PRESTON PUBLIC SCHOOLS
Science Curriculum Revision to Align with NGSS
Unit Plan Organizer
Kindergarten

Grade Level	Unit Name	Unit Theme/Description	NGS Standards Included
K	Animal Science	**Why do woodpeckers peck wood?** **Overview:** Students observe animal behaviors and work to discover a pattern that all animals have (food seeking behaviors). **Materials:** • Smartboard; • Birdfeeder to be placed outside classroom windows; • Journal to record observations of the bird feeder; • Field trip opportunity to a farm if possible. **Assessment:** Students complete a worksheet requiring them to draw and label a picture of an animal and what it eats. **Where do animals live?** **Overview:** Students identify the pattern that all living things live where their needs are met. They will be able to recognize that plants, animals, and their surroundings make up a system of parts that work together. **Materials:** • Nature Nuggets video about animal homes; • Books about animal homes (with pictures) available for children to look	K-LS1-1. – Use observations to describe patterns of what plants and animals (including humans) need to survive; K-ESS2-2. – Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs; K-ESS3-1. – Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live; K-ESS3-3 - Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

		at; • PBS YouTube channel access for the series: NATURE; • Chart paper to review homes whole group after watching videos; • Various building materials for children to design an animal home. **Assessment:** Students will complete a worksheet where they have to draw an animal's home and label what animal would live there and where it would be found. **<u>How can you find animals in the woods?</u>** **Overview:** Students will study animal behaviors to identify patterns that all animals have the behavior of seeking out safety to survive. **Materials:** • Videos of animals finding safety; • Cameras and journals to record nature walk experiences; • Extra videos on YouTube of animals seeking out safety in various habitats. **Assessment:** Students will complete a worksheet where they have to draw an animal and describe how it stays safe. **<u>How do animals make their home in the forest?</u>** **Overview:** Students begin to recognize that plants, animals, and their surroundings make up a system of parts that work together. **Materials:** • <u>Who Lives In That Hole?</u> Sarah Jenevein; • Video access to wildlife naturally	

		occurring in different habitats; • Journals to record observations; • Cut and Paste activity placing animals in their correct habitats. **Assessment:** Students will draw and label an animal making a home in a tree. **<u>How do plants and trees grow?</u>** **Overview:** Students investigate the conditions a plant needs to survive understanding that all plants have survival needs. **Materials:** • Radish seeds (1 3g seed packet); • 1 Dixie cup for each student and one extra cup per table of students; • Peat pellets; • Water in spray bottles; • Paper labels for student's names; • Writing utensils; • Paper plates (1 per group); • Sunny windowsill; • Aluminum pans with aluminum covers; • Baking soda; • Teaspoon/Measuring Cups; • Camera/recording sheet (available on www.mysteryscience.com) **Assessment:** Students will be asked to draw and label items needed in order for seeds to grow.	

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K	Push and Pull	**<u>What's the biggest excavator?</u>** **Overview:** Children will use various materials to empty sand from one bucket to another. They will observe and determine the most efficient way to transfer the sand. Hypothesis and results will be graphed for the class. **Materials:** • Buckets; • Sand; • Shovel; • Spoon; • Fork; • Ladle; • Chart Paper; • Markers; • Camera; • "Machine's at Work" Caroline Young; • "Big Book of Big Machines" Minna Lacey; • "Big Machines" Karen Wallace; • "Go, Go Trucks" Jennifer Liberts. • "Hansel and Diesel", "The Three Little Rigs", "The Ugly Truckling" by David Gordon. **Assessment:** Observation by the teacher and an exit ticket will be given for children to illustrate their observations and answer multiple choice questions pertaining to the results of the activity. **<u>Don't Crush That House</u>** **Overview**: Children will create a wrecking ball and a mock town. They will work together	K-PS2-1: 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; K-PS2-2: 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.

		to see if the wrecking ball can knock over the concrete wall without damaging the houses behind it. **Materials:** • Printout of game pieces; • One standard piece of printer paper; • Yardstick; • Ribbon; • Tape; • Wastebasket; • Ping pong balls; • Paper cups; • Binder Clips; • Clipboards; • Camera; • Chart Paper; • Markers; • "Sammy and the Wrecking Ball" Marguerite Sansone. **Assessment**: Observation by the teacher and an exit ticket will be given for children to illustrate their observations and answer multiple choice questions pertaining to the results of the activity. **<u>Crash Cup Bowling</u>** **Overview:** Children will create a bowling alley in the classroom and determine the best technique to knock the most pins down. **Materials:** • Masking tape; • Solo cups (for pins) 10; • Tennis ball (bowling ball); • Pool noodles (bumpers); • Building blocks;	

		• Clipboards; • Camera; • Chart paper to record data; • Markers; • "Are Bowling Balls Bullies?" Thomas Kingsley Troupe; • "Irma the Flying Bowling Ball" Tom Ross. **Assessment:** Observation by the teacher and an exit ticket will be given for children to illustrate their observations and answer multiple choice questions pertaining to the results of the activity. **<u>Boulder Bounce</u>** **Overview:** Students will work in pairs to save a tiny town by guiding a bouncing ball "boulder" into a cup. **Materials:** • Ping pong balls; • Clipboard; • Corrugated cardboard; • Push pins; • Solo cups; • Books for creating a hill; • Scissors; • Masking Tape; • "Disaster Zone: Landslides" Cari Meister. **Assessment:** Observation by the teacher and an exit ticket will be given for children to illustrate their observations and answer multiple choice questions pertaining to the results of the activity.	

		<u>Be an Inventor</u> **Overview:** Students design a solution to help characters solve a problem. They will then think of a chore they don't enjoy doing and create a machine that could help them. They will present their machine to the class and consider materials they could use to build it. **Materials:** • "The Monster Trap" Ruth Tepper Brown; • Chart Paper; • White computer paper; • Drawing utensils; • "How to Trap a Leprechaun" Sue Fliess; • Examples of building materials. **Assessment:** Observation by the teacher and the paper with their invention on it will be used to assess this standard.	

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K	Weather	**<u>Have you ever watched a storm?</u>** **Overview:** In this lesson students start their path toward becoming weather watchers! They learn the different factors involved in describing the weather, then observe and draw the weather. **Materials:** • Drawing paper (template); • Coloring utensils; • Clipboard; • Technology (to show different types of weather). **Assessment:** Students will be asked to draw a picture of their favorite weather and describe the weather they drew above. **<u>What would the weather be like on your birthday?</u>** **Overview:** In this Mystery students use observations of the four classic seasons to spot patterns and thereby determine the seasons' order. **Materials:** • Season sorting cards; • Circle of seasons wall display; • Pushpins to hang; • Coloring utensils; • Scissors; • Weather journal to record daily. **Assessment:** Students will have to cut out cards of the seasons and glue them in order. **<u>How do you know what to wear for the weather?</u>** **Overview:** Students will listen to a book about a boy who is trying to figure out what to wear each	K-PS3-1 Make observations to determine the effect of sunlight on Earth's surface; K-PS3-2 Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area; K-ESS2-1 Use and share observations of local weather conditions to describe patterns over time; K-ESS3-2 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

		day at school. They will then participate in a lesson about wind and the effects it can have. They will also learn how to determine if it's windy outside. **Materials:** • The Weather Detective, Ruth Brown; • Who Has Seen the Wind, Christina Rossetti; • www.weatherwizkids.com. **Assessment:** Students will complete a worksheet to determine what the weather is like for the day and what Kevin, from The Weather Detective, should wear. **How could you warm up a frozen playground?** **Overview:** Students experiment with ways to bring light and warmth to a place where the sun doesn't shine throughout the winter. **Materials:** 1. Envelopes big enough to contain the following: a. Scissors; b. Stickers or pieces of tape; c. 3x5 card; d. Aluminum foil; e. Clear plastic report covers (2); f. Black construction paper; g. Colored construction paper; h. Chill City worksheets; 2. Writing utensils. **Assessment:** Students will be asked to build/create something to keep a person cool on a hot day. Students will complete this using various materials found around the classroom. **How could you walk barefoot across hot pavement without burning your feet?**	

		Overview: Students consider the cause and effect relationship between the amount of sunlight an area gets and its temperature. **Materials:** 1. Hot Foot, Pat Murphy; 2. Various building materials for students to create; 3. Map handout to go along with read aloud; 4. Camera to be used while children explore different surfaces on a playground in the sun/shade; 5. Writing utensils. **Assessment:** Students will be given a worksheet and asked to mark areas of the playground where children could keep cool on a hot day.	