Mystery Science Alignment with Texas Essential Knowledge and Skills

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3rd Grade Planning Guide

Kindergarten Planning Guide | Grade 1 Planning Guide | Grade 2 Planning Guide
Grade 3 Planning Guide | Grade 4 Planning Guide | Grade 5 Planning Guide

Mystery Science aligns to the Texas Essential Knowledge and Skills (TEKS) for Science. Each lesson (exploration & hands-on lab) is designed to take one hour. Extensions are available for each lesson and offer an opportunity for students to continue their science content learning. They include assessments and a curated collection of additional activity suggestions, online resources, project ideas, and readings. 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. Each TEKS statement is color-coded to indicate the following:

Identified by TEA as a Readiness Standard of the assessed curriculum
Identified by TEA as a Supporting Standard of the assessed curriculum
Not identified by TEA as part of the assessed curriculum

Table of Contents

Force, Motion, & Energy	Force, Motion, & Energy	Earth & Space	Earth & Space	Organisms & Environments	Organisms & Environments	Organisms & Environments
TEKS 3.5 & 3.6	TEKS 3.6	TEKS 3.7	TEKS 3.8	TEKS 3.9 & 3.10	TEKS 3.8 & 3.9	TEKS 3.10
Forces, Motion, & Magnets	Everyday Energy	Rapid Changes to Earth's Surface	Stars & The Solar System	Food Chains & Life Cycles	Animals & Their Environments	Human Body

Last updated September 6, 2022

3rd Grade: Force, Motion, & Energy

Forces, Motion, & Magnets Unit (Invisible Forces)

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	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Balanced & Unbalanced Forces** How could you win a tug-of-war against a bunch of adults?	Students develop a mental model of the nature of forces and motion and use that model to explain the behavior of an elastic jumper.	**3.2A** Plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed, to solve a specific problem in the natural world.	**3.6B** Demonstrate and observe how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.
Lesson 2	**Balanced Forces & Engineering** What makes bridges so strong?	Students develop and design a bridge to be as strong as possible while working with limited materials.	**3.3B** Represent the natural world using models and identify their limitations, including size, properties, and materials.	**3.6B** Demonstrate and observe how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.
Lesson 3	**Friction & Pattern of Motion** How can you go faster down a slide?	Students plan and carry out investigations of the behaviors of different materials as they slide past one another.	**3.2D** Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations. **3.2E** Demonstrate that repeated investigations may increase the reliability of results.	**3.6B** Demonstrate and observe how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.
Lesson 4	**Magnets & Forces** What can magnets do?	Students investigate the properties of magnets and the fact that they exert forces that act at a distance.	**3.2A** Plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed, to solve a specific problem in the natural world.	**3.5A** Measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float. **3.6C** Observe forces such as magnetism and gravity acting on objects.
Lesson 5	**Magnets & Engineering** How can you unlock a door using a magnet?	Students investigate magnetic attraction and repulsion, and design a magnetic lock in the hands-on activity.	**3.3B** Represent the natural world using models and identify their limitations, including size, properties, and materials.	**3.6C** Observe forces such as magnetism and gravity acting on objects.

3rd Grade: Force, Motion, & Energy

Everyday Energy Unit (Energizing Everything)

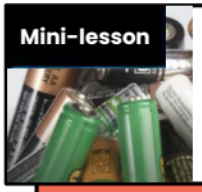
	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Speed & Energy** How is your body similar to a car?	Students learn about stored energy and about the relationship between motion and energy. Students build models of an amusement park ride and discover how energy can be stored in materials. Stored energy can be converted to speed.	**3.3B** Represent the natural world using models and identify their limitations, including size, properties, and materials. **3.2D** Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations.	**3.6A** Explore different forms of energy, including mechanical, light, sound, and thermal in everyday life.
Lesson 2	**Collisions & Energy Transfer** What makes roller coasters go so fast?	Students build a model of a roller coaster and carry out an investigation using marbles. Students learn that lifting an object up stores energy in the object. When the object falls, that stored energy is released. They realize that energy is transferred when objects collide.	**3.3B** Represent the natural world using models and identify their limitations, including size, properties, and materials. **3.2D** Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations.	**3.6A** Explore different forms of energy, including mechanical, light, sound, and thermal in everyday life.
Lesson 3	**Energy Transfer & Engineering** Why is the first hill of a roller coaster always the highest?	Using a model roller coaster, students conduct an investigation to determine that a hill's height determines the amount of energy stored in a marble at the top of the hill. Students figure out that the greater the height of an object, the more energy it stores and the faster it will move when released or dropped.	**3.3B** Represent the natural world using models and identify their limitations, including size, properties, and materials. **3.2D** Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations.	**3.6A** Explore different forms of energy, including mechanical, light, sound, and thermal in everyday life.

Mini-lesson

TEKS 3.6A

How do phones work?

Mini-lesson



TEKS 3.6A

How do batteries work?

3rd Grade: Earth & Space

Rapid Changes to Earth's Surface Unit (Volcanoes & Landslides)

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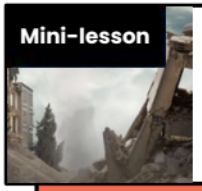
	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Volcanoes & Patterns of Earth's Features** Could a volcano pop up where you live?	Students use coordinates to develop a map of volcanoes to discover a pattern of where volcanoes exist on Earth. Students identify the pattern of volcanoes in the "Ring of Fire."	**3.2D** Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations. **3.2C** Construct maps, graphic organizers, simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data.	**3.7B** Investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides.
Lesson 2	**Volcanoes & Rock Cycle** Why do some volcanoes explode?	Students investigate the properties of thin and thick lava by attempting to create air bubbles. Students realize that thick lava will cause a volcano to explode, while thin lava will not.	**3.2A** Plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed, to solve a specific problem in the natural world.	**3.7B** Investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides.
Lesson 3	**Erosion, Natural Hazards, & Engineering** How could you survive a landslide?	Students generate multiple possible solutions to protect homes from a landslide. Students realize that there are many causes for the erosion that causes rocks to fall in landslides.	**3.2F** Communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion.	**3.7B** Investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides.



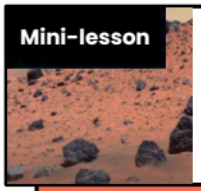
TEKS 3.7B

How do earthquakes happen?

3rd Grade: Earth & Space

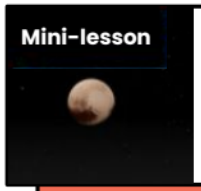
Stars & The Solar System Unit (Our Solar System)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Planets & Solar System** What are the wandering stars?	Students learn that planets look like stars, but don't move like them. The apparent movement of planets is caused by both the Earth's spin and the planets' movement around the Sun. Students use a model of the solar system to learn the order of the planets and their relative distance from the Sun, and each other.	**3.3B** Represent the natural world using models such as volcanoes or the Sun, Earth, and Moon system and identify their limitations, including size, properties, and materials.	**3.8D** Identify the planets in Earth's solar system and their position in relation to the Sun.
Lesson 2	**Star Brightness & Habitable Planets** Could there be life on other planets?	Students discover that the Earth is in the "Goldilocks Zone" — a distance from the Sun with the right amount of light and heat for life to exist. Students evaluate other solar systems, comparing their stars to our Sun. Based on their analysis, students plan a space mission to a planet with conditions similar to those on Earth.	**3.2D** Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations.	**3.8B** Describe and illustrate the Sun as a star composed of gases that provides light and thermal energy.


Mini-lesson

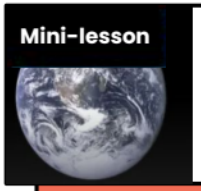
TEKS 3.8D

Why is Mars red?


Mini-lesson

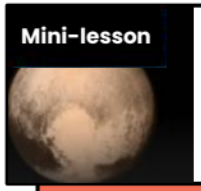
TEKS 3.8D

Is Pluto a planet?


Mini-lesson

TEKS 3.8D

Is Earth the only planet with life?


Mini-lesson

TEKS 3.8D

Why isn't Pluto a major planet anymore?

3rd Grade: Organisms & Environments

Food Chains & Life Cycles Unit (Circle of Life)

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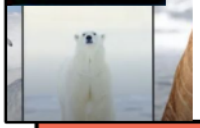
	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Food Chains, Predators, Herbivores & Carnivores** Why would a hawk move to New York City?	Students construct models of food chains by linking cards discovering that different interrelationships exist between organisms.	**3.3B** Represent the natural world using models such as volcanoes or the Sun, Earth, and Moon system and identify their limitations, including size, properties, and materials. **3.2F** Communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion.	**3.9B** Identify and describe the flow of energy in a food chain and predict how changes in a food chain affect the ecosystem such as removal of frogs from a pond or bees from a field.
Lesson 2	✨New ✨ **Animal Life Cycles** How is your life like an alligator's life?	Students create models of several different animal life cycles and compare them to one another. They use these models to discover the pattern that all animals are born, grow, can have babies, and eventually die.	**3.2C** Construct maps, graphic organizers, simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data.	**3.10B** Investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady beetles.
Lesson 3	**Environmental Change & Engineering** What's the best way to get rid of mosquitoes?	Students obtain and evaluate information about mosquitoes from different sources. They analyze and interpret information about the mosquito life cycle to reduce the number of mosquitoes that live in a certain area.	**3.2D** Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations. **3.2F** Communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion.	**3.9C** Describe environmental changes such as floods and droughts where some organisms thrive and others perish or move to new locations.
Lesson 4	✨New ✨ **Plant Life Cycles** Why are there so many different kinds of flowers?	Students play a game that models the stages of the plant life cycle. After playing the game students use the model to show how changes to one part of the life cycle affect all other stages.	**3.2D** Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations.	**3.10B** Investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady beetles.

3rd Grade: Organisms & Environments

Animals & Their Environments Unit (Weather & Animals)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	✨New!✨ **Habitat Diversity** Why would a wild animal visit a playground?	Students observe animals, plants, and the physical characteristics of two different habitats. They collect and analyze data to compare the biodiversity between the two habitats.	**3.4A** Collect, record, and analyze information using tools and materials to support observation of habitats of organisms.	**3.9A** Observe and describe the physical characteristics of environments and how they support populations and communities of plants and animals within an ecosystem.
Lesson 2	✨New ✨ **Seasonal Weather Patterns** Where's the best place to build a snow fort?	Students gather winter temperature data from three different towns. They represent the data in a table to compare the weather and decide which town is the best candidate to host a snow fort festival in future years.	**3.2C** Construct maps, graphic organizers, simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data. **3.2D** Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations.	**3.8A** Observe, measure, record, and compare day-to-day weather changes in different locations at the same time that include air temperature, wind direction, and precipitation.

Mini-lesson



TEKS 3.10A

How do polar animals survive the cold?

3rd Grade: Organisms & Environments

Human Body Unit (Human Machine)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Muscles & Skeleton** Why do your biceps bulge?	Students construct a model of the human hand to explain how muscles pull on bones to create movement.	**3.3B** Represent the natural world using models such as volcanoes or the Sun, Earth, and Moon system and identify their limitations, including size, properties, and materials.	**3.10A** Explore how structures and functions of plants and animals allow them to survive in a particular environment.
Lesson 2	**Brain, Nerves, & Information Processing** How does your brain control your body?	Students investigate how their own brain works by testing their reflexes. They discover that the brain receives information from the senses, processes the information, and sends signals to the muscles to enable movement.	**3.3A** Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing.	**3.10A** Explore how structures and functions of plants and animals allow them to survive in a particular environment.

Mini-lesson

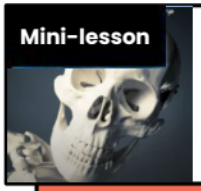
TEKS 3.10A

Why does our skeleton have so many bones?

Mini-lesson

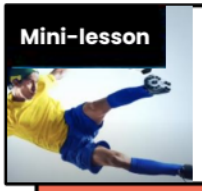
TEKS 3.10A

Why does the heart pump blood?

Mini-lesson 

TEKS 3.10A

What would happen if you didn't have a skull?

Mini-lesson 

TEKS 3.10A

Why do we sweat when we play sports?