

# Shopping List for 7<sup>th</sup> Grade: Energy

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**How many of these items do you already have?** We've tried to keep it simple for you by making the majority of the items things most people have within reach (both physically and budget-wise).

- 90 degree glass tubes, 6
- 3/4" pipe foam insulation (NOT neoprene and NOT the kind with built-in adhesive tape)
- acrylic tube (clear is best so you can see what's happening inside!)
- aluminum foil
- apple
- balloons
- balls (several of various weights, no larger than a baseball)
- bathtub or sink
- block of foam
- board, book or car track
- books (or gallons of water or anything heavy that's not fragile)
- brass fasteners
- brick (or a thick book or a smaller piece of wood (for the fulcrum))
- can (with lid)
- chain length fence (or a broom)
- colored tape (or masking tape)
- copper tubing (1/4" diameter and 12" long)
- drill with small drill bits (you'll be drilling a hole large enough to fit the stem of a brass fastener)
- flexible tubing (5' with a diameter sized to fit over the nose of your syringes)
- flour (or corn starch)
- hammer
- hand saw & clamp (or miter box)
- heavy rock (or a large nut)
- helpers
- hot glue gun (with glue sticks)
- hot water (not scalding or boiling!)
- ice water
- long sock
- long tube (gift wrapping tube or the clear protective tube that covers fluorescent lighting is great)
- magnets (at least 6, more is better)
- marbles (several, at least 4 of the same size)
- marker (thick - to be used to wrap things around, not for writing)
- masking tape
- measuring tape
- mechanical pencil
- meter stick (or yard stick)
- mixing bowl
- nails
- nylon rope (at least 50 feet)
- OPTIONAL: A scale that can measure small amounts of mass (a kitchen scale is good)
- paper
- paper clips
- paper cups
- pennies (or quarters, or washers (many little somethings of the same mass))
- piece of 3" x 24" wood
- pieces of 3/4" x 24" wood, 2
- ping pong ball
- plastic bottle
- plastic cup
- plastic spoons
- popsicle sticks
- popsicle sticks, 9 (tongue depressor sized)
- potatoes
- pulleys (from the hardware store... get small ones that spin as freely as possible. You'll need three single pulleys or if you can find one get a double pulley to make our later experiment easier.)
- razor (with adult help)
- rope
- rubber bands
- rubber mesh
- ruler
- ruler (wooden - or a paint stick)
- scissors
- screw eye
- screwdriver
- short dowel (or cardboard tube from a coat hanger)
- skate (the kind with 4 wheels)
- skewers (that fit in the straws)
- spool (or eraser, or pencil (anything that can be your fulcrum))
- stopwatch (or timer)
- stovetop and saucepan (with adult help)
- straws
- string (about 4 feet)
- strong dowels, 2 (like the handle from a broomstick)

- syringe (without the needle)
- syringes, 6 (anything in the 3-10mL size range will work)
- table
- tape
- tea light candle and lighter (with adult help)
- thread spool
- tongue-depressor-size popsicle sticks (at least 20)
- toy cars (or anything that rolls like a skate)
- vice grips
- washer
- water
- wheels, 4 (use film canister lids, yogurt container lids, milk jug lids, etc.)
- wire coathanger
- wood (nice and strong piece - 3 to 8 feet if you can)
- wood stock, 7 pieces ( $\frac{1}{2}$ " x  $\frac{1}{2}$ " x 24")
- wooden dowel (18")