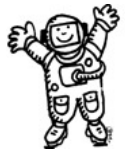

Gateway Regional School District

SCOPE & SEQUENCE
Science – Preschool

Massachusetts PK/K Standards	Topics	Kindergarten Readiness Curriculum Benchmarks	Possible Instructional Strategies	Evidence of Student Learning (Assessment)	Month
STRAND – Earth and Space Science					
PK.ES.1 Recognize that water, rocks, soil, and living organisms are found on the earth's surface.	Earth Science	**Students Will Know:** ▸What is on the earth's surface **Students Will Do:** ▸Use items found in nature in the classroom	• Fill sand table with water, sand, dirt etc… • Examine and compare different kinds of rocks	•Observe students correctly labeling water, rocks, dirt, and knowing where to find them on the earth's surface •Observe students labeling two different kinds of rocks	Sept.-June
PK.ES.2 Understand that air is a mixture of gases that is all around us and that wind is moving air.	Earth Science	**Students Will Know:** ▸What air is and what wind is • Know what a gas is **Students Will Do:** ▸Observe weather and wind	• Observe air escaping form a bottle under water • Watch our breath outside in the winter • Blow bubbles • Explore parachute activities	•Observe children talking about wind using science vocabulary •See weather chart in classroom portfolio	March-June
PK.ES.3 Describe the weather changes from day to day and over the seasons.	Earth Science	**Students Will Know:** ▸Difference in seasons ▸Seasons names **Students Will Do:** ▸Observe weather changes	• Talk about the seasons • Chart weather changes • List characteristics of each season • Observe daily weather, feel rain, snow, fog, wind	•Observe children correctly naming seasons and characteristics of seasons •Observe children talking about weather using science vocabulary	Sept.-June
PK.ES.4 Recognize that the sun supplies heat and light to the earth and is necessary for life.	Earth Science	**Students Will Know:** ▸ What the sun does for us **Students Will Do:** ▸Observe sun's impact on temperature and light	•Observe the sun moving across the sky • Play games with shadows Trace your shadow at different times of the day •Read "*Bear Shadow*" by Frank Asch • Observe light through a prism	•Students will tell teachers what the sun does for the earth. •See evidence of understanding sun properties in their journals	Jan.-June
PK.ES.5 Identify some events around us that have repeating patterns, including the seasons of the year, day and night.	Earth Science	**Students Will Know:** ▸Cycle of day/night and cycle of seasons **Students Will Do:** ▸Talk about season changes ▸Notice difference between day and night	•Identify the difference in the sky from day to night • Sort familiar objects according to day/ night use • Identify repeating patterns in day night and seasons	•Observe students talking about the difference in the sky •Observe students classifying objects by day and night use •Observe students naming the seasons in order	Sept.-June

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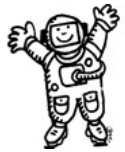

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STRAND - Life Science					
PK.LS.1 Recognize that animals (including humans) and plants are living things that grow, reproduce, and need food, air, and water.	Life Science	**Students Will Know:** ▸All living things eat, grow, reproduce and die **Students Will Do:** ▸ Observe the changes in living things	• Read books about life cycles • Observe and care for living things in the classroom • Visit a farm or Zoo • Observe creatures in their natural habitat, ants, spiders, bugs, butterflies etc…	•Observe children watching insects and bug while out on the playground •Observe children listing some of the animals stages of growth •Observe children caring for pets in classroom	Sept.-June
PK.LS.2 Differentiate between living and nonliving things. Group both living and nonliving things according to the characteristics that they share.	Life Science	**Students Will Know:** • What is alive and what is non-living **Students Will Do:** ▸Sort and classify living and non living things ▸ List common characteristics	• Talk about what it means to be living. • Observe living things, how do the move, eat, sleep • Talk about objects and list non-living things • Examine different kinds of plants and list similarities and differences	•Observe children in conversations talking about living things and how they move, eat and sleep •Observe children sorting things into living and non-living sets	Sept.-June
PK.LS.3 Recognize that plants and animals have life cycles, and that life cycles vary for different living things.	Life Science	**Students Will Know:** ▸ Life cycles of some animals and plants **Students Will Do:** ▸Compare different life cycles	• Plant seeds in the classroom • Observe life cycle of butterflies •Add living things to the classroom and study them	•Observe children recording growth of plants in the classroom and outside. •Observe children noticing differences in different kids of living organisms	Sept.-June
PK.LS.4 Describe ways in which many plants and animals closely resemble their parents in observed appearance.	Life Science	**Students Will Know:** ▸ That offspring look like parents **Students Will Do:** ▸ Observe similarities between parent and child	•Observe offspring and notice similarities • Observe similarities in children and parents, make chart of like characteristics • Look for similarities among groups of animals, fins, fur, feathers, number of legs etc.	•See portfolio for charts of similarities between parents and child •See charts of animals with fur, feathers, fins, on classroom wall or in portfolio	Dec.-June
PK.LS.5 Recognize that fossils provide us with information about living things that inhabited the earth years ago.	Life Science	**Students Will Know:** ▸What fossils are **Students Will Do:** ▸ Look at fossils	• Read books about fossils, and dinosaurs • Discuss animals that aren't living any more, and why	•Observe children talking about extinct animals and fossils, and why they aren't living any more	Dec.- June

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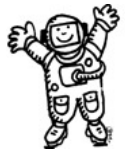

SCOPE & SEQUENCE
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PK.LS.6 Recognize that people and other animals interact with the environment through their senses of sight, hearing, touch, smell, and taste.	Life Science	**Students Will Know:** ▸ Five senses **Students Will Do:** ▸ Use all five senses to explore the environment	• Read books about 5 senses • Use sensory table with variety of objects • Use feely box • Match common sounds to objects	Observe children using their five sense to get information about objects and the environment	Jan -June
PK.LS.7 Recognize changes in appearance that animals and plants go through as the seasons change.	Life Science	**Students Will Know:** ▸Animals and plants change as they grow **Students Will Do:** ▸ See change and chart growth	• Draw pictures of plants growth over time • Observe changes in plants and animals • Chart growth of growing plant • Discuss how seasons change our appearance and activity	•See growth charts in portfolio •Observe children noticing and talking about changes in people and animals in different seasons.	Sept.-June
PK.LS.8 Identify the ways in which an organism's habitat provides for its basic needs (plants require air, water, nutrients, and light; animals require food, water, air, and shelter).	Life Science	**Students Will Know:** ▸The earth provides what we need to live **Students Will Do:** ▸ List all the basic needs of animals for life	• Discuss what we need to live and where we get these things • Match animal with their habitat • Create a habitat for an animal in the classroom ie fish , snails, ants, hermit crab etc.	•Observe children correctly matching habitat with animal •Observe children listing the things we need to live	Jan.-June
STRAND - Physical Sciences					
PK.PS.1 Sort objects by observable properties such as size, shape, color, weight, and texture.	Physical Science	**Students Will Know:** ▸ Difference in shapes, colors, and size **Students Will Do:** ▸ Sort objects according to similar properties	• Make a big book about shapes and textures using various materials • Classify common objects by property • Sort objects by attribute	•See books in class portfolio about shapes and textures	Sept.-June
PK.PS.2 Identify objects and materials as solid, liquid, or gas. Recognize that solids have a definite shape and that liquids and gases take the shape of their container.	Physical Science	**Students Will Know:** ▸ What a solid, liquid, and gas is **Students Will Do:** ▸ Use a solid, liquid and gas and notice differences in properties	• Put solids, liquids and gases in containers and observe • Manipulate and describe materials such as sand, water, clay shaving cream etc.	•Observe children noticing the difference in properties of solid, liquid, and gas and using science vocabulary to describe the differences	Jan.-June

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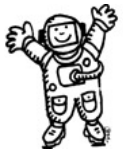

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PK.PS.3 Describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.	Physical Science	**Students Will Know:** ▸ Ways in which objects can move **Students Will Do:** ▸ Observe how objects move	• Use various objects and notice how they move on a flat surface on incline etc. • Respond to oral and visual movement cues • Try different ways to move cotton balls, corks, feathers, scarves etc…	•Observe children using blocks as ramps •Observe children correctly following verbal prompts for different kinds of movement	Sept.-June
PK.PS.4 Demonstrate that the way to change the motion of an object is to apply a force (give it a push or a pull). The greater the force, the greater the change in the motion of the object.	Physical Science	**Students Will Know:** ▸ What force is **Students Will Do:** ▸ Apply force to objects and watch the change in movement ▸ Explore cause and effect	• Play with balls, cars, and blocks • Discuss what force is, push pull, roll, throw, spin, twist etc.. • Observe force of water Respond to verbal prompt, roll the ball, twist the lid., push the wagon	•Observe children applying different forces to objects to get them to move. •Observe children following directions for different ways to move objects	Sept.-June
PK.PS.5 Recognize that under some conditions, objects can be balanced.	Physical Science	**Students Will Know:** ▸ How to balance objects **Students Will Do:** ▸ Use blocks, and scales to balance objects	• Experiment with balances and scales • Build with variety of blocks Use body movement to explore balance	•Observe children using scales and balances in the classroom to balance groups of objects	Dec.-June
STRAND - Technology/Engineering					
PK.T/E.1.1 Identify and describe characteristics of natural materials (e.g., wood, cotton, fur, wool) and human-made materials (e.g., plastic, Styrofoam).	Physical Science	**Students Will Know:** ▸Difference between natural and human-made objects **Students Will Do:** ▸Sort and classify objects by natural or human-made characteristics	• Feel and use natural materials and human-made materials • Talk about differences in human made vs. natural materials	•Observe students sorting objects by human- made or natural materials	Jan.-June
PK.T/E.1.2 Identify and explain some possible uses for natural materials (e.g., wood, cotton, fur, wool) and human-made materials (e.g., plastic, Styrofoam).	Physical Science	**Students Will Know:** ▸How to use some natural materials **Students Will Do:** ▸Talk about uses for these objects	• Discuss and explain possible uses for human-made and natural objects • Sort objects by characteristics • Use different materials for making something (table) what works what doesn't	•Observe students talking about ways to use human-made and natural products •Observe students sorting materials by uses	Jan.-June

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PK.T/E.1.3 Identify and describe the safe and proper use of tools and materials (e.g., glue, scissors, tape, ruler, paper, toothpicks, straws, spools) to construct simple structures.	Physical Science	**Students Will Know:** ▸ Safety rules **Students Will Do:** ▸Practice using these materials safely	• Teachers will discuss the safety rules and demonstrate how to use and care for these materials • Children will construct simple structures using these materials	Observe children following the safety rules See pictures of the 3-d structures that the children have made in the portfolio	Sept.-June
PK.T/E.2.1 Identify tools and simple machines used for a specific purpose, e.g., ramp, wheel, pulley, lever.	Physical Science	**Students Will Know:** ▸ What a wheel, ramp, lever and pulley are **Students Will Do:** ▸Use wheels, ramps, levers and pulleys	• Have wheels, levers, ramps and pulleys available in block center and outside for children to use and experiment with • Discuss simple machines	•Observe children using wheels, levers, ramps and pulleys in block center and outside	Sept.-June
PK.T/E.2.2 Describe how human beings use parts of the body as tools (e.g., teeth for cutting, hands for grasping and catching), and compare their use with the ways in which animals use those parts of their bodies.	Physical Science	**Students Will Know:** ▸ How we use our body as a tool **Students Will Do:** ▸ Compare how we use our body with how other animals use their bodies	• Observe and show how we use our bodies and how animals use their bodies • Observe different ways that animals use tools • Read books about animals using tools	•Observe children using their bodies as tools •Observe children talking about how animals use tools	Jan.-June

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