Mystery Science Alignment with Texas Essential Knowledge and Skills

mystery science

Kindergarten 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

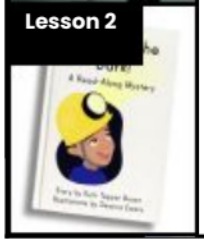
Table of Contents

Matter & Energy	Force, Motion, & Energy	Earth & Space	Organisms & Environments	Organisms & Environments
TEKS K.5 & K.6	TEKS K.6	TEKS K.8	TEKS K.9	TEKS K.9 & K.10
Light & Material Properties	Pushes & Pulls	Severe Weather	Animal Needs	Plant Needs & Growth

Last updated September 6, 2022

Kindergarten: Matter & Energy

Light & Material Properties Unit (Light & Dark)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1 	**Light, Materials, Transparent & Opaque** What if there were no windows?	Students investigate the properties of different materials that they can and cannot see through. Then they create a stained glass window using tissue paper to explore how materials interact with light.	**K.2D** Record and organize data and observations using pictures, numbers, and words.	**K.5A** Observe and record properties of objects, including bigger or smaller, heavier or lighter, shape, color, and texture **K.6A** Use the senses to explore different forms of energy such as light, thermal, and sound.
Lesson 2 	**Light & Illumination Read-Along** Can you see in the dark?	Students look inside a completely dark box to determine if they can see the shape of the object inside. They allow more light into the box to illuminate the object and allow them to see it. Students use their observations explain that objects need light to be seen.	**K.2B** Plan and conduct simple descriptive investigations.	**K.6A** Use the senses to explore different forms of energy such as light, thermal, and sound.

Kindergarten: Force, Motion, & Energy

Pushes & Pulls Unit (Force Olympics)

mystery science

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1 	**Pushes & Pulls** What's the biggest excavator?	Students observe different machines and use those observations as evidence for why machines make work easier.	**K.2C** Collect data and make observations using simple tools.	**K.6C** Observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside. **K.6D** Observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow.
Lesson 2 	**Pushes, Pulls, & "Work Words" Read-Along** Why do builders need so many big machines?	Students observe construction equipment being used in different ways to move objects.	**K.2C** Collect data and make observations using simple tools.	**K.6C** Observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside. **K.6D** Observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow.
Lesson 3 	**Motion, Speed, & Strength** How can you knock down a wall made of concrete?	Students carry out an investigation to determine how far back they should pull a model wrecking ball to knock down a wall, but not the houses behind it.	**K.2B** Plan and conduct simple descriptive investigations.	**K.6C** Observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside. **K.6D** Observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow.
Lesson 4 	**Speed & Direction of Force Read-Along** How can you knock down the most bowling pins?	Students play a game of bumper bowling to observe the way that objects can move in straight lines, zigzags, and back and forth.	**K.4B** Use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.	**K.6C** Observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside. **K.6D** Observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow.
Lesson 5 	**Direction of Motion & Engineering** How can we protect a mountain town from falling rocks?	Students conduct an investigation of how to protect a town from a falling boulder. They design a solution to safely guide the direction of the boulder away from the town.	**K.3A** Identify and explain a problem such as the impact of littering and propose a solution.	**K.6C** Observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside. **K.6D** Observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow.
Lesson 6 	**Forces & Engineering Read-Along** How could you invent a trap?	Students define a problem they would like to solve and then design a solution using what they know about the locations of objects and how they can move.	**K.3A** Identify and explain a problem such as the impact of littering and propose a solution.	**K.6C** Observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside. **K.6D** Observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow.

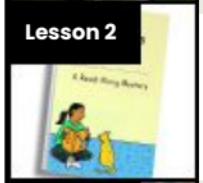
Kindergarten: Earth & Space

Severe Weather Unit (Wild Weather)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1 	**Severe Weather & Preparation Read-Along** How can you get ready for a big storm?	Students obtain information of different types of severe weather to observe and describe how the weather changes during these events and what students can do to prepare and stay safe.	**K.2A** Ask questions about organisms, objects, and events observed in the natural world.	**K.8A** Observe and describe weather changes from day to day and over seasons. **K.8C** Observe, describe, and illustrate objects in the sky such as the clouds, Moon, and stars, including the Sun.
Lesson 2 	**Wind & Storms** Have you ever watched a storm?	Students create a simple tool that allows them to observe how hard the wind is blowing. They use this tool to observe weather changes and describe the pattern of faster wind speeds right before a storm.	**K.2C** Collect data and make observations using simple tools. **K.3C** Explore that scientists investigate different things in the natural world and use tools to help in their investigations.	**K.8A** Observe and describe weather changes from day to day and over seasons **K.8C** Observe, describe, and illustrate objects in the sky such as the clouds, Moon, and stars, including the Sun.
Lesson 3 	**Weather Conditions** How many different kinds of weather are there?	Students obtain information through observations of the weather. They communicate the information by acting as weather watchers and creating drawings of the weather conditions.	**K.2D** Record and organize data and observations using pictures, numbers, and words.	**K.8A** Observe and describe weather changes from day to day and over seasons **K.8C** Observe, describe, and illustrate objects in the sky such as the clouds, Moon, and stars, including the Sun.

Kindergarten: Organisms & Environments

Animal Needs Unit (Animal Secrets)

	Topic & Guiding Question	Student Objectives	TEKS Process Standards	TEKS Readiness & Supporting Standards
Lesson 1 	**Animal Needs: Food** Why do woodpeckers peck wood?	Students obtain information through virtual observations of different animal behaviors. They use this evidence to explain that one of the basic needs of animals is food.	**K.4B** Use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.	**K.9B** Examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.
Lesson 2 	**Animal Needs: Shelter Read-Along** Where do animals live?	Students obtain information through media about how different animal homes are built. They use this evidence to explain that animals need shelter.	**K.4B** Use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.	**K.9B** Examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.
Lesson 3 	**Animal Needs: Safety** How can you find animals in the woods?	Students obtain information through virtual observations of different animal behaviors. They use this evidence to explain that one of the basic needs of animals is shelter.	**K.4B** Use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.	**K.9B** Examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.
Lesson 4 	**Animals & Changing the Environment Read-Along** How do animals make their homes in the forest?	Students take a nature walk to look for evidence of animal homes.	**K.4B** Use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.	**K.9B** Examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.

Kindergarten: Organisms & Environments

Plant Needs & Growth Unit (Plant Secrets)

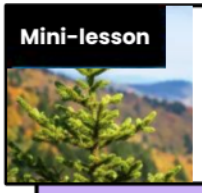
mystery science

	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!		**K.9A** Differentiate between living and nonliving things based upon whether they have basic needs and produce offspring.
Lesson 2 	**Plant Needs: Water & Light** How do plants and trees grow?	Students investigate to determine the basic needs of plants. They observe to identify ways young plants resemble the parent plant and how the plant changes as it proceeds through its life cycle.	**K.2B** Plan and conduct simple descriptive investigations. **K.2C** Collect data and make observations using simple tools.	**K.9B** Examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants. **K.10C** Identify ways that young plants resemble the parent plant. **K.10D** Observe changes that are part of a simple life cycle of a plant: seed, seedling, plant, flower, and fruit.
Lesson 3 	**Animal Needs & Changing the Environment Read-Along** Why would you want an old log in your backyard?	Students obtain evidence of living organisms by virtually keeping watch of a log and the living things that visit it.	**K.4B** Use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.	**K.9B** Examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.

Mini-lesson 

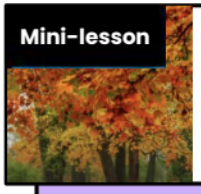
TEKS K.10B

What's the biggest apple in the world?

Mini-lesson 

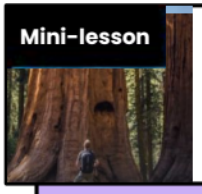
TEKS K.10A

Why don't all trees lose their leaves in the fall?

Mini-lesson 

TEKS K.10A

Why do leaves change color in the fall?

Mini-lesson 

TEKS K.10B

What's the biggest tree in the world?