FOSS and SEEd Standards Alignment
Kindergarten

Strand K.1: WEATHER PATTERNS

Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather to identify patterns over time. Weather scientists forecast severe weather so that communities can prepare for and respond to these events. Sunlight warms Earth's surface.

FOSS	STANDARD

Trees and Weather **Investigation 1: Observing Trees** **Part 1:** Observing Schoolyard Trees **SEP: Asking questions, Planning and carrying out investigations, Analyzing and interpreting data, Engaging in argument from evidence** CCC: Structure and function **Standard Content:** Trees are living plants. Trees provide resources for animals, including people (shade, food, lumber, fuel). Plants and animals can change their surroundings. **Part 2:** Tree Parts **SEP: Developing and using models** CCC: Systems and system models **Standard Content:** Trees have structures: branches, leaves, trunk and roots. **Part 3:** Tree Puzzles **SEP: Developing and using models** CCC: Systems and system models **Standard Content:** Trees differ in size and shape. Trees have structures: branches, leaves, trunk and roots. **Part 4:** Tree- Silhouette Cards **SEP: Analyzing and interpreting data** CCC: Patterns, Systems and system models **Standard Content:** Trees differ in size and shape. **Part 5:** Adopt Schoolyard Trees **SEP: Asking questions, Planning and carrying out investigations, analyzing and interpreting data, Construction explanations, Obtaining, evaluating and communicating information** CCC: Patterns	**K.2.1 Obtain, evaluate, and communicate information** to describe patterns of what living things (plants and animals, including humans) need to survive. Emphasize the similarities and differences between the survival needs of all living things. Examples could include that plants depend on air, water, minerals, and light to survive, or animals depend on plants or other animals to survive. (LS1.C) **K.2.2 Obtain, evaluate, and communicate information** about patterns in the relationships between the needs of different living things (plants and animals, including humans) and the places they live. Emphasize that living things need water, air, and resources and that they live in places that have the things they need. Examples could include investigating plants grown in various locations and comparing the results or comparing animals with the places they live. (LS2.B, ESS3.A) **K.2.3 Obtain, evaluate, and communicate information** about how living things (plants and animals, including humans) affect their surroundings to survive. Examples could include squirrels digging in the ground to hide their food, plant roots breaking concrete, or humans building shelters. (ESS2.E)

Standard Content: Trees differ in size and shape. Trees have structures: branches, leaves, trunk, and roots. Trees are living plants. **Part 6:** A Tree Comes to Class **SEP: Asking questions, Constructing explanations, Obtaining, evaluating and communicating information** <u>CCC: Patterns</u> **Standard Content:** Trees are living plants. Trees have basic needs: light, air, nutrients, water and space.	

Trees and Weather **Investigation 2: Observing Leaves** **Part 1:** Leaf Walk **SEP: Asking questions, Planning and carrying out investigations, Analyzing and interpreting data** CCC: Patterns **Standard Content:** Different kinds of trees have different leaves. Leaves have properties: sizes, shape, tip, edge, texture, and color. **Part 2:** Leaf Shapes **SEP: Analyzing and interpreting data, Engaging in argument from evidence** CCC: Patterns **Standard Content:** Leaf properties vary. Leaves can be described and compared by their properties. **Part 3:** Comparing Leaves **SEP: Analyzing and interpreting data, Constructing explanations** CCC: Patterns, Scale, proportion and quantity **Standard Content:** Leaves can be described and compared by their properties. **Part 4:** Matching Leaf Silhouettes **SEP: Developing and using models, Analyzing and interpreting data** CCC: Patterns **Standard Content:** Leaves have properties: size, shape, tip edge, texture and color. Leaves can be described and compared by their properties. **Part 5:** Leaf Books **SEP: Constructing explanations, Obtaining, evaluating and communicating information** CCC: Patterns	**K.2.1 Obtain, evaluate, and communicate information** to describe patterns of what living things (plants and animals, including humans) need to survive. Emphasize the similarities and differences between the survival needs of all living things. Examples could include that plants depend on air, water, minerals, and light to survive, or animals depend on plants or other animals to survive. (LS1.C) **K.2.3 Obtain, evaluate, and communicate information** about how living things (plants and animals, including humans) affect their surroundings to survive. Examples could include squirrels digging in the ground to hide their food, plant roots breaking concrete, or humans building shelters. (ESS2.E)

Standard Content: Different kinds of trees have different leaves. Leaves have properties: size, shape, tip edge, texture and color. Leaves can be described and compared by their properties. Trees can change their surroundings.	
Trees and Weather **Investigation 3: Observing Weather** **Part 1:** Weather Calendar **SEP: Planning and carrying out investigations, Analyzing and interpreting data, Obtaining evaluating and communicating information** CCC: Patterns **Standard Content:** Weather is the condition of the air outdoors. Weather can be described as sunny, partly cloudy, overcast, rainy or snowy. Weather changes. The Sun, Moon and clouds are objects that we see in the sky. **Part 2:** Recording Temperature **SEP: Analyzing and interpreting data, Constructing explanations** CCC: System and system models, Cause and effect, Patterns **Standard Content:** Temperature is how hot or cold it is. Thermometers measure temperature. Air temperature tells something about the weather. Sunlight warms Earths' surface. **Part 3:** Wind Direction **SEP: Planning and carrying out investigations, Analyzing and interpreting data, Using mathematics and computation thinking, Constructing and explanations and designing solutions, Obtaining, evaluating and communicating information** CCC: Cause and effect, Systems and system models, patterns **Standard Content:** Wind is moving air. A wind sock indicates wind	**K.1.1 Obtain, evaluate, and communicate information** about local, observable weather conditions to describe patterns over time. Emphasize the students' collection and sharing of data. Examples of data could include sunny, cloudy, windy, rainy, cold, or warm. (ESS2.D) **K.1.2 Obtain, evaluate, and communicate information** on the effect of forecasted weather patterns on human behavior. Examples could include how humans respond to local forecasts of typical and severe weather such as extreme heat, high winds, flash floods, thunderstorms, or snowstorms. (ESS3.B) **K.1.3 Carry out an investigation** using the five senses, to determine the effect of sunlight on different surfaces and materials. Examples could include measuring temperature, through touch or other methods, on natural and man-made materials in various locations throughout the day. (PS3.B)

direction and speed. Some severe weather conditions are more likely in some areas than others. Weather forecasts help people to prepare for severe weather. Weather can be described as sunny, partly cloudy, overcast, rainy or snowy.	

Trees and Weather
Investigation 4: Trees through the Season

Part 1: Fall: What comes from Trees?
SEP: Planning and carrying out investigations, Analyzing and interpreting data
CCC: Patterns
Standard Content: Trees are living and growing plants. Bark, twigs, leaves, buds, flowers, fruits and seeds are parts of trees.

Part 2: Fall: Food from Trees
SEP: Planning and carrying out investigations, Obtaining, evaluating and communicating information
CCC: Cause and effect
Standard Content: Bark, twigs, leaves, buds, flowers, fruits and seeds are parts of trees. Seeds grow into the same kind of plant as the parent plant.

Part 3: Fall: Visiting Adopted Tree:

K.1.1 Obtain, evaluate, and communicate information about local, observable weather conditions to describe patterns over time. Emphasize the students' collection and sharing of data. Examples of data could include sunny, cloudy, windy, rainy, cold, or warm. (ESS2.D)

K.2.1 Obtain, evaluate, and communicate information to describe patterns of what living things (plants and animals, including humans) need to survive. Emphasize the similarities and differences between the survival needs of all living things. Examples could include that plants depend on air, water, minerals, and light to survive, or animals depend on plants or other animals to survive. (LS1.C)

Planning and carrying out investigations, Analyzing and interpreting data CCC: **Standard Content:** Trees are living, growing plants. Trees change through the seasons. **Part 4:** Winter: Evergreen Hunt **SEP: Planning and carrying out investigations, Obtaining, evaluating and communicating information** CCC: **Standard Content:** Bark, twigs, eaves, buds, flowers, fruits and seeds are parts of trees. Some trees lose their leaves in winter; other's do not. **Part 5:** Winter: Twigs **SEP: Planning and carrying out investigations, Analyzing and interpreting data** CCC: Patterns **Standard Content:** Bark, twigs, eaves, buds, flowers, fruits and seeds are parts of trees. Twigs have structures such as leaf scars and buds. **Part 6:** Winter: Visiting Adopted Trees **SEP: Planning and carrying out investigations, Analyzing and interpreting data, Obtaining, evaluating and communicating information** CCC: Stability and change **Standard Content:** Trees are living, growing plants. Bark, twigs, eaves, buds, flowers, fruits and seeds are parts of trees. Trees change through the seasons. **Part 7:** Forcing Twigs **SEP: Planning and carrying out investigations** CCC: Cause and effect	

Standard Content: Bark, twigs, eaves, buds, flowers, fruits and seeds are parts of trees. The buds on twigs grow into leaves or flowers. **Part 8:** Spring: Bark Hunt **SEP: Planning and carrying out investigations, Analyzing and interpreting data** CCC: Patterns **Standard Content:** Bark, twigs, eaves, buds, flowers, fruits and seeds are parts of trees. Trees can be identified by the pattern of the bark. **Part 9:** Spring: Visiting Adopted Trees **SEP: Planning and carrying out investigations, Analyzing and interpreting data, Constructing explanations, Obtaining, evaluating and communicating information** CCC: Patterns, Stability and change **Standard Content:** Trees are living, growing plants. Trees change through the seasons. Trees can change their surroundings. Seasons change in a predictable annual pattern: fall, winter, spring, and summer.	

Strand K.2: LIVING THINGS AND THEIR SURROUNDINGS

Living things (plants and animals, including humans) depend on their surroundings to get what they need, including food, water, shelter, and a favorable temperature. The characteristics of surroundings influence where living things are naturally found. Plants and animals affect and respond to their surroundings.

FOSS	STANDARDS
Animals Two by Two **Investigations 1: Goldfish and Guppies** **Part 1**: The Structure of Goldfish **SEP: Asking questions, Planning and carrying out investigations, Analyzing and interpreting data** CCC: Systems and system models, Structure and function **Standard Content:** Fish have structures that help them live and grow - to find food, sense their habitat, and move from place to place. All Animals deserve respect and gentle care. **Part 2:** Caring for Goldfish	**K.2.1 Obtain, evaluate, and communicate information** to describe patterns of what living things (plants and animals, including humans) need to survive. Emphasize the similarities and differences between the survival needs of all living things. Examples could include that plants depend on air, water, minerals, and light to survive, or animals depend on plants or other animals to survive. (LS1.C) **K.2.2 Obtain, evaluate, and communicate information** about patterns in the relationships between the needs of different living things (plants and animals, including humans) and the places they live. Emphasize that living things need water, air, and resources and that they live in places that have the things they need. Examples could

SEP: Asking Questions, Analyzing and interpreting data CCC: Cause and effect, Structure and function **Standard Content:** Fish are animals that have basic needs - water with oxygen, food, and space with shelter. Fish have structures that help them live and grow - to find food, sense their habitat, and move from place to place. **Part 3:** Goldfish Behavior **SEP: Developing and using models, Analyzing and interpreting data** CCC: Cause and effect, system and system models **Standard Content:** Fish have structures that help them live and grow - to find food, sense their habitat, and move from place to place. **Part 4:** Comparing Guppies to Goldfish **SEP: Asking questions, Constructing explanations, Obtaining, evaluating and communicating information.** CCC: Patterns, Structure and function, Patterns **Standard Content:** Different kinds of fish have similar but different structures and behaviors **Part 5:** Comparing Schoolyard Birds **SEP: Asking questions, Planning and carrying out investigations, Analyzing and interpreting data, Constructing explanations, Obtaining, evaluating and communicating information** CCC: System and system models, Structure and function, Patterns	include investigating plants grown in various locations and comparing the results or comparing animals with the places they live. (LS2.B, ESS3.A) **K.2.3 Obtain, evaluate, and communicate information** about how living things (plants and animals, including humans) affect their surroundings to survive. Examples could include squirrels digging in the ground to hide their food, plant roots breaking concrete, or humans building shelters. (ESS2.E)

Standard Content: Birds are animals that have basic needs. Different kinds of birds have similar but different structures and behaviors.	
Animals Two by Two **Investigations 2: Water and Land Snails** **Part 1:** Observing Water Snails **SEP: Asking questions, Planning and carrying out investigations, Analysing and interpreting data** CCC: System and system models, Structure and function **Standard Content:** Snails are animals and have basic needs - water, air, food, and space with shelter. Different kinds of snails have some structures and behaviors that are the same and some that are different. **Part 2:** Shells **SEP: Planning and carrying out investigations, Analyzing and interpreting data** CCC: Patterns **Standard Content:** There is a great diversity among snails. Shells differ in size, shape, pattern, and texture. **Part 3:** Land Snails **SEP: Asking questions, Planning and carrying out investigations, Analyzing and interpreting data, Construction explanations, Engaging in argument from evidence, Obtaining, evaluating and communicating information** CCC: Cause and effect, Patterns	**K.2.1 Obtain, evaluate, and communicate information** to describe patterns of what living things (plants and animals, including humans) need to survive. Emphasize the similarities and differences between the survival needs of all living things. Examples could include that plants depend on air, water, minerals, and light to survive, or animals depend on plants or other animals to survive. (LS1.C) **K.2.2 Obtain, evaluate, and communicate information** about patterns in the relationships between the needs of different living things (plants and animals, including humans) and the places they live. Emphasize that living things need water, air, and resources and that they live in places that have the things they need. Examples could include investigating plants grown in various locations and comparing the results or comparing animals with the places they live. (LS2.B, ESS3.A) **K.2.3 Obtain, evaluate, and communicate information** about how living things (plants and animals, including humans) affect their surroundings to survive. Examples could include squirrels digging in the ground to hide their food, plant roots breaking concrete, or humans building shelters. (ESS2.E)

Standard Content: Different kinds of snails have some structures and behaviors that are the same and some that are different. Snails have senses. Snails are animals and have basic needs - water, air, food, and space with shelter.	
Animals Two by Two **Investigations 3: Big and Little Worms** **Part 1:** Structure of Redworms **SEP: Planning and carrying out investigations, Analyzing and interpreting data** CCC: System and system models, Structure and function Standard Content: Worms have identifiable structures. Worms are animals and have basic needs - water, food, air and space with shelter. **Part 2:** Redworm behavior **SEP: Asking questions, Developing and using models, Planning and carrying out investigations, Analyzing and interpreting data, Constructing explanations** CCC: System and system models, cause and effect **Standard Content:** Worms are animals and have basic needs - water, food, air and space with shelter. Womr behavior is influenced by conditions in the environment. Worms change plant material into soil. **Part 3:** Comparing Redworms to Night Crawlers **SEP: Planning and carrying out investigations, Analyzing and interpreting data, Constructing explanations, Engaging in**	**K.2.1 Obtain, evaluate, and communicate information** to describe patterns of what living things (plants and animals, including humans) need to survive. Emphasize the similarities and differences between the survival needs of all living things. Examples could include that plants depend on air, water, minerals, and light to survive, or animals depend on plants or other animals to survive. (LS1.C) **K.2.2 Obtain, evaluate, and communicate information** about patterns in the relationships between the needs of different living things (plants and animals, including humans) and the places they live. Emphasize that living things need water, air, and resources and that they live in places that have the things they need. Examples could include investigating plants grown in various locations and comparing the results or comparing animals with the places they live. (LS2.B, ESS3.A) **K.2.3 Obtain, evaluate, and communicate information** about how living things (plants and animals, including humans) affect their surroundings to survive. Examples could include squirrels digging in the ground to hide their food, plant roots breaking concrete, or humans building shelters. (ESS2.E)

argument from evidence, Obtaining, evaluating, and communicating information CCC: Patterns, Structure and function, Cause and effect **Standard Content:** Different kinds of worms have similar structures and behaviors: they also have differences.	
Animals Two by Two **Investigations 4: Pill Bugs and Sow Bugs** **Part 1:** Isopod Observations **SEP: Planning and carrying out investigations, Analyzing and interpreting data** CCC: System and system models **Standard Content:** Isopods are animals and have basic needs - water, air, food, and space with shelter. Different kinds of isopods have some structures and behaviors that are the same and some are different. **Part 2:** Identifying Isopods **SEP: Asking questions, Planning and carrying out investigations, Analyzing and interpreting data, Obtaining, evaluating and communicating information** CCC: Patterns, Structure and function, Patterns **Standard Content:** Different kinds of isopods have some structures and behaviors that are the same and some are different. There is great diversity among isopods. **Part 3:** Isopod Movement	**K.2.1 Obtain, evaluate, and communicate information** to describe patterns of what living things (plants and animals, including humans) need to survive. Emphasize the similarities and differences between the survival needs of all living things. Examples could include that plants depend on air, water, minerals, and light to survive, or animals depend on plants or other animals to survive. (LS1.C) **K.2.2 Obtain, evaluate, and communicate information** about patterns in the relationships between the needs of different living things (plants and animals, including humans) and the places they live. Emphasize that living things need water, air, and resources and that they live in places that have the things they need. Examples could include investigating plants grown in various locations and comparing the results or comparing animals with the places they live. (LS2.B, ESS3.A) **K.2.3 Obtain, evaluate, and communicate information** about how living things (plants and animals, including humans) affect their surroundings to survive. Examples could include squirrels digging in the ground to hide their food, plant roots breaking concrete, or humans building shelters. (ESS2.E)

SEP: Planning and carrying out investigations, Analyzing and interpreting data, Constructing explanations, Obtaining evaluating and communicating information CCC: System and system models, Structure and function, Patterns **Standard Content:** Isopod behavior is influenced by conditions in the environment. **Part 4**: Animals living Together **SEP: Planning and carrying out investigations, Constructing explanations, Obtaining and evaluating and communicating information** CCC: System and system models, Patterns **Standard Content:** Isopods are animals and have basic needs - water, air, food, and space with shelter.	

Strand K.3: FORCES, MOTION, AND INTERACTIONS

The motion of objects can be observed and described. Pushing or pulling on an object can change the speed or direction of an object's motion and can start or stop it. Pushes and pulls can have different strengths and different directions. A bigger push or pull makes things go faster and when objects touch or collide, they push on one another and can change motion.

FOSS	STANDARDS
Materials and Motion **Investigation 1: Getting to Know Wood** **Part 1:** Observing Wood **SEP: Planning and carrying out investigations, Analyzing and Interpreting data, Constructing explanations, Engaging in argument from evidence, Obtaining, evaluating and communicating information** CCC: Structure and function **Standard Content:** Wood can be described in terms of its properties. Different kinds of wood come from different kinds of trees. Trees are natural resources. Some kinds of woods are processed and transformed by people. Wood is used for many everyday things.	**K.2.4 Design and communicate a solution** to address the effects that living things (plants and animals, including humans) experience while trying to survive in their surroundings. *Define the problem by asking questions and gathering information, convey designs through sketches, drawings, or physical models, and compare designs.* Emphasize students working from a plant, animal, or human perspective. Examples could include a plant growing to get more sunlight, a beaver building a dam, or humans caring for the Earth by reusing and recycling natural resources. (ESS3.C, ETS1.A, ETS1.B, ETS1.C)

Part 2: Wood and Water **SEP: Asking questions, Planning and carrying out investigations, Analyzing interpreting data, Constructing explanations** CCC: Patterns **Standard Content:** Wood can be described in terms of its properties. Wood floats in water. Wood absorbs water. **Part 3:** Testing a Raft **SEP: Asking questions and defining problems, Planning and carrying out investigations, Analyzing interpreting data, Using mathematics and computational thinking, Constructing explanations and designing solutions** CCC: Cause and effect **Standard Content:** Wood can be described in terms of its properties. Wood floats in water but can be made to sink. Some kinds of wood sink more easily than others. Engineers test wood products and use certain kinds of wood for specific uses. **Part 4:** Sanding Wood **SEP: Planning and carrying out investigations, Analyzing and interpreting data** CCC: Cause and effect **Standard Content:** Wood can be changed (appearance and behavior) by mechanical action, such as sanding and mixing with water. Sawdust is tiny pieces of wood. Sawdust can be recycled into usable wood. **Part 5:** Sawdust Shavings	

SEP: Planning and carrying out investigations, Analyzing and interpreting data, Constructing and explanations and designing solutions CCC: Cause and effect **Standard Content:** Wood floats in water but can be made to sink. Wood can be changed (appearance and behavior) by mechanical action, such as sanding and mixing with water. Wood that is waterlogged sinks. **Part 6:** Making Particle Board **SEP: Developing and using models, Constructing explanations and designing solutions** CCC: Structure and function **Standard Content:** Different kinds of wood come from different kinds of trees. Trees are natural resources. Some kinds of wood are processed and made by people. Sawdust is tiny pieces of wood. Sawdust can be recycled into usable wood. Basic materials can be transformed into new materials (particle board). **Part 7:** Making Plywood **SEP: Asking questions, Developing and using models, Constructing explanations and designing solutions, Obtaining, evaluating and communicating information** CCC: Structure and function, Energy and matter **Standard Content:** Different kinds of wood come from different kinds of trees. Trees are natural resources. Some kinds of wood are processed and made by people. Gluing (laminating) thin sheets of wood together produces stronger wood that is hard to break.	

Materials and Motion **Investigation 2: Getting to Know Paper** **Part 1:** Paper Hunt **SEP: Planning and carrying out investigations, Analyzing and interpreting data, Constructing explanations, Obtaining, evaluating and communicating information** CCC: **Standard Content:** Paper has many observable properties. Many objects are made from paper. People make paper from wood. **Part 2:** Using Paper **SEP: Asking questions and defining problems, Planning and carrying Out investigations, analyzing and interpreting data** CCC: Patterns, Structure and function **Standard Content:** Paper has many observable properties. The properties of different papers determine their uses. **Part 3:** Paper and Water **SEP: Planning and carrying out investigations, Analyzing and Interpreting data, Constructing explanations** CCC: Cause and effect **Standard Content:** Paper has many observable properties. Some kinds of paper absorb water, while others do not. Some paper changes when soaked in water. Some paper breaks down into small fibers **Part 4:** Paper Recycling **SEP: Asking questions and defining problems, Developing and using models, Constructing explanations and designing solutions**	**K.2.4 Design and communicate a solution** to address the effects that living things (plants and animals, including humans) experience while trying to survive in their surroundings. *Define the problem by asking questions and gathering information, convey designs through sketches, drawings, or physical models, and compare designs.* Emphasize students working from a plant, animal, or human perspective. Examples could include a plant growing to get more sunlight, a beaver building a dam, or humans caring for the Earth by reusing and recycling natural resources. (ESS3.C, ETS1.A, ETS1.B, ETS1.C)

CCC: Cause and effect **Standard Content:** People make paper from wood. Some kinds of paper absorb water, while others do not. Some paper changes when soaked in water. Paper, a resource, can be reused, recycled and fabricated. **Part 5:** Papier- Mache' **SEP: Asking questions and defining problems, Constructing explanations and designing solutions** CCC: Cause and effect, Structure and function **Standard Content:** Paper, a resource, can be reused, recycled and fabricated.	
Materials and Motion **Investigation 3: Getting to Know Fabric** **Part 1:** Feely Boxes and Fabric Hunt **SEP: Planning and carrying out investigations, Analyzing and interpreting data** CCC: **Standard Content:** Fabric is flexible material with a wide range of properties. **Part 2:** Taking Fabric Apart **SEP: Asking questions, Developing and using models, Constructing explanations, Obtaining, evaluating, and communicating information** CCC: Patterns **Standard Content:** Fabric can be made of woven threads. **Part 3:** Water and Fabric **SEP: Planning and carrying out investigations, Analyzing and interpreting data**	**K.1.3 Carry out an investigation** using the five senses, to determine the effect of sunlight on different surfaces and materials. Examples could include measuring temperature, through touch or other methods, on natural and man-made materials in various locations throughout the day. (PS3.B) **K.1.4 Design a solution** that will reduce the warming effect of sunlight on an area. *Define the problem by asking questions and gathering information, convey designs through sketches, drawings, or physical models, and compare and test designs.* (PS3.B, ETS1.A, ETS1.B, ETS1.C) **K.2.4 Design and communicate a solution** to address the effects that living things (plants and animals, including humans) experience while trying to survive in their surroundings. *Define the problem by asking questions and gathering information, convey designs through sketches, drawings, or physical models, and compare designs.* Emphasize students working from a plant, animal, or human perspective. Examples could include a plant

CCC: Patterns **Standard Content:** Fabrics can absorb, transmit, or repel water. Wet fabric dries when water evaporates, leaving fabric unchanged. **Part 4:** Graphing Fabric Uses **SEP: Analyzing and interpreting data, Using mathematics and computational thinking, Engaging in argument from evidence, Obtaining, evaluating and communicating information** CCC: Structure and function **Standard Content:** The properties of fabrics determine their uses. **Part 5:** Reuse and Recycle Resources **SEP: Designing solutions, Obtaining, evaluating and communicating information** CCC: **Standard Content:** Land, air, water, trees are natural resources. People reuse and recycle natural resources. **Part 6:** Building Structures **SEP: Defining problems, Planning and carrying out investigations, Analyzing and interpreting data, Constructing explanations and designing solutions** CCC: Cause and effect, Structure and function **Standard Content:** People use knowledge of properties of materials to create useful structures. The Sun warms Earth's surface.	growing to get more sunlight, a beaver building a dam, or humans caring for the Earth by reusing and recycling natural resources. (ESS3.C, ETS1.A, ETS1.B, ETS1.C)

Materials and Motion **Investigation 4: Getting Things to Move** **Part 1:** Pushes and Pulls **SEP: Planning and carrying out investigations, Analyzing and interpreting data, Obtaining, evaluating and communicating information** CCC: Cause and effect **Standard Content:** Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. Gravity can pull things down. **Part 2:** Colliding Objects **SEP: Asking questions and defining problems, Planning and carrying out investigations, Analyzing and interpreting data, Constructing explanations and designing solutions, Obtaining, evaluating and communicating information** CCC: Patterns, Cause and effect, System and system models **Standard Content:** Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. Gravity can pull things down. A bigger push or pull can make things move faster. When objects touch or collide, they push on one another, which can change motion. **Part 3:** Rolling Outdoors **SEP: Asking questions and defining problems, Planning and carrying out investigations, Analyzing and interpreting data, Constructing explanations and designing solutions** CCC: Patterns, Cause and effect **Standard Content:** Gravity pulls things down. When objects touch or collide, they push on one another, which can change motion.	**K.3.1 Plan and conduct an investigation** to compare the effects of different strengths or different directions of forces on the motion of an object. Emphasize forces as a push and pull on an object. The idea of strength should be kept separate from the idea of direction. Non-contact forces, such as magnets and static electricity, will be taught in Grades 3 through 5. (PS2.A, PS2.B, PS2.C, PS3.C) **K.3.2** Analyze data to determine how a **design solution** causes a change in the speed or direction of an object with a push or a pull. *Define the problem by asking questions and gathering information, convey designs through sketches, drawings, or physical models, and compare and test designs.* Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, or knock down other objects. (PS2.A, PS2.B, PS2.C, PS3.C, ETS1.A, ETS1.B, ETS1.C)

Part 4: Balloon Rockets **SEP: Planning and carrying out investigations, Analyzing and interpreting data, Using mathematics and computational thinking, Constructing explanations** CCC: Cause and effect, System and system models **Standard Content:** Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. A bigger push or pull can make things move faster. When objects touch or collide, they push on one another which can change motion.	