

**Grade: 4 Unit: 1 Energy, Motion, & Electricity**

**Mystery Science: Energizing Everything**

**Timeline: September-December**

<b>Mystery</b>	<b>Supplies</b>																				
Unit Starter: Energy & Modeling	Printouts																				
Mystery 1: Speed and Energy	<p style="text-align: right;">Number of students: <input type="text" value="25"/></p> <hr/> <table><tr><td><a href="#">Crayons</a></td><td style="text-align: right;"><a href="#">Details</a></td></tr></table> <hr/> <table><tr><td>Hardcover Books</td><td style="text-align: right;"><a href="#">Details</a></td></tr></table> <hr/> <table><tr><td>Ruler</td><td style="text-align: right;"><b>26</b></td></tr></table> <hr/> <table><tr><td>Scissors</td><td style="text-align: right;"><b>25 pairs</b></td></tr></table> <hr/> <table><tr><td><a href="#">Rubber Bands (#16)</a> ⓘ</td><td style="text-align: right;"><b>13</b></td></tr></table> <hr/> <table><tr><td><a href="#">Rubber Bands (#62)</a> ⓘ</td><td style="text-align: right;"><b>13</b></td></tr></table> <hr/> <table><tr><td><a href="#">Small Binder Clips (3/4")</a></td><td style="text-align: right;"><b>52</b></td></tr></table> <hr/> <table><tr><td><a href="#">Twist-O-Matic Challenges Answer Key</a> printout</td><td style="text-align: right;"><b>Print 1 copy</b></td></tr></table> <hr/> <table><tr><td><a href="#">Twist-O-Matic Challenges</a> printout</td><td style="text-align: right;"><b>Print 25 copies</b></td></tr></table> <hr/> <table><tr><td><a href="#">Twist-O-Matic</a> printout</td><td style="text-align: right;"><b>Print 26 copies</b></td></tr></table> <p>Students working alone will need 2 copies of this template.</p>	<a href="#">Crayons</a>	<a href="#">Details</a>	Hardcover Books	<a href="#">Details</a>	Ruler	<b>26</b>	Scissors	<b>25 pairs</b>	<a href="#">Rubber Bands (#16)</a> ⓘ	<b>13</b>	<a href="#">Rubber Bands (#62)</a> ⓘ	<b>13</b>	<a href="#">Small Binder Clips (3/4")</a>	<b>52</b>	<a href="#">Twist-O-Matic Challenges Answer Key</a> printout	<b>Print 1 copy</b>	<a href="#">Twist-O-Matic Challenges</a> printout	<b>Print 25 copies</b>	<a href="#">Twist-O-Matic</a> printout	<b>Print 26 copies</b>
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Mystery 2: Collisions & Energy Transfer

Number of students: 25

Box <b>i</b>	<a href="#">Details</a>
Pencil	7 pencils
Ruler	7 rulers
Scissors	7 pairs
File Folder Labels <b>i</b>	<a href="#">Details</a>
Smooth Paper Clips (#2)	91 clips
Small Marbles	28 marbles
Bumper Coaster Part I Tracks (4 pages) printout	Print 7 copies
Collision Experiments printout	Print 13 copies
Alligator printout	Print 7 copies
Distance & Height Experiments printout	Print 25 copies
Bumper Coaster Part I Answer Key (2 pages) printout	Print 1 copy

Mystery 3: Energy Transfer & Engineering

Print material

Mystery 4: Energy & Engineering

Number of students: 25

Markers	<a href="#">Details</a>
Ruler	25 rulers
Scissors	25 pairs
Dixie Cups (3 oz)	25 cups
File Folder Labels ⓘ	<a href="#">Details</a>
Paper Cups (8 oz)	<a href="#">Details</a>
Rubber Bands (#32)	25 bands
Smooth Paper Clips (#2)	25 clips
Small Marbles ⓘ	25 marbles
Chain-Reaction Starter Kit printout	Print 25 copies
Marble Corral printout	Print 25 copies

Mystery 5: Energy & Engineering

Number of students: 25

Hardcover Books	39 books
Lever from Energizing Everything M4	13 built levers
Markers	13 markers
Ramp from Energizing Everything M4	13 built ramps
Scissors	13 pairs
Dixie Cups (3 oz)	13 cups
File Folder Labels ⓘ	<a href="#">Details</a>
Index Cards (3x5)	13 cards
Paper Clips (Jumbo)	<a href="#">Details</a>
Small Marbles ⓘ	13 marbles
Chain-Reaction Starter Kit printout	Print 25 copies
Pop-Up Sign printout	Print 25 copies

<p>Mystery 6: Electrical Energy</p>	<p style="text-align: right;">Number of students: <input type="text" value="25"/></p> <hr/> <p>Scissors <span style="float: right;"><b>25 pairs</b></span></p> <hr/> <p><a href="#">Aluminum Foil</a> <span style="float: right;"><b>9 feet</b></span></p> <hr/> <p><a href="#">File Folder Labels</a> ⓘ <span style="float: right;"><a href="#">Details</a></span></p> <hr/> <p><a href="#">Index Cards (3x5)</a> <span style="float: right;"><b>25 cards</b></span></p> <hr/> <p><a href="#">Batteries (3V 2032 button)</a> <span style="float: right;"><b>5 batteries</b></span></p> <hr/> <p><a href="#">Batteries (3V 2032 button)</a> <span style="float: right;"><b>25 batteries</b></span></p> <hr/> <p><a href="#">LEDs</a> <span style="float: right;"><a href="#">Details</a></span></p> <hr/> <p><a href="#">Flashlight Maker printout</a> <span style="float: right;"><b>Print 25 copies</b></span></p> <hr/>
<p>Mystery 7: heat, Engines, &amp; Energy Transfer</p>	<p>Each student will need:</p> <ul style="list-style-type: none"> <li>• scissors</li> <li>• ruler</li> </ul> <p>Each pair of students (or each solo experimenter) will need:</p> <ul style="list-style-type: none"> <li>• 1 paper cup (at least 8 ounces)</li> <li>• 1 pipe cleaner</li> <li>• 2 big rubber bands</li> <li>• 1 push pin stuck in the eraser of a pencil</li> <li>• Printout sheets</li> </ul>
<p>Mystery 8: Energy Resources &amp; Environmental Impacts</p>	<p>Printouts</p>
<p>Performance Task: Energy &amp; Engineering</p>	<p>Supplies on hand Printouts</p>

**Grade: 4 Unit: 2 Sound, Waves & Communication**

**Mystery Science: Waves of Sound**

**Timeline: January**

<b>Mystery</b>	<b>Supplies</b>
Unit Starter: Sound Waves & Conceptual Modeling	Printouts
Mystery 1: Sound and Vibrations	Each child will need: <ul style="list-style-type: none"><li>• 6' of string</li><li>• Paper cup</li><li>• 1" coated paper clip</li><li>• Pencil</li></ul>
Mystery 2: Sound and Vibrations	Each pair of students will need: <ul style="list-style-type: none"><li>• A balloon</li><li>• Medium binder clip</li><li>• Tape</li><li>• printouts</li></ul>
Mystery 3: Sound, Vibrations and Waves	<ul style="list-style-type: none"><li>• Jump rope for each group of 8 students</li><li>• Printouts</li></ul>
Performance Task: Sound Waves & Engineering	<ul style="list-style-type: none"><li>• Students may bring in materials and objects from home to use in their machines.</li><li>• Reuse supplies from the paper cup telephone activity and to raid your recycling bin and craft box for additional supplies. You can use those supplies to substitute for or supplement our list.</li></ul>

**Grade: 4 Unit: 3 Human Body, Senses & the Brain**

**Mystery Science: Human Machine**

**Timeline: February/March**

<b>Mystery</b>	<b>Supplies</b>
Unit Starter: System Models	Printouts
Mystery 1: Muscles and Skeleton	<ul style="list-style-type: none"><li>• Previous supplies</li><li>• Printout</li></ul>
Mystery 2: Eyes and Vision	<ul style="list-style-type: none"><li>• 3X credit-card magnifier</li><li>• Previous supplies</li><li>• Printouts</li></ul>
Mystery 3: How Eyes Work	Printout
Mystery 4: Brain and Nerves	Printout
Performance Task: system Modeling & Explanation	Printout packets

**Grade: 4 Unit: 4 Rock Cycle & Earth's Processes**

**Mystery Science: The Birth of Rocks**

**Timeline: April-June**

<b>Mystery Science</b>	<b>Supplies</b>										
Unit Starter: Fossils and Constructing Explanations	Printouts										
Mystery 1: Volcanoes, Rock Cycle and Earth's Surface	<ul style="list-style-type: none"><li>• Print out Mapping sheets</li><li>• Red pencil</li></ul>										
Mystery 2: Volcanoes, Rock Cycle and Earth's Surface	<p>Each student needs:</p> <ul style="list-style-type: none"><li>• a straw</li><li>• a <a href="#">Lava Experiments worksheet (2 pages)</a></li></ul> <p>Each pair of students needs:</p> <ul style="list-style-type: none"><li>• newspaper or plastic for covering a desk or table</li><li>• a paper plate</li><li>• a plastic spoon</li><li>• 2 clear plastic cups (dixie cups will also work)</li><li>• water (the model for thin lava, placed in one of the cups)</li><li>• flour and water mixture (the model for thick lava, placed in the other cup)</li><li>• a <a href="#">paper mat</a></li></ul> <p>To prepare the <b>thick lava</b>, the teacher needs:</p> <ul style="list-style-type: none"><li>• scissors</li><li>• a gallon-sized ziplock bag</li><li>• 1-½ cups of water</li><li>• 2 cups of flour</li><li>• red food coloring (optional)</li></ul> <p>This should make enough thick lava for about 30 students (15 prs).</p>										
Mystery 3: Weathering and Destructive Forces	<p style="text-align: right;"><b>Number of students:</b> <input type="text" value="25"/></p> <hr/> <table><tbody><tr><td>Markers</td><td><a href="#">Details</a></td></tr><tr><td><a href="#">Paper Plates (9")</a></td><td><b>13 plates</b></td></tr><tr><td><a href="#">Plastic Containers w/ Lids</a></td><td><b>13 containers</b></td></tr><tr><td><a href="#">Sugar Cubes</a></td><td><b>65 cubes</b></td></tr><tr><td><a href="#">Sugar Shake Data (2 pages) printout</a></td><td><b>Print 25 copies</b></td></tr></tbody></table> <hr/>	Markers	<a href="#">Details</a>	<a href="#">Paper Plates (9")</a>	<b>13 plates</b>	<a href="#">Plastic Containers w/ Lids</a>	<b>13 containers</b>	<a href="#">Sugar Cubes</a>	<b>65 cubes</b>	<a href="#">Sugar Shake Data (2 pages) printout</a>	<b>Print 25 copies</b>
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Mystery 4: Erosion, Natural Hazards & Engineering	<ul style="list-style-type: none"><li>• 250 post-its</li><li>• Printouts</li></ul>										
Performance Task: Rocks & Earth's Surface	Printouts										