Mass by demonstrating that the mass of a whole object is always the same as the sum of the masses of its parts.		*Florida Specific standard*
		4.P.8.4 Investigate and describe that magnets can attract magnetic materials and attract and repel other magnets.	Invisible Forces	**Mystery 4:** What can magnets do? **Mystery 5:** How can you unlock a door using a magnet?
	Changes in Matter	**4.P.9.1** Identify some familiar changes in materials that result in other materials with different characteristics, such as decaying animal or plant matter, burning, rusting, and cooking.	Mini-Lessons	**Mini-Lesson:** How is glass made?
	Forms of Energy	**4.P.10.2** Investigate and describe that energy has the ability to cause motion or create change.		*Florida Specific standard*
		4.P.10.1 Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.	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?
		4.P.10.3 Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates.		
		4.P.10.4 Describe how moving water and air are sources of energy and can be used to move things.		
	Energy Transfer & Transform-ations	**4.P.11.1** Recognize that heat flows from a hot object to a cold object and that heat flow may cause materials to change temperature.		*Florida Specific standard*
		4.P.11.2 Identify common materials that conduct heat well or poorly.		*Florida Specific standard*
	Motion of Objects	**4.P.12.1** Recognize that an object in motion always changes its position and may change its direction.		*Florida Specific standard*
		4.P.12.2 Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.		*Florida Specific standard*



Grade 5

Mystery Science aligns to the Florida Next Generation Sunshine State Standards. 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.

Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Life Science	Organization & Development of Living Organisms	**5.L.14.1** Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs.	Human Machine Mini-Lessons	**Mystery 1:** Why do your biceps bulge? **Mystery 2:** What do people who are blind see? **Mystery 3:** How can some animals see in the dark? **Mystery 4:** How does your brain control your body? **Mini-Lesson:** Why do our skeletons have so many bones?** **Mini-Lesson:** How does the heart pump blood?** **Mini-Lesson:** Why can't fish breathe on land? **Mini-Lesson:** Why do we get goosebumps? **Mini-Lesson:** Can animals get a sunburn?
		5.L.14.2 Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons -- while some plants have stems for support.		
	Diversity & Evolution of Living Organisms	**5.L.15.1** Describe how, when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations.	Animals Through Time	**Mystery 4:** What kinds of animals might there be in the future? **Mystery 5:** Can selection happen without people?
	Interdependence	**5.L.17.1** Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics.	Animals Through Time	**Mystery 7**: What's the best way to get rid of mosquitoes?
Earth & Space Science	Earth & Space in Time	**5.E.5.1** Recognize that a galaxy consists of gas, dust, and many stars, including any objects orbiting the stars. Identify our home galaxy as the Milky Way.		*Florida Specific Standard*
		5.E.5.2 Recognize the major common characteristics of all planets and compare/contrast the properties of inner and outer planets.	Spaceship Earth Mini-Lessons	**Mystery 6:** What are the wandering stars? **Mystery 8:** Could there be life on other planets? **Mini-Lesson:** What would it be like to live on the moon?
		5.E.5.3 Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, comets -- and identify Earth's position in it.		

* Animals Through Time is designed for Grade 3 NGSS, but can be taught in Grade 5 with modifications.

** Indicates a Mini-Lesson with an included hands-on STEAM activity from Mystery Science.



Grade 5, continued

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Earth & Space Science	Earth Systems & Patterns	**5.E.7.1** Create a model to explain the parts of the water cycle. Water can be a gas, a liquid, or a solid and can go back and forth from one state to the other.	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?
		5.E.7.2 Recognize that the ocean is an integral part of the water cycle and is connected to all of Earth's water reservoirs via evaporation and precipitation processes.		
		5.E.7.7 Design a family preparedness plan for natural disasters and identify the reasons for having such a plan.		
		5.E.7.3 Recognize how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation determine the weather in a particular place and time.		*Florida Specific Standard*
		5.E.7.4 Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time.		*Florida Specific Standard*
		5.E.7.5 Recognize that some weather-related differences, such as temperature and humidity, are found among different environments, such as swamps, deserts, and mountains.		*Florida Specific Standard*
Physical Science	Properties of Matter	**5.P.8.1** Compare and contrast the basic properties of solids, liquids, and gases, such as mass, volume, color, texture, and temperature.	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?
		5.P.8.2 Investigate and identify materials that will dissolve in water and those that will not and identify the conditions that will speed up or slow down the dissolving process.		
		5.P.8.4 Explore the scientific theory of atoms (also called atomic theory) by recognizing that all matter is composed of parts that are too small to be seen without magnification.		
		5.P.8.3 Demonstrate and explain that mixtures of solids can be separated based on observable properties of their parts such as particle size, shape, color, and magnetic attraction.		*Florida specific standard*



Grade 5, continued

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Strand	Topic	Florida Next Generation Sunshine State Standard	Mystery Science Unit	Mystery Science Lessons
Physical Science	Changes in Matter	**5.P.9.1** Investigate and describe that many physical and chemical changes are affected by temperature.		*Florida specific standard*
	Forms of Energy	**5.P.10.1** Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.	Energizing Everything Mini-Lessons	**Mystery 6:** What if there were no electricity? **Mystery 7:** How long did it take to travel across the country before cars and planes? **Mini-Lesson:** How do batteries work?
		5.P.10.2 Investigate and explain that energy has the ability to cause motion or create change.		
		5.P.10.3 Investigate and explain that an electrically-charged object can attract an uncharged object and can either attract or repel another charged object without any contact between the objects.		
		5.P.10.4 Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion.		
	Energy Transfer/ Tranform-ations	**5.P.11.1** Investigate and illustrate the fact that the flow of electricity requires a closed circuit (a complete loop).	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?
		5.P.11.2 Identify & classify materials that conduct electricity & materials that do not.		
	Forces & Changes in Motion	**5.P.13.1** Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects.	Spaceship Earth	**Mystery 7:** Why is gravity different on other planets?
		5.P.13.2 Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object.		
		5.P.13.3 Investigate and describe that the more mass an object has, the less effect a given force will have on the object's motion.		
		5.P.13.4 Investigate and explain that when a force is applied to an object but it does not move, it is because another opposing force is being applied by something in the environment so that the forces are balanced.		*Florida specific standard*