Mystery Science Alignment with Texas Essential Knowledge and Skills

mystery science

1st 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

Matter & Energy	Force, Motion, & Energy	Earth & Space	Earth & Space	Earth & Space	Organisms & Environments	Organisms & Environments
TEKS 1.5	TEKS 1.6	TEKS 1.7	TEKS 1.8	TEKS 1.8	TEKS 1.9	TEKS 1.10
Sunlight & Warmth	Sound & Communication	Water & Soil	Weather Patterns	Day Patterns	Animal Traits & Survival	Plant Traits & Survival

Last updated September 6, 2022

1st Grade: Matter & Energy

Sunlight & Warmth Unit (Sunny Skies)

mystery science

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Sunlight, Heat, & Earth's Surface Read-Along** How could you walk barefoot across hot pavement without burning your feet?	Students make observations of the pavement heating up after being warmed by the Sun. Then, they design a solution to build a shade structure that can reduce the warming effect of sunlight.	**1.3A** Identify and explain a problem and propose a solution.	**1.5B** Predict and identify changes in materials caused by heating and cooling. **1.6A** Identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life.
Lesson 2	**Sunlight, Warming, & Engineering** How could you warm up a frozen playground?	Students carry out an investigation to test which materials can redirect the light and heat of sunlight. (*This lesson has students increase the warming effect of sunlight on an area.)	**1.2C** Collect data and make observations using simple tools.	**1.5B** Predict and identify changes in materials caused by heating and cooling. **1.6A** Identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life.
Lesson 3	**Sunlight & Warmth** Why does it get cold in winter?	Students construct an explanation for why marshmallows melt in one car and not in another car. Then, they conduct a virtual investigation to determine that the warmth of the Sun is the cause of the melted marshmallows.	**1.2A** Ask questions about organisms, objects, and events observed in the natural world.	**1.5B** Predict and identify changes in materials caused by heating and cooling. **1.6A** Identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life.

1st Grade: Force, Motion, & Energy

Sound & Communication Unit (Sounds All Around)

mystery science

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Sounds & Vibrations** How do they make silly sounds in cartoons?	Students explore how to make different sounds with everyday objects. They construct an explanation that objects vibrate when they make a sound, and if the vibration stops, the sound stops as well.	**1.2C** Collect data and make observations using simple tools.	**1.6A** Identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life.
Lesson 2	**Sounds & Vibrations Read-Along** Where do sounds come from?	Students create three different sound makers and construct an explanation about where the vibrations are happening in each sound experiment.	**1.2C** Collect data and make observations using simple tools.	**1.6A** Identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life.
Lesson 3	**Light, Communication, & Engineering** How could you send a secret message to someone far away?	Students are presented with the problem that they need to send a message at night, without using noise. They design a solution to create a color-coded message system and communicate with light signals.	**1.3A I**dentify and explain a problem and propose a solution.	**1.6A** Identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life.
Lesson 4	**Lights, Sounds, & Communication Read-Along** How do boats find their way in the fog?	Students obtain information about light and sound signals. They analyze different sounds with their eyes closed to determine which type of sound they hear.	**1.2A** Ask questions about organisms, objects, and events observed in the natural world.	**1.6A** Identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life.

1st Grade: Earth & Space

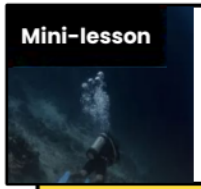
Water & Soil Unit (Land & Sea)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Mapping & Earth's Surface Features** If you floated down a river, where would you end up?	Students develop a model of the Earth's surface and use it to discover an important principle about how rivers work: rivers flow downhill, from high places to low places.	**1.2B** Plan and conduct simple descriptive investigations. **1.3B** Make predictions based on observable patterns.	**1.7B** Identify and describe a variety of natural sources of water, including streams, lakes, and oceans.
Lesson 2	✨New ✨ **Soil Properties** How do you build a city out of mud?	Students conduct an investigation where they examine three different soil models. They use this information to determine which type of soil has the properties that will result in the best mud that can be used to build a house.	**1.1B** Identify and learn how to use natural resources and materials **1.2B** Plan and conduct simple descriptive investigations.	**1.7A** Observe, compare, describe, and sort components of soil by size, texture, and color. **1.7C** Identify how rocks, soil, and water are used to make products.

Mini-lesson

TEKS 1.7B

How deep does the ocean go?


Mini-lesson

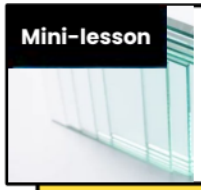
TEKS 1.7B

What's at the bottom of the ocean?

Mini-lesson

TEKS 1.7C

Where does salt come from?


Mini-lesson

TEKS 1.7C

How is glass made?

1st Grade: Earth & Space

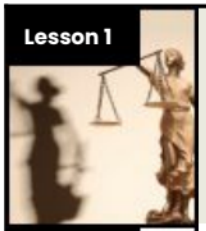
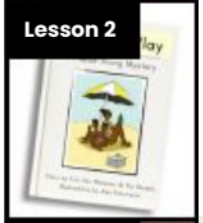
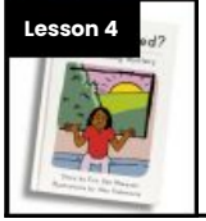
Weather Patterns Unit (Circle of Seasons)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Local Weather & Daily Patterns Read-Along** How do you know what to wear for the weather?	Students track the weather daily and analyze the data by collecting, recording, and sharing their observations to observe patterns of weather changing throughout the day and from day-to-day.	**1.2D** Record and organize data using pictures, numbers, and words. **1.2C** Collect data and make observations using simple tools.	**1.8A** Record weather information, including relative temperature such as hot or cold, clear or cloudy, calm or windy, and rainy or icy.
Lesson 2	**Seasonal Patterns** What will the weather be like on your birthday?	Students evaluate information in a series of unnamed drawings of each season. They use these clues to identify characteristics of each season and describe the yearly cyclical pattern.	**1.2D** Record and organize data using pictures, numbers, and words. **1.3B** Make predictions based on observable patterns.	**1.8C** Identify characteristics of the seasons of the year and day and night.
Lesson 3	**Animals Changing Their Environment** Why do birds lay eggs in the spring?	Students identify the reasons why birds lay eggs in the spring. Then, they develop a bird nest model and use this model as evidence for how animals can change the environment to meet their needs.	**1.2E** Communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations	**1.8C** Identify characteristics of the seasons of the year and day and night. **1.9C** Gather evidence of interdependence among living organisms such as energy transfer through food chains or animals using plants for shelter.

1st Grade: Earth & Space

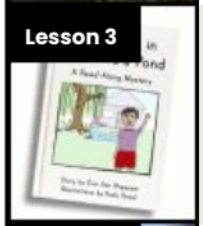
Day Patterns Unit (Sun & Shadows)

mystery science

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1 	**Sun, Shadows, & Daily Patterns** Could a statue's shadow move?	Students observe how shadows change as time passes, or as the Sun moves across the sky. They analyze how to move a light source to change the shape and direction of shadows, constructing an explanation of what causes a shadow to move.	**1.2E** Communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations	**1.8B** Observe and record changes in the appearance of objects in the sky such as the Moon and stars, including the Sun.
Lesson 2 	**Sun, Shadows, & Daily Patterns Read-Along** What does your shadow do when you're not looking?	Students conduct an investigation to gather information about how their shadow changes throughout the day.	**1.3B** Make predictions based on observable patterns.	**1.8B** Observe and record changes in the appearance of objects in the sky such as the Moon and stars, including the Sun.
Lesson 3	**Sun & Daily Patterns** How can the Sun help you if you're lost?	Students develop a Sun Finder, a model of the Sun's movement across the sky. They use this model to reason about how the Sun can help guide them during the day.	**1.2C** Collect data and make observations using simple tools.	**1.8B** Observe and record changes in the appearance of objects in the sky such as the Moon and stars, including the Sun. **1.8C** Identify characteristics of the seasons of the year and day and night.
Lesson 4 	**Daylight & Seasonal Patterns Read-Along** Why do you have to go to bed early in the summer?	Students obtain information about the seasonal patterns of sunrise and sunset.	**1.3B** Make predictions based on observable patterns.	**1.8B** Observe and record changes in the appearance of objects in the sky such as the Moon and stars, including the Sun. **1.8C** Identify characteristics of the seasons of the year and day and night.

1st Grade: Organisms & Environments

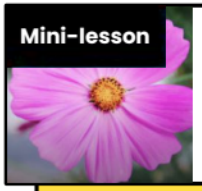
Animal Traits & Survival Unit (Animal Superpowers)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	✨New!✨ **Parent & Offspring Traits** How can you help a lost baby animal find its parents?	Students observe the traits of adult and baby animals in order to construct an explanation that most young animals are like, but not exactly like, their parents.	**1.2C** Collect data and make observations using simple tools	**1.10C** Compare ways that young animals resemble their parents.
Lesson 2	**Animal Structures & Survival** Why do birds have beaks?	Students investigate how different bird beaks are well suited for eating different kinds of food. They explain which beak would help a particular bird survive in a particular environment.	**1.2B** Plan and conduct simple descriptive investigations. **1.2C** Collect data and make observations using simple tools	**1.10A** Investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats. **1.9C** Gather evidence of interdependence among living organisms such as energy transfer through food chains or animals using plants for shelter.
Lesson 3 	**Animal Behavior & Offspring Survival Read-Along** Why do baby ducks follow their mother?	Students obtain information about the behaviors of animal parents that help their offspring survive.	**1.4B** Measure and compare organisms and objects using non-standard units.	**1.10C** Compare ways that young animals resemble their parents.
Lesson 4	**Camouflage & Animal Survival** Why are polar bears white?	Students use observations of animal parents and their offspring to construct an explanation about young plants and animals being similar, but not identical, to their parents.	**1.2E** Communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations.	**1.10A** Investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats.
Lesson 5	**Inheritance & Variation of Traits Read-Along** Why do family members look alike?	Students identify parts of plants such as roots, branches, and leaves. They evaluate these plant parts and apply that information to design an umbrella that won't blow down in the wind.	**1.4B** Measure and compare organisms and objects using non-standard units.	**1.10C** Compare ways that young animals resemble their parents.

1st Grade: Organisms & Environments

Plant Traits & Survival Unit (Plant Superpowers)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1	**Coming Soon!** **October 2022**	A new lesson is in the works!		**1.10B** Identify and compare the parts of plants.
Lesson 2	**Plant Survival & Engineering** Why don't trees blow down in the wind?	Students learn how plants respond to light. They conduct an investigation to compare how the parts of a plant respond to light.	**1.3A** Identify and explain a problem and propose a solution.	**1.10B** Identify and compare the parts of plants. **1.8D** Demonstrate that air is all around us and observe that wind is moving air.
Lesson 3	**Plant Movement & Survival Read-Along** What do sunflowers do when you're not looking?	Students learn how plants respond to light. They conduct an investigation to compare how the parts of a plant respond to light.	**1.2C** Collect data and make observations using simple tools.	**1.10B** Identify and compare the parts of plants.

Mini-lesson 

TEKS 1.10B

How do flowers bloom in the spring?