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Space, Time and Matter (Physical Science)

Enduring Knowledge	Science Concepts	GE	Evidence of Understanding
<p>Properties of Matter: All living and non-living things are composed of matter having characteristic properties that distinguish one substance from another.</p>	<p>a. The physical properties of objects can be sorted by how they are alike or different. b. Objects can be sorted according to their properties.</p>	9	Observing and sorting substances that are solids and liquids and identifying their differences
<p>Motion: Everything is constantly moving; motion is relative, but the motion of an object can be described and predicted by tracing and measuring its position over time.</p>	<p>a. The position of an object can be described (e.g., in front of or behind). b. The motion of an object can be described as a direction (e.g., straight, zig zag, round).</p>	19	Manipulating objects and observing and describing the motion
<p>Energy: Energy is necessary for change to occur. It is the ability of matter to bring about change. - There are many forms of energy. - The total energy in the universe is constant. - Energy can be transformed and transferred, but not destroyed. (Conservation of Energy) - Energy transfers and transformations exhibit the characteristics of systems with inputs, processes and outputs as well as connections to other systems.</p>	<p>a. The sun warms the land, air and water.</p>	23	Identifying the sun as a source of heat energy
<p>Energy: Energy is necessary for change to occur. It is the ability of matter to bring about change. - There are many forms of energy. - The total energy in the universe is constant. - Energy can be transformed and transferred, but not destroyed. (Conservation of Energy) - Energy transfers and transformations exhibit the characteristics of systems with inputs, processes and outputs as well as connections to other systems.</p>	<p>a. Magnets can move some objects without touching them.</p>	25	Investigating, observing and describing how magnets can make some things move without touching (e.g., determining the distance needed for a magnet to attract an object)

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Focusing Questions	Potential Inquiries/Activities	Resources/Notes
<p>How are solids and liquids different from each other?</p> <ul style="list-style-type: none"> - An important physical property of a solid is its ability to hold its own shape. - Physical properties of a liquid are the ability to flow and to take the form of the container it is in. - Students will discriminate between the properties of solids and liquids. 	<p>How can you classify these objects into solids or liquids (e.g., water, milk, juice, oil, hard ball, rock, sand, salt, marble, cotton ball, stuffed animal, paper)?</p>	
<p>How can an object's position be described?</p> <ul style="list-style-type: none"> - Objects have a position, which can be described. - The same object can be placed in a different position. - There are specific words to describe the position of an object. - There are specific words to describe the motion of an object. - An object's motion has direction. - An object can be moved to a different position. 	<p>Where will (1) _____ land or come to rest when you (2)_____ it? (1) ball, marble, bouncy ball, brick, toy car, water, etc. (2) push, bounce, shove, roll, toss, etc.</p>	
<p>What does the sun do?</p> <ul style="list-style-type: none"> - The sun is a source of heat. - Land, air, and water can vary in temperature. - When the sun is not visible, it is still a source of heat. 	<p>What will happen to this (1) _____ in the sun at various times of the day? (1) water, defined area, grass or dirt, outside temperature.</p>	<p>Thermometer</p>
<p>What happens when you put a magnet near an object?</p> <ul style="list-style-type: none"> - Magnets have a pulling force. - Distance from the object affects the strength of a magnet. - Some objects are attracted to magnets. 	<p>How can you use a magnet to move an object in the classroom? How far away from an object can you get and still make it move with the magnet?</p>	