

Level 4 Module 1 Materials

Energy with Spotlight Lessons on Matter

The lists below summarize the materials necessary to implement the Level 4 Module 1 curriculum. Some required items for the Energy Module are in the Spotlight Lessons on Matter kit. The lists compile items from the Materials Tables for each lesson set but separate items available for purchase in PhD Science® kits from those items the schools provide. The suggested quantities are for a class of 24 students and up to 6 groups of students.

Schools that purchase kits receive materials in the Kit Items list. Schools may also purchase refill kit items, identified by ☉, for subsequent years of implementation. Schools that do not purchase kits must provide those materials in addition to the materials in the School Supplied list. School supplied items are commonly available in classrooms or in stores. In addition to the listed materials, teachers may need access to such items as sunlight, electricity, uncarpeted areas, and sturdy level surfaces (tables or desks).

To learn more about the resources for this module as well as other components of *PhD Science*®, visit greatminds.org/texas.

Energy

Kit Items		School Supplied Items	
<input type="checkbox"/> Alligator clip connector cords	12	<input type="checkbox"/> Aluminum foil	1 roll
<input type="checkbox"/> Batteries, AAA	2	<input type="checkbox"/> Audio source (if available)	1
<input type="checkbox"/> Bearing ball catches	6	<input type="checkbox"/> Balls (soccer balls, kickballs) or other class-suggested objects	2
<input type="checkbox"/> Bearing balls, 1"	6	<input type="checkbox"/> Balloons, high quality, large	24
<input type="checkbox"/> Blocks, wooden, 2" × 4" × 4"	2	<input type="checkbox"/> Binder clips, small	2
<input type="checkbox"/> Copper wire, enamel coated, 100 ft	6 spools ☉	<input type="checkbox"/> Bowl, large, about 1 qt	1
<input type="checkbox"/> Flashlights, hand crank	2	<input type="checkbox"/> Chart paper	7 sheets
<input type="checkbox"/> Heat lamps	2	<input type="checkbox"/> Computer with USB port (optional)	1
<input type="checkbox"/> LEDs	12 ☉	<input type="checkbox"/> Coins	6
<input type="checkbox"/> Magnets, neodymium	24 ☉	<input type="checkbox"/> Cups, clear plastic, 9 oz	6
<input type="checkbox"/> Nails, 4"	6 ☉	<input type="checkbox"/> Flashlights	2
<input type="checkbox"/> Nuts, magnetic	12 ☉	or construction paper, black	2 sheets
<input type="checkbox"/> Radiometer	1	<input type="checkbox"/> Ice cubes	5 cups
<input type="checkbox"/> Radios, handheld	2	<input type="checkbox"/> Masking tape	1 roll
<input type="checkbox"/> Rulers, grooved	6		

<input type="checkbox"/> Sandpaper	2 sheets ☉	<input type="checkbox"/> Meter sticks	6
<input type="checkbox"/> Snap Circuits® Green Kits by Elenco®	6	<input type="checkbox"/> Paper towel tubes or toilet paper tubes	2
<input type="checkbox"/> Speaker	1	<input type="checkbox"/> Pencils	6
<input type="checkbox"/> Stopwatches	6	<input type="checkbox"/> Plastic wrap	24
<input type="checkbox"/> Thermometers, Fahrenheit	2	<input type="checkbox"/> Paper plates	1 roll
<input type="checkbox"/> Toy cars, pull back	2	<input type="checkbox"/> Paper plates	24
<input type="checkbox"/> Wire cutter	1	<input type="checkbox"/> Push pins	24
Items Required from Other Level 4 Kits		<input type="checkbox"/> Rice, dry	24
Spotlight Lessons on Matter		<input type="checkbox"/> Rubber band	1 tbsp
<input type="checkbox"/> Batteries, size D	7 ☉	<input type="checkbox"/> Rulers	1
<input type="checkbox"/> Blocks, wooden, 3 cm × 5 cm × 1.5 cm	6	<input type="checkbox"/> Scissors	6
<input type="checkbox"/> Burlap, 12" × 24"	6	<input type="checkbox"/> Sentence strips	24
<input type="checkbox"/> Clay, modeling, nonhardening	3 oz	<input type="checkbox"/> Steel wool	10
<input type="checkbox"/> Craft sticks, jumbo	6 ☉	<input type="checkbox"/> Steel wool	3 oz
<input type="checkbox"/> Electrical tape	6 rolls ☉	<input type="checkbox"/> Sticky notes	2 pads
<input type="checkbox"/> Grass, artificial, 12" × 24"	6	<input type="checkbox"/> String	18"
<input type="checkbox"/> Light bulbs, incandescent, miniature	7 ☉	<input type="checkbox"/> Tape	1 roll
<input type="checkbox"/> Marbles, $\frac{5}{8}$ "	6	<input type="checkbox"/> Textbooks, matching, at least 1" thick	6
<input type="checkbox"/> Padding, foam rubber, 12" × 24"	6	<input type="checkbox"/> Whiteboard, teacher's (optional)	1
<input type="checkbox"/> Paper clips, metal	6 ☉	Supplies Students May Bring from Home	
Safety		<input type="checkbox"/> Bottles, plastic	
<input type="checkbox"/> Safety goggles	24	<input type="checkbox"/> Craft sticks	
		<input type="checkbox"/> Cups, plastic or polystyrene	
		<input type="checkbox"/> Paper towel rolls	
		<input type="checkbox"/> Plates, plastic or paper	
		<input type="checkbox"/> Skewers, wooden	
		<input type="checkbox"/> Straws, plastic	
		Optional Energy Transformation Extension Materials	
		<input type="checkbox"/> Alcohol pads	24
		<input type="checkbox"/> Aluminum foil	1 roll
		<input type="checkbox"/> Clear tape	1 roll
		<input type="checkbox"/> Construction paper, black	2 sheets
		<input type="checkbox"/> Kazoos	24
		<input type="checkbox"/> Newspaper	12 sheets
		<input type="checkbox"/> Pizza box	1
		<input type="checkbox"/> Plastic wrap	1 roll
		<input type="checkbox"/> Rubber bands, large, various widths	4
		<input type="checkbox"/> Ruler or wooden spoon	1
		<input type="checkbox"/> Shoebox	1
		<input type="checkbox"/> Tuning fork	1
		<input type="checkbox"/> Utility knife or scissors	1

Spotlight Lessons on Matter

Kit Items	School Supplied Items
<input type="checkbox"/> Balls <ul style="list-style-type: none"> <input type="checkbox"/> Table tennis 1 <input type="checkbox"/> Tennis 1 	<input type="checkbox"/> Bags, resealable plastic, 1 qt 6
<input type="checkbox"/> Beaker, glass, 250 mL 1	<input type="checkbox"/> Black pepper, ground 350 g
<input type="checkbox"/> Clay, modeling, nonhardening 1 lb ♻️	<input type="checkbox"/> Chart paper 5 sheets
<input type="checkbox"/> Containers, clear plastic, round, 16 oz 6	<input type="checkbox"/> Crayons (blue or green) 6
<input type="checkbox"/> Cooling pad 1	<input type="checkbox"/> Cups, 4 oz 16
<input type="checkbox"/> Dot dice 6	<input type="checkbox"/> Cups, clear plastic, 9 oz 122
<input type="checkbox"/> Erasers, wedge, medium 6	<input type="checkbox"/> Dime 1
<input type="checkbox"/> Graduated cylinders, 100 mL 6	<input type="checkbox"/> Dishwashing soap, liquid 12 fl oz
<input type="checkbox"/> Gravel 300 g ♻️	<input type="checkbox"/> Marker, permanent 1
<input type="checkbox"/> Hot plate 1	<input type="checkbox"/> Paper clip 1
<input type="checkbox"/> Jars with lid, clear plastic, 4 oz 12	<input type="checkbox"/> Paper towels 1 roll
<input type="checkbox"/> Keys, brass 6	<input type="checkbox"/> Paper <ul style="list-style-type: none"> <input type="checkbox"/> 11" × 17" or larger 6 sheets <input type="checkbox"/> Printer, 8.5" × 11" 1 sheet
<input type="checkbox"/> Magnets <ul style="list-style-type: none"> <input type="checkbox"/> Bar, with N/S labeled 6 <input type="checkbox"/> Ceramic disk 6 	<input type="checkbox"/> Penny 1
<input type="checkbox"/> Marbles, $\frac{5}{8}$ " 6	<input type="checkbox"/> Rocks, small 6
<input type="checkbox"/> Sand 300 g ♻️	<input type="checkbox"/> Rulers 6
<input type="checkbox"/> Scales, digital, ± 0.1 g 6	<input type="checkbox"/> Salt 385 g
<input type="checkbox"/> Screws, steel 6	<input type="checkbox"/> Scissors 1
<input type="checkbox"/> Tongs, utility 1	<input type="checkbox"/> Spoons, plastic 84
<input type="checkbox"/> Washers, steel 6	<input type="checkbox"/> Sticky notes 120
Items Required from Other Level 4 Kits	<input type="checkbox"/> Sugar 300 g
Safety	<input type="checkbox"/> Vegetable oil 1.8 L
<input type="checkbox"/> Safety goggles 24	<input type="checkbox"/> Vinegar 600 mL
	<input type="checkbox"/> Water Access
	<input type="checkbox"/> Whiteboard, teacher's (optional) 1