COMPLETE LAB SUPPLY LIST

MODULE 1

Experiment 1.1

- Alka Seltzer tablet
- Small, solid object (such as a pebble or eraser)
- Magnifying glass
- Centimeter ruler
- Kitchen scale
- Beaker of water
- Stirring rod or spoon to stir

Experiment 1.2

- String
- Masking tape
- Stopwatch or 30-second timer
- Pencil
- Paperclip
- 5 washers
- Half a piece of cardstock paper (cut paper in half lengthwise) or cardboard
- Protractor
- Metric ruler

MODULE 2

Experiment 2.1

- Bowl
- 4 beakers (250 mL) or clear glass cups capable of withstanding different temperature extremes (The beakers or cups must be the same size.)
- Hot and cold water
- Ice
- Red, blue, green, and yellow food coloring (Artificial dye works best.)
- Measuring cup
- Stopwatch (optional)
- Helper

Experiment 2.2

- Paper towels
- 4 beakers (250 mL) or pint-sized, large-mouth glass jars
- 1 quart jar
- 4 spoons
- Measuring cup
- Water
- Vegetable oil
- Corn syrup
- Rubbing alcohol (isopropyl alcohol)
- Red and blue food coloring
- 4 small cork pieces
- 4 pennies
- 4 grapes (or raisins)
- 4 small paperclips
- 4 marbles
- 4 washers
- 4 ice cubes

You Do Science: Volume and Density Change Activity

- Balloon
- Water

Experiment 2.3

- Beaker or small, clear glass (like a juice glass)
- Baking soda
- Tap water
- 9-volt battery (the kind that goes in a radio, smoke detector, or toy) (Do not use an electrical outlet, as that would be quite dangerous! A 1.5-volt flashlight battery will not work.)
- Two 9-inch pieces of insulated wire (The wire itself must be copper.)
- Scissors
- Tape (preferably electrical tape, but cellophane or masking tape will work)
- Spoon for stirring
- Eye protection such as goggles or safety glasses

MODULE 3

Experiment 3.1

- Chocolate chip cookie recipe and ingredients needed to make the batter (likely flour, baking soda, salt, granulated and brown sugars, butter, vanilla extract, and eggs)
- 1 bag (12 oz) semisweet chocolate chips
- 1 bag (10 or 12 oz) mini chocolate chips
- 2 mixing bowls (one for dry ingredients and one for cookie batter)
- 1 extra bowl (for dividing batter into two portions)
- Hand-held mixer or mixing spoon
- Measuring cups
- Measuring spoons
- Cookie sheet (and cooling rack, if desired)

Experiment 3.2

- Color cards found in Student Notebook or Book Extras
- Scissors
- Glue or tape

MODULE 4

You Do Science: Fruit Skewer "Molecules"

- Marshmallows
- Green grapes
- Red grapes
- Apple
- 4 bamboo or metal skewers

*Note: Food substitutions can be made if needed.

Experiment 4.1

- Styrofoam or paper cup
- Glass of water
- Vegetable oil
- Medium glass jar
- Balloon
- Pen
- Eye protection such as goggles or safety glasses

Experiment 4.2

- Stick of butter or margarine (It must be fresh from the refrigerator so that it is solid.)
- 2 beakers or small microwave-safe glass bowls
- Water
- Ice cube
- Microwave (A saucepan and stove can be substituted for the microwave.)
- Knife (A serrated one works best. You will use it to cut the butter.)
- Spoon
- Eye protection such as goggles or safety glasses

Experiment 4.3

- Water
- Bowl
- 4 beakers or clear glasses
- Paper towels
- Waxed paper
- Pipette or eyedropper
- Straw
- 2 glass microscope slides
- Metal, standard-sized paperclip
- Toilet paper
- Dish soap
- Vegetable oil
- Toothpicks
- Scissors
- Red and blue food coloring
- Spoon
- Eye protection such as goggles or safety glasses

MODULE 5

Experiment 5.1

- Water
- 9-volt battery (A new one works best.)
- 2 short test tubes (You can purchase these at a hobby store or use florist tubes.)
- Wide, deep beaker or stable, wide-bottom, disposable food storage container (It must be deep enough so that when it is nearly full of water, the battery can stand vertically in the container and still be fully submerged in the water.)
- Epsom salt (You can get this at any drugstore or large supermarket.)
- Tablespoon
- Small piece of clay
- Masking tape
- Disposable synthetic gloves
- Eye protection such as goggles or safety glasses

Experiment 5.2

- Beaker or clear glass
- Water
- Old tray or baking sheet to contain spills
- White vinegar

- Baking soda (A fresh box will work best.)
- Salt substitute (Morton Salt Substitute, Nu-Salt, or NoSalt)
- Epsom salt
- Hydrogen peroxide
- Steel wool
- Quick-rising dry yeast (a fresh, unexpired packet)
- Mercury or alcohol thermometer
- Tablespoon
- Spoon for mixing
- Timer
- Eye protection such as goggles or safety glasses
- Optional—Acetone (Some fingernail polish removers contain acetone. You may be able to find it at a drug or grocery store; read the labels for ingredients.)
- Optional—Styrofoam packing peanut

You Do Science: Elephant Toothpaste

- 1- or 2-liter soda bottle
- ½ cup hydrogen peroxide
- ¼ cup dishwashing soap
- Food coloring
- Measuring cup
- Packet of active yeast
- Warm water

MODULE 6

You Do Science: Measuring Average Speed Activity

- Yard stick, meter stick, or tape measure
- Masking tape
- Stopwatch
- Helper

Experiment 6.1

- At least 4 eggs
- 2 pieces of reasonably strong cardboard (like the cardboard found on the back of a letter-sized notepad)
- Several books
- Scissors
- Ruler
- Large tray or cookie sheet
- Paper towels
- Kitchen table
- Eye protection such as goggles or safety glasses

MODULE 7

Experiment 7.1

- Large, heavy book (at least 21 cm by 27 cm)
- Small piece of paper (about 3 cm by 3 cm)
- Eye protection such as goggles or safety glasses

Experiment 7.2

- 1 nickel
- 3 x 5-inch index card (note the units listed)
- Small beaker or glass (like a juice glass)
- 1 raw egg
- 1 hard-boiled egg
- Aluminum pie pan
- Scissors
- Marble or other small ball
- Eye protection such as goggles or safety glasses

Experiment 7.3

- Plastic 2-liter bottle
- Stopper that fits the bottle (It could be rubber or cork, but you cannot use the screw-on cap. It has to be something that plugs up the opening of the bottle but can be pushed out by a pressure buildup inside the bottle. Modeling clay can work as well. You could also try a large wad of gum, as long as the gum has dried out and has the texture of firm rubber.)
- 1 cup vinegar
- 2 teaspoons of baking soda
- Aluminum foil
- 4 pencils
- Eye protection such as goggles or safety glasses

You Do Science: Balloon Rockets

- Balloon
- 10 feet of string or fishing line
- Plastic drinking straw
- Scotch tape
- Helper

MODULE 8

Experiment 8.1

- 1–5 rubber bands (All must be the same thickness and length and capable of stretching to 25 cm.)

- Metric ruler
- Tape measure (One with metric units on it would be best.)
- Masking tape
- Eye protection such as goggles or safety glasses

You Do Science: Ball Bounce
- Basketball or soccer ball
- Tennis ball

You Do Science: Simple Machine Lever
- Shovel
- Permission for a place to dig

MODULE 9
Experiment 9.1
- Plastic wrap
- Scissors
- Tape
- Match
- Plastic 1- or 2-liter bottle
- Freestanding candle
- Eye protection such as goggles or safety glasses

You Do Science: "Seeing" Sound Waves
- Plastic wrap
- Large bowl
- Uncooked rice
- Large pot or saucepan
- Large wooden spoon

You Do Science: Feeling Sound Waves
- Balloon
- Helper (optional)

Experiment 9.2
- Stringed instrument (such as a violin, guitar, cello, or banjo) OR
  - Rubber band
  - Plastic tub (like the kind margarine or whipped topping comes in)
- Eye protection such as goggles or safety glasses

Experiment 9.3
- Water
- Glass or plastic bottle (A glass bottle is best, and 2 liters is the ideal size. It must have a narrow neck. A jar will not work well.)
- Eye protection such as goggles or safety glasses

You Do Science: The Doppler Effect
- Licensed driver with a vehicle
- Vacant street or parking lot

MODULE 10
Experiment 10.1
- Flat baking dish (like the kind you use to bake a cake)
- Medium-sized mirror (4 inches by 6 inches is a good size)
- Sunny window (A flashlight will work, but it will not be as dramatic.)
- Plain white sheet of paper
- Water
- Eye protection such as goggles or safety glasses

You Do Science: The Temperature of the Rainbow
- Glass prism or old CD cut in half
- 1 or more mercury or alcohol thermometers
- Plain white piece of paper
- Washable black paint or marker
- Sunny day

Experiment 10.2
- Flat mirror (The mirror can be very small, but it needs to be flat. You can always tell if a mirror is flat by looking at your reflection in it. If the image you see in the mirror is neither magnified nor reduced, the mirror is flat.)
- White sheet of paper
- Pen
- Protractor
- Ruler
- Flashlight
- Black construction paper or thin cardboard
- Scissors
- Masking tape
- 2 dishcloths
- A dark room
- Eye protection such as goggles or safety glasses

You Do Science: The Magical Quarter
- Quarter
- Opaque bowl
- Pitcher or very large glass
- Water

Experiment 10.3

- 2 plain white sheets of paper (There shouldn't be any lines on them.)
- Bright red marker (A crayon will also work, but a marker is better.)
- Timer or stopwatch

MODULE 11

Experiment 11.1

- 2 latex balloons (Round balloons work best, but any shape will do.)
- Thread
- Clear tape
- Table
- Eye protection such as goggles or safety glasses

Experiment 11.2

- Tape
- Clear glass
- Plastic lid that fits over the glass (This lid can be larger than the mouth of the glass, but it cannot be smaller. The top of a margarine tub or something similar works quite well.)
- Paperclip
- Scissors
- Two 5-cm × 1.5-cm strips of aluminum foil (not heavy duty—do not fold the foil; rather, cut it to this size)
- Latex balloon
- Pliers
- Eye protection such as goggles or safety glasses

You Do Science: Current and Resistance

- 1.5-volt battery (Any AA-, C-, or D-cell battery will work. You may prefer to use a battery that has been in use for a while rather than a brand-new one. Do not use any battery other than one of those listed, because a higher voltage can make this activity dangerous.)
- Scissors
- Aluminum foil

Experiment 11.3

- 1.5-volt battery (Any AA-, C-, or D-cell battery will work. Do not use any battery other than one of those listed, though, because a higher voltage can make the experiment dangerous.)
- Tape (Electrical tape works best, but clear tape will do.)
- Large iron nail at least 3 inches long (often called "common nails" in hardware stores)
- Metal paperclip
- 2 feet of insulated wire (A 24-gauge wire works best. It should not be thicker than 18 gauge.)
- Gloves (optional)
- Eye protection such as goggles or safety glasses

MODULE 12

Experiment 12.1

- Shallow pan (a pie pan, for example)
- Cornstarch
- Measuring cups
- Water
- Spoon for stirring
- Eye protection such as goggles or safety glasses

Experiment 12.2

- A parent to help you (Parental supervision is highly recommended for this experiment.)
- Water
- Salt
- Spoon for stirring
- Ice
- Tablespoon
- Medium saucepan
- Saucepan lid or frying pan lid larger than the saucepan used
- Small bowl (It should be heat safe and not plastic, as it will get hot.)
- Potholders
- Zippered plastic quart-sized bag
- Stove
- Eye protection such as goggles or safety glasses

You Do Science: Mechanical Weathering Model

- Pumice stone
- Zippered plastic bag
- Water

You Do Science: Chemical Weathering Model

- 2 raw eggs
- Liquid measuring cup
- Distilled water
- White vinegar
- 2 clear glasses
- Small bowl
- Masking tape
- Pen

MODULE 13

Experiment 13.1

- Thermometer
- Large, zippered freezer bag (It needs to be large enough so that the thermometer can be fully zipped inside.)
- Sunny windowsill (Perform this experiment on a sunny day.)
- Bottle (a plastic 1-liter soft drink bottle, for example)
- Vinegar
- Baking soda
- Teaspoon
- ½ sheet of printer paper
- Tape
- Eye protection such as goggles or safety glasses

Experiment 13.2

- Stove
- Frying pan
- 2 empty, 12-ounce aluminum cans (like soft drink cans)
- 2 bowls
- Tablespoon
- Water
- Ice cubes
- Tongs
- Eye protection such as goggles or safety glasses

You Do Science: Atmospheric Pressure

- Plastic cup
- Index card
- Water
- Sink

Experiment 13.3

- Ice
- Water
- Clean, dry plastic bottle (The best volume would be 1 quart or 1 liter, but any size will work.)
- Balloon
- Bowl (heat and cold safe*)
- Rubber band (optional)
- Eye protection such as goggles or safety glasses

*Note of caution: You will be adding ice water to a bowl and then hot water immediately afterward. Be sure to use a bowl that can handle a rapid change in temperature, such as a plastic or metal one.

MODULE 14

You Do Science: Lipids

- Food products that contain fats (Suggested items are listed in the activity description.)

Experiment 14.1

- 1-ounce bottle tincture of iodine (It must be tincture of iodine, which can be found at any drugstore.)
- Plastic wrap or tray
- 1 lemon (squeeze to make juice)
- 1 orange (squeeze to make juice)
- 1 grapefruit, pineapple, or other fruit of your choice (squeeze to make juice)
- Organic apple juice (or apple juice with no additives)
- Store brand premixed juice of your choice (optional)
- 1,000 mg vitamin C tablet
- Spoon
- Medicine dropper
- 1-quart jar
- Measuring cup with milliliter markings
- ¼ teaspoon
- Water
- 6 (or 7 if testing the optional juice) 2-ounce to 5-ounce clear plastic cups
- White computer paper to place under clear plastic cups
- Eye protection such as goggles or safety glasses

You Do Science: Bernoulli's Principle

- Funnel or empty 2-liter soda bottle
- Ping-Pong ball
- Scissors (optional)