

Course Title: STEAM First Grade

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Grade	Big Idea	Essential Questions	Concepts	Proposed Labs	Competencies	Vocabulary	NGSS Standards	SAS Standards	Assessment Anchor Eligible Content	Resources
1	Introduction to States of Matter	How can one explain the structure, properties, and interactions of matter?	Different kinds of matter exist in various states. (PS1.A)	Oobleck Baking Soda/ Vinegar reaction Scavenger hunt	Observe, describe, and classify matter by properties and uses (e.g., size, shape, weight, solid, liquid, gas). (2-PS1-1)	Solid Liquid Gas Matter Describe		S4.C.1.1.1 S4.A.1.1 S4.1.3.1 S4.A.2.1.4	S4.C.1.1.1 S4.A.1.1 S4.1.3.1 S4.A.2.1.4	Containers of mixed shapes and sizes Water Food Coloring Ping-Pong balls Sink or Float kits Solids, Liquids, or Gasses lab sheets FreeSchool "3 States of Matter for Kids" video SciShow Kids "Sink or Float" video
1	Life Cycle Plants/ Animals	How do organisms live, grow, respond	Organisms have external	Organisms have external structures	Design a model that replicates the	Organism Structure		3.1.4.A 3.1.4.B 3.1.2.C	S4.B.1.1.2 S4.B.1.1.3 S4.B.1.1.4	Sprouting trays

		<p>to their environment, and reproduce?</p> <p>Organisms have external structures that help them survive, grow and meet their needs.</p>	<p>structures that help them survive, grow and meet their needs.</p>	<p>that help them survive, grow and meet their needs. (LS1.A)</p> <p>Parents and offspring engage in behaviors that help the offspring to survive. (LS1.B)</p>	<p>function of an organism's structure. (1-LS1-1)</p> <p>Observe and determine patterns in behavior of parents and offspring that help offspring survive. (1-LS1-2)</p>	<p>Behavior</p> <p>Observe</p> <p>Offspring</p> <p>Patterns</p> <p>Classify</p> <p>Physical characteristics</p>			<p>S4.B.1. 1.1</p> <p>S4.B.1.1.2</p> <p>S4.A.3.1.1</p>	<p>Paper Towels</p> <p>Potting Soil</p> <p>Plastic cups</p> <p>Rulers</p> <p>Empty water bottles</p> <p>Plant Diagrams</p> <p>SciShow Kids Plant videos</p> <p>Colored Pencils</p> <p>iPads</p> <p>Nature Area</p> <p>Magnifying glasses</p> <p>Clip boards</p> <p>Celery</p> <p>Food Coloring</p> <p>Crayons</p> <p>Eekoworld http://grownups.pbskids.org/eekoworld/ online activities</p>
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										Shepherd Software Animal Articles
1	Coding	How is the movement of the object affected by the code?	Changing the code changes the motion.	Code.org introduction	Navigate to the appropriate webpage.	Code Website Direction Right Left Up Down Arrow keys		1B.AP.10 Create programs that include sequences, events, loops, and conditionals.		Code.org website Smartboard/computers/ iPad
1	Measurement	What makes a tool and/or strategy appropriate for a given task? How precise do measurements and calculations need to be?	Measurement	Construct and measure assorted structures. Measure assorted classroom items. Comparing scale and size.	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. Measure the same length with different-sized units then discuss	Unit Width Length Longer Shorter Size Inch		CC.2.4.1.A.1 - Order lengths and measure them both indirectly and by repeating length units.	M03.D-M.1.2.1 M03.D-M.1.2.2 M03.D-M.1.2.3 M03.D-M.3.1.1 M03.D-M.3.1.2 M03.D-M.4.1.1	Seasonally themed items (ex. Candy hearts, Candy Corn) Rulers Items of assorted lengths Rulers Construction paper Lab sheets Ping Pong balls Assorted recycled materials Pipe cleaners Craft tools and supplies Dried Pasta Modeling clay

					<p>the measurement made with the smaller unit is more than the measurement made with the larger unit and vice versa.</p> <p>Estimate lengths using units of inches, feet, centimeters, and meters.</p> <p>Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.</p>					<p>Straws</p> <p>Masking tape</p>
1	Force and Motion	<p>How is energy transferred and conserved.</p> <p>How can one explain the structure, properties, and interactions of matter?</p>	Each force acts on one particular object and has both strength and a direction. (PS2.A)	Investigate the variables that may affect how objects move across a floor, down a ramp, etc. (3-PS2-1)		<p>Acceleration</p> <p>Force</p> <p>Speed</p> <p>Velocity</p> <p>Straight</p> <p>Circular</p> <p>Diagonal</p> <p>Zig-Zag</p>		<p>3.2.3.B1</p> <p>3.2.3.B2</p> <p>3.2.4.B1</p> <p>3.2.4.B2</p> <p>3.2.3.B6</p>	S4.C.3.1	<p>Rulers</p> <p>Construction paper</p> <p>Sandpaper</p> <p>Pool Noodles</p> <p>Marbles</p> <p>Lab sheets</p> <p>Balls</p> <p>Assorted recycled materials</p> <p>Pipe cleaners</p> <p>Craft tools and supplies</p> <p>Dried Pasta</p>

										Modeling clay Straws Masking tape
1	Sound Light	How is energy transferred and conserved? How are waves used to transfer energy and information??	Sound can make matter vibrate, and vibrating matter can make sound. (PS4.A) An object can be seen when light reflected from its surface enters the eyes. (PS4.B)	Wire hanger sound experiment Cup Guitars Reflection Maze	Plan and conduct investigations to provide evidence that vibrating materials can make sound. (1-PS4-1) An object can be seen when light reflected from its surface enters the eyes. (PS4.B)	Energy Investigation Materials Sound Vibration Waves Light		3.2.3.B5 3.2.4.B5 3.2.1.B5	S4.A.1.1 S4.1.3.1 S4.A.2.1.4 S4.A.1. 3.3	String Plastic cups Wire coat hangers Metal Silverware Tubs of water Large solid objects- wall, tables, etc. Craft Supplies The Magic School Bus in "The Haunted House" video Braille Guide worksheets - https://www.royalblind.org/ American Sign Language Cards 3d printer Flashlights Mirrors Prism