



Energy

Available to the public to enliven learning!

The *Elementary Science of Energy* unit includes a teacher demonstration and six lab stations. Students are divided into six (or more) groups, with each group responsible for learning and teaching the other groups about the experiments in their assigned station. Instructions, guides, masters, and explanatory articles are provided for the teacher and students. Throughout this unit, students are encouraged to record their thinking in science notebooks. *Elementary Science of Energy* is designed to take as few as six class sessions of 45-60 minutes each. Any teacher may choose to expand the time if their schedule allows. **Possible 6 Day Schedule**

Station	Materials in Kit	Additional Materials Needed
Teacher Demonstrations	<ul style="list-style-type: none"> •2 Containers of sand •Thermometers •Hand generated flashlight 	<ul style="list-style-type: none"> •Safety glasses •Sealable plastic bags
Station One	<ul style="list-style-type: none"> •Set of happy/sad spheres (black spheres) •Yo-yo •Toy car •Balloons •Tongs 	<ul style="list-style-type: none"> •Cups of hot water •Meter tape/stick •Safety glasses •Timer or clock with second hand •Calculator
Station Two	<ul style="list-style-type: none"> •Container of baking soda •Empty plastic bags •Thermometer •Measuring cups •Hand warmers •Sealed bag of iron oxide •Container of calcium chloride •Empty bottle for vinegar 	<ul style="list-style-type: none"> •Scissors •Vinegar •Water •Safety glasses •Timer or clock with second hand
Station Three	 <ul style="list-style-type: none"> •Radiometer •Thermometers •Solar panel with motor and fan blade 	<ul style="list-style-type: none"> •Tape •Light source (bright sunlight, clamp light with halogen or incandescent bulb) •C Battery (optional) •Ruler •Safety glasses •Black and white paper
Station Four	<ul style="list-style-type: none"> •Livewire •Bi-metalbar •Candle •Rubber bands •Tongs 	<ul style="list-style-type: none"> •Clear beaker or cup of hot water •Clear beaker or cup of ice water •Matches •Large, smooth paper clips •Safety glasses
Station Five	<ul style="list-style-type: none"> •Glow sticks •Small zinc nail •Large zinc nail •Thin copper wires •Thick copper wires •Tinwire •DC microammeter •Alligator clips 	<ul style="list-style-type: none"> •Cup of ice water •Cup of hot water •Apple (or other fruit/vegetable) •Metric ruler •Black permanent marker •Safety glasses •Colored pencils (optional)
Station Six	<ul style="list-style-type: none"> •Hand generated flashlight (use from Teacher Demo) •Coated wire (heavy gauge) •Motors (1 disassembled) •9-volt Battery •D Battery •Compass •Alligator clips •Battery holder 	<ul style="list-style-type: none"> •Masking tape •Safety glasses