

Kindergarten curriculum roadmaps ISI 2.0
K-Exploring Plants and Animals

Module Title: Exploring Plants and Animals (STC)										Notes
Investigation #	Focus Question	Description	Objective(s)	# of Sessions	Vocabulary	IN #	Standard Text	Cross Cutting Concept(s)	Practices	
Lesson 1 Part A	How can we sort living and nonliving objects?	Students explore the characteristics of living and nonliving things. Students separate figurines of living and nonliving things into groups. They continue their sorting exercise using photos of living and nonliving things.	1. Students will be able to begin to understand that living things are different from nonliving things. 2. Recognize that plants and animals are two types of living things. 3. Describe characteristics that make plants and animals living things.	1 active	plant, tree, animal, insect, living, nonliving, alive, dead, object, characteristics, grow, eat, move	K.LS.2	Describe and compare the physical features of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	
Lesson 1 Part B	What do we know about plants and animals?	Students share what they know about plants and animals using both observations of a video and their personal experiences. Their answers are recorded on a class chart that will serve as the beginning of a KWL chart.	1. Students will be able to begin to understand that living things are different from nonliving things. 2. Recognize that plants and animals are two types of living things. 3. Describe characteristics that make plants and animals living things.	1 active	plant, tree, animal, insect, living, nonliving, alive, dead, object, characteristics, grow, eat, move	K.LS.2	Describe and compare the physical features of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	
Lesson 1 Part C	What do we know about plants and animals? (Review)	Students complete the lesson by comparing plants and animals and adding to the KWL chart. The chart will be posted in the classroom and developed throughout the unit.	1. Students will be able to begin to understand that living things are different from nonliving things. 2. Recognize that plants and animals are two types of living things. 3. Describe characteristics that make plants and animals living things.	1 active	plant, tree, animal, insect, living, nonliving, alive, dead, object, characteristics, grow, eat, move	K.LS.2	Describe and compare the physical features of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	
Lesson 2 Part A	What do plants look like? Where do plants live?	Students begin the lesson by comparing and contrasting image of plants on photo cards. Through their observations and drawings, they begin to recognize that, despite some differences, plants share certain common characteristics.	1. Students will be able to recognize that all plants share certain common characteristics. 2. Recognize that some plants have different characteristics than other plants. 3. Begin to identify what plants need to stay alive.	1 active	plant, leaf, needle, stem, root, seed, tree, fern, conifer, succulent, flowering plant, soil	K.LS.3	Use observations to describe patterns of what plants and animals (including humans) need to survive.	Structure and Function	Analyzing and Interpreting Data	
Lesson 2 Part B	What are some different kinds of plants?	Students are introduced to basic plant parts, such as roots, stems, and leaves. They then expand their comparison of plant characteristics using four types of living plants.	1. Students will be able to recognize that all plants share certain common characteristics. 2. Recognize that some plants have different characteristics than other plants. 3. Begin to identify what plants need to stay alive.	1 active	plant, leaf, needle, stem, root, seed, tree, fern, conifer, succulent, flowering plant, soil	K.LS.2	Describe and compare the physical features of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	

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Lesson 2 Part C	What do plants need to grow?	After viewing a video, students learn that all plants share certain needs. This lays the groundwork for the idea that living things cannot survive if their needs are not met. They will explore this concept through the study of seedlings later in the unit.	1. Students will be able to recognize that all plants share certain common characteristics. 2. Recognize that some plants have different characteristics than other plants. 3. Begin to identify what plants need to stay alive.	1 active	plant, leaf, needle, stem, root, seed, tree, fern, conifer, succulent, flowering plant, soil	K.LS.3	Use observations to describe patterns of what plants and animals (including humans) need to survive.	Patterns	Analyzing and Interpreting Data	
Lesson 3 Part A	What are seeds?	Students expand their understanding of plants by investigating seeds from which some plants grow. They begin by observing and comparing the characteristics of three kinds of seeds.	1. Students will be able to recognize and describe characteristics of plant seeds. 2. Understand what seeds need in order to sprout and survive. 3. Begin to understand that living things go through life cycles.	1 active	seed, seedling, plant, soil, water, air, light, sprout, environment, life cycle	K.LS.3	Use observations to describe patterns of what plants and animals (including humans) need to survive.	Patterns	Analyzing and Interpreting Data	
Lesson 3 Part B	What will happen to my seeds?	Students then plant their own seeds and prepare to nurture the seedlings. They think about what seedlings need to live and grow.	1. Students will be able to recognize and describe characteristics of plant seeds. 2. Understand what seeds need in order to sprout and survive. 3. Begin to understand that living things go through life cycles.	1 active	seed, seedling, plant, soil, water, air, light, sprout, environment, life cycle	K.LS.3	Use observations to describe patterns of what plants and animals (including humans) need to survive.	Patterns	Analyzing and Interpreting Data	
Lesson 3 Part C	How do seeds grow and change?	Students watch a video about plant life cycles and make predictions about how their seeds will change over time. They will discover that plants grow in certain environments where their needs can be met, and that different kinds of plants grow in different environments.	1. Students will be able to recognize and describe characteristics of plant seeds. 2. Understand what seeds need in order to sprout and survive. 3. Begin to understand that living things go through life cycles.	1 active	seed, seedling, plant, soil, water, air, light, sprout, environment, life cycle	K.LS.1	Describe and compare the growth and development of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	
Lesson 4 Part A	What do we know about animals?	Students begin this lesson by comparing and contrasting animal figurines. They observe figurines, create drawings of them, and then discuss the drawings. They also review and discuss photo cards of animals. Students begin to understand that although animals have many differences, they also share certain similarities.	1. Students will be able to recognize that different animals share certain characteristics. 2. Identify basic needs of animals 3. Set up an environment for a living fish 4. Describe the activities and needs of fish.	1 active	animal, environment, fish, tank, swim, move, eat	K.LS.2	Describe and compare the physical features of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	

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Lesson 4 Part B	What do animals need to grow?	Students observe examples of the needs of animals in a video and create a class chart analyzing animal needs.	1. Students will be able to recognize that different animals share certain characteristics. 2. Identify basic needs of animals 3. Set up an environment for a living fish 4. Describe the activities and needs of fish.	1 active	animal, environment, fish, tank, swim, move, eat	K.LS.1	Describe and compare the growth and development of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	
Lesson 4 Part C	Where do fish live?	Students continue to observe and discuss the set-up of a home (environment) for a real animal, a zebra fish. Students then observe the fish in its tank and discuss the characteristics and needs of a fish.	1. Students will be able to recognize that different animals share certain characteristics. 2. Identify basic needs of animals 3. Set up an environment for a living fish 4. Describe the activities and needs of fish.	1 active	animal, environment, fish, tank, swim, move, eat	K.LS.1	Describe and compare the growth and development of common living plants and animals.	Patterns, Systems and System Models	Obtaining, Evaluating, and Communicating Information	
Lesson 5 Part A	Where do milkweed bugs live?	Students begin this lesson by setting up a suitable habitat for milkweed bugs. They consider the needs of the bugs and work together to provide food, water, and shelter for the bugs. Students observe the characteristics of the bugs and their activities.	1. Students will be able to recognize that different animals share certain characteristics. 2. Set up a habitat for a milkweed bug 3. Describe the activities and needs of milkweed bugs in their habitat. 4. Identify changes to environments that are caused by living things	1 active	animal, characteristic, environment, resource, nutrient, habitat	K.LS.1	Describe and compare the growth and development of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	
Lesson 5 Part B	What is a habitat?	Students go on to consider that natural environments include many different kinds of living things, including plants and animals. They create dioramas to represent a type of habitat. They also discuss ways that living things can change their environments based on examples presented in a video as well as from their own personal experiences.	1. Students will be able to recognize that different animals share certain characteristics. 2. Set up a habitat for a milkweed bug 3. Describe the activities and needs of milkweed bugs in their habitat. 4. Identify changes to environments that are caused by living things	1 active	animal, characteristic, environment, resource, nutrient, habitat	K.LS.3	Use observations to describe patterns of what plants and animals (including humans) need to survive.	Patterns	Analyzing and Interpreting Data	
Lesson 5 Part C	How do living things change their environment?	Students complete this lesson by comparing and contrasting the milkweed bugs they observed in this lesson with the zebra fish they studied in the previous lesson.	1. Students will be able to recognize that different animals share certain characteristics. 2. Set up a habitat for a milkweed bug 3. Describe the activities and needs of milkweed bugs in their habitat. 4. Identify changes to environments that are caused by living things	1 active	animal, characteristic, environment, resource, nutrient, habitat	K.ESS.4	Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	Cause and Effect	Obtaining, Evaluating, and Communicating Information	

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Lesson 6 Part A	What do you observe about seedlings?	Students begin the lesson by looking back at the predictions they made in Lesson 3 about what would happen to their seeds. They then compare their predictions to the seedlings they have been growing.	1. Students will be able to recognize that plant seedlings share certain characteristics. 2. Understand that plants have roots, stems, and leaves. 3. Become aware that plants go through life cycles 4. Note that some characteristics differ between seedlings of different types.	1 active	seedling, leaf, stem, root, flower, life cycle	K.LS.1	Describe and compare the growth and development of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	
Lesson 6 Part B	How are plants alike and different?	Students observe the characteristics of the seedlings, and then groups work together to compare and contrast the two types of seedlings planted--alfalfa and lima bean.	1. Students will be able to recognize that plant seedlings share certain characteristics. 2. Understand that plants have roots, stems, and leaves. 3. Become aware that plants go through life cycles 4. Note that some characteristics differ between seedlings of different types.	1 active	seedling, leaf, stem, root, flower, life cycle	K.LS.2	Describe and compare the physical features of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	
Lesson 6 Part C	What happens if plant needs are not met?	Students compare seedlings that were watered and placed in sunlight with seedlings that were deprived of either light or water.	1. Students will be able to recognize that plant seedlings share certain characteristics. 2. Understand that plants have roots, stems, and leaves. 3. Become aware that plants go through life cycles 4. Note that some characteristics differ between seedlings of different types.	1 active	seedling, leaf, stem, root, flower, life cycle	K.LS.3	Use observations to describe patterns of what plants and animals (including humans) need to survive.	Patterns	Analyzing and Interpreting Data	
Lesson 7 Part A	How do humans change the environment?	Students begin this lesson by considering ways that humans affect their environment. They model the flow of water in an environment and then model ways that humans might alter the flow.	1. Students will be able to recognize that humans can change the environment. 2. Describe ways that humans add trash to the environment. 3. Identify methods for reducing the amount of trash humans create. 4. Observe harmful effects of pollution on living things.	1 active	environment, pollution, reduce, recycle, reuse, compost	K.ESS.4	Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	Cause and Effect	Obtaining, Evaluating, and Communicating Information	
Lesson 7 Part B	How can I change the environment?	Students go on to recognize that humans also have an impact on the environment by adding trash to it. They consider how to reduce, reuse, and recycle to limit the amount of trash produced, and they sort trash accordingly.	1. Students will be able to recognize that humans can change the environment. 2. Describe ways that humans add trash to the environment. 3. Identify methods for reducing the amount of trash humans create. 4. Observe harmful effects of pollution on living things.	1 active	environment, pollution, reduce, recycle, reuse, compost	K.ESS.4	Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	Cause and Effect	Obtaining, Evaluating, and Communicating Information	

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Lesson 7 Part C	What does pollution do to plants?	Students then explore another way that humans affect the environment- by producing pollution. They make observations to recognize how polluted water can harm plants over time.	1. Students will be able to recognize that humans can change the environment. 2. Describe ways that humans add trash to the environment. 3. Identify methods for reducing the amount of trash humans create. 4. Observe harmful effects of pollution on living things.	1 active	environment, pollution, reduce, recycle, reuse, compost	K.ESS.4	Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	Cause and Effect	Obtaining, Evaluating, and Communicating Information	
Lesson 8 Part A	How can we compare plants and animals?	Students begin this lesson by reviewing what they have discovered about plants and animals and by comparing the two to create a diagram.	1. Students will be able to compare and contrast plants and animals 2. Recognize that plants and animals are found within the same environments. 3. Verbalize questions about plants and animals 4. Describe interactions between plants and animals.	1 active	terrarium, interaction, research	K.LS.1	Describe and compare the growth and development of common living plants and animals.	Structure and Function	Obtaining, Evaluating, and Communicating Information	
Lesson 8 Part B	What is a terrarium?	Students work together to create a dry terrarium as a way to reinforce the concept that plants and animals can share the same environments.	1. Students will be able to compare and contrast plants and animals 2. Recognize that plants and animals are found within the same environments. 3. Verbalize questions about plants and animals 4. Describe interactions between plants and animals.	1 active	terrarium, interaction, research	K.LS.3	Use observations to describe patterns of what plants and animals (including humans) need to survive.	Patterns	Analyzing and Interpreting Data	
Lesson 8 Part C	What have you learned about plants and animals?	Students go on to consider what questions they still have about plants and animals. Their ideas are recorded on the KWL chart started at the beginning of the unit. They conclude by considering examples of interactions between plants and animals, and recognize that plants and animals depend on one another in nature.	1. Students will be able to compare and contrast plants and animals 2. Recognize that plants and animals are found within the same environments. 3. Verbalize questions about plants and animals 4. Describe interactions between plants and animals.	1 active	terrarium, interaction, research	K.LS.3	Use observations to describe patterns of what plants and animals (including humans) need to survive.	Patterns	Analyzing and Interpreting Data	

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K-Exploring Force and Motion

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Investigation #	Focus Question	Description	Objective(s)	# of Sessions	Vocabulary	IN #	Standard Text	Cross Cutting Concept(s)	Practices
Lesson 1 Part A	Where are we?	Students begin their study of force and motion by focusing on positions. Students explore their positions compared to each other in the classroom, and they learn to describe where they are. They also play a game with music to practice locating objects relative to other objects.	1. Students will be able to describe their positions compare to each other. 2. Begin to understand that motion is a change in position. 3. Observe and record different kinds of motion. 4. Describe the kinds of motion they do in a typical day.	1 active	position, location, movement, motion	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations
Lesson 1 Part B	How do objects move outside?	Students will take a walk outside to observe how objects change position when they move. This is the first chance to use their science notebooks to record their observations with drawings and words.	1. Students will be able to describe their positions compare to each other. 2. Begin to understand that motion is a change in position. 3. Observe and record different kinds of motion. 4. Describe the kinds of motion they do in a typical day.	1 active	position, location, movement, motion	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations

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Investigation #	Focus Question	Description	Objective(s)	# of Sessions	Vocabulary	IN #	Standard Text	Cross Cutting Concept(s)	Practices
Lesson 1 Part C	How do we move throughout the day?	Finally, students use their new understandings about motion to think about how they move during the day. Together, students create a timeline of motion from walking to sleeping. They record their favorite daily motion in their science notebooks.	1. Students will be able to describe their positions compare to each other. 2. Begin to understand that motion is a change in position. 3. Observe and record different kinds of motion. 4. Describe the kinds of motion they do in a typical day.	1 active	position, location, movement, motion	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations
Lesson 2 Part A	How do objects move?	Students investigate different kinds of motion and learn words to describe them. First, they explore kinds of motion made with various toys, cars, and tops	1. Students will be able to explore different kinds of motion. 2. Describe different kinds of motion using motion vocabulary. 3. Act out a variety of movements. 4. Begin to develop an understanding of the many ways things move.	1 active	speed, direction	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations

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Lesson 2 Part B	How do we describe motion?	Students practice describing the kind of motion each object is doing. They compare movements by thinking about how difficult they are to do and sustain.	1. Students will be able to explore different kinds of motion. 2. Describe different kinds of motion using motion vocabulary. 3. Act out a variety of movements. 4. Begin to develop an understanding of the many ways things move.	1 active	speed, direction	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations
Lesson 2 Part C	What is moving and how does it move?	Students watch a video about motion and identify the types of motion they observe.	1. Students will be able to explore different kinds of motion. 2. Describe different kinds of motion using motion vocabulary. 3. Act out a variety of movements. 4. Begin to develop an understanding of the many ways things move.	1 active	speed, direction	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations

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Lesson 3 Part A	How fast or slow can you go?	Students are introduced to the concept of speed. They will build on their understanding of motion by describing how fast objects move. They begin by walking at different speeds to discover that they can travel the same distance in different times.	1. Students will be able to move objects at different speeds. 2. Compare speeds of moving objects 3. Recognize that objects can speed up and slow down.	1 active	fast, slow, speed, distance, time	K.PS.4	Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	Cause and Effect	Analyzing and Interpreting Data
Lesson 3 Part B	How fast or slow do other objects move?	Students observe moving objects in order to classify them according to speed.	1. Students will be able to move objects at different speeds. 2. Compare speeds of moving objects 3. Recognize that objects can speed up and slow down.	1 active	fast, slow, speed, distance, time	K.PS.4	Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	Cause and Effect	Analyzing and Interpreting Data

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Lesson 3 Part C	How fast does it go?	Students extend their classification by observing additional objects in a video and recognizing that speed can change.	1. Students will be able to move objects at different speeds. 2. Compare speeds of moving objects. 3. Recognize that objects can speed up and slow down.	1 active	fast, slow, speed, distance, time	K.PS.4	Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	Cause and Effect	Analyzing and Interpreting Data
Lesson 4 Part A	How can you make it move?	Students are introduced to the concept of forces. They begin by finding ways of making objects move. In doing so, they recognize that pushes and pulls are required to make objects move.	1. Students will be able to understand that forces are pushes and pulls. 2. Recognize that forces are needed to make objects move. 3. Describe forces by both strength and direction.	1 active	push, pull, force, strength, direction	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations

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Lesson 4 Part B	Where can be look for forces?	Students identify examples of pushes and pull in the classroom and they classify pictures of actions as pushes or pulls.	1. Students will be able to understand that forces are pushes and pulls. 2. Recognize that forces are needed to make objects move. 3. Describe forces by both strength and direction.	1 active	push, pull, force, strength, direction	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations
Lesson 4 Part C	What are some characteristics of forces?	Students discover that forces can be described by the characteristics of strength and direction. They form a basic understanding of forces that will extend into future lessons.	1. Students will be able to understand that forces are pushes and pulls. 2. Recognize that forces are needed to make objects move. 3. Describe forces by both strength and direction.	1 active	push, pull, force, strength, direction	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations

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Lesson 5 Part A	How fast and far can we make objects go?	Students begin to relate what they have discovered about forces to changes in speed. They investigate how the height of a ramp affects how fast and how far a toy car moves. Students use string to make distance measurements that create a visual summary of their data.	1. Students will be able to relate changes in force to changes in speed. 2. Recognize that a force is required to stop a moving object. 3. Show that a force can change the speed of an object already in motion.	1 active	force, speed, motion	K.PS.4	Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	Cause and Effect	Analyzing and Interpreting Data
Lesson 5 Part B	How can we make objects stop?	Students use forces to slow down and stop a toy car in order to discover that forces are necessary not only to start a motion, but also to stop it.	1. Students will be able to relate changes in force to changes in speed. 2. Recognize that a force is required to stop a moving object. 3. Show that a force can change the speed of an object already in motion.	1 active	force, speed, motion	K.PS.4	Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	Cause and Effect	Analyzing and Interpreting Data

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Lesson 5 Part C	Why do some objects spin in circles?	Students use pinwheels and the force of moving air to observe that changing force changes speed.	1. Students will be able to relate changes in force to changes in speed. 2. Recognize that a force is required to stop a moving object. 3. Show that a force can change the speed of an object already in motion.	1 active	force, speed, motion	K.PS.4	Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	Cause and Effect	Analyzing and Interpreting Data
Lesson 6 Part A	Which way?	Students pull a wooden block in different directions to observe the resulting motion of the block.	1. Students will be able to recognize that forces are needed to change an object's direction of motion. 2. Observe changes in the direction of motion as a result of forces. 3. Design a plan to make a moving object turn.	1 active	force, direction push, pull	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations

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Lesson 6 Part B	What happens when objects crash into each other?	Students change the direction of motion by causing collisions between toy cars. They create drawings to show any changes in the direction of the moving cars.	1. Students will be able to recognize that forces are needed to change an object's direction of motion. 2. Observe changes in the direction of motion as a result of forces. 3. Design a plan to make a moving object turn.	1 active	force, direction push, pull	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations
Lesson 6 Part C	How can you make objects turn?	Students use what they have learned to design a plan for making a toy car turn. They have the opportunity to design and draw the set up using classroom materials. They then test the design to find out if it works as expected.	1. Students will be able to recognize that forces are needed to change an object's direction of motion. 2. Observe changes in the direction of motion as a result of forces. 3. Design a plan to make a moving object turn.	1 active	force, direction push, pull	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations

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Lesson 7 Part A	Writing a "Force and Motion" story	Students use vocabulary to create stories involving motion. They make up and act out their story.	1. Students will be able to use appropriate vocabulary to describe forces and motion. 2. Relate forces to motion in everyday observations. 3. Identify forces and motions in game play.	1 active	forces, motion, direction, speed	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations
Lesson 7 Part B	What do you notice on our Motion Walk?	Students follow up on an activity that they conducted at the beginning of the unit. They take a walk outside to observe similar example of motion, but describe them in further detail based on their discoveries and observations since that first lesson.	1. Students will be able to use appropriate vocabulary to describe forces and motion. 2. Relate forces to motion in everyday observations. 3. Identify forces and motions in game play.	1 active	forces, motion, direction, speed	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations

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K-Exploring Force and Motion

	Module Title: Exploring Force and Motion (STC)								
Investigation #	Focus Question	Description	Objective(s)	# of Sessions	Vocabulary	IN #	Standard Text	Cross Cutting Concept(s)	Practices
Lesson 7 Part C	How can you create a force and motion game?	Students go on to relate their understanding of forces and motion to simple activities, such as playing a game. They first describe their favorite games and then work together to create new ones. Students conclude the lesson by creating a modified KWL chart to summarize what they learned and to identify and questions they still have about force and motion.	1. Students will be able to use appropriate vocabulary to describe forces and motion. 2. Relate forces to motion in everyday observations. 3. Identify forces and motions in game play.	1 active	forces, motion, direction, speed	K.PS.3	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	Cause and Effect	Planning and Carrying Out Investigations

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Designing Paper Baskets

Picture STEM Designing Paper Baskets

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Lesson Intro	What is Max and Lola's problem?	In this introductory lesson, students learn about the engineering design process. They are introduced to Max and Lola and their problem and they brainstorm ways to solve Max and Lola's problem.	Introduce engineering, the engineering design process and what engineers do. In this lesson students are introduced to the problem via a letter from Max.	1	Engineering; engineer; basket; template					
1A- If you find a rock	How could we sort the rocks into groups? What might be a way we could sort paper into groups?	This lesson focuses on a story "If You Find a Rock". Students will work on identifying beginning and ending sounds.				collection				
1B-Paper Properties	What are the properties or characteristics of each kind of paper?	This lesson focuses on a story "If You Find a Rock". Students will work on identifying beginning and ending sounds.								
2A-I Get Wet	What happens when you spill a glass of water?	This lesson focuses on a story "I Get Wet" and students are guided to think about how water behaves.								
2B-Investigating Paper and Water	What happens to paper when it gets wet?	Students will investigate how water behaves on different types of paper: waxed paper, copy paper, tissue paper, construction paper, paper towel								
3A--I Get Wet Part 2	Why does water wet paper?									
3B--Investigating Paper Strength	Which papers do you think will work well for Max's basket?	Students investigate the strength of paper when wet and dry.								

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4A-Pattern Fish		Students examine examples of baskets and examples of weaving patterns. You read the book "Pattern Fish"								
4B-Patterns in Weaving		Students explore different patterns for weaving								
5A-The Most Magnificent Thing		Read "The Most Magnificent Thing" and connect the story of the girl back to the problem they are trying to solve for Max and Lola.								
5B-Designing Baskets		Students will work on designing their baskets and they will choose from the type of weaving pattern and the type of paper								
6A-Rocks, Jeans and Busy Machines		Read the book "Rocks, Jeans and Busy Machines" focusing on how the main character acted like an engineer								
6B-Testing Baskets		Students test their baskets with different amounts of rocks, wet and dry.								