

Consolidated list of lab supplies for Science in the Age of Reason

The supplies listed at the end in red are used for challenge lessons. If you are not doing those lessons, you don't have to worry about those supplies.

- ✎ 16 pennies
- ✎ A flashlight (It can't use LEDs or a fluorescent bulb.)
- ✎ 2 magnifying glasses of different strengths (They need to be as large or larger than the face of the flashlight.)
- ✎ A ¼-cup measuring cup
- ✎ A ⅓-cup measuring cup
- ✎ A ½-cup measuring cup
- ✎ A 1-cup measuring cup
- ✎ A measuring teaspoon
- ✎ A tablespoon
- ✎ Thirteen ½-liter plastic bottles, like the kind water comes in (Two of them need their screw caps, and one of them needs to have a thin wall.)
- ✎ Three 9-volt batteries
- ✎ Seven round balloons
- ✎ A banana
- ✎ Two bars of soap. (Ideally, the brand on one of the bars should be Ivory.)
- ✎ A blender
- ✎ A deep bowl or pot (Ideally, it should be as deep as a water bottle is tall.)
- ✎ A bowl that is deeper than a 9-volt battery is tall
- ✎ A bowl with a diameter large enough to hold two ½-liter bottles but small enough so a table knife can span the opening (See the picture on page 107.)
- ✎ A box of gobstoppers (For best results, it should be a box of Willy Wonka's Everlasting Gobstoppers).
- ✎ A box of gumdrops that has at least four different colors
- ✎ A bright lamp or sunny windowsill
- ✎ A bright red marker or crayon
- ✎ A can of carbonated drink (like Coke) that contains less than half a liter (standard, 12-ounce cans work)
- ✎ Another carbonated drink (It doesn't have to be in a can.)
- ✎ Sprite (Any clear carbonated drink will work, but it needs to be in a bottle with a screw cap.)
- ✎ A candle that can stand on its own or is in a holder
- ✎ Two canning jars (One needs to be a transparent jar with an airtight lid. Both need to be able to withstand big temperature changes.)
- ✎ A CD that you don't mind ruining
- ✎ A clothes iron
- ✎ A compact fluorescent light bulb or an LED light bulb
- ✎ A container that will pour water smoothly
- ✎ A cookie sheet
- ✎ A cutting board
- ✎ A dark place that won't be disturbed for a few days, like a closet that is rarely used
- ✎ A dark room with a sink

- 👉 A fan
- 👉 A feather (It can be a natural feather or an artificial one, but please note that many natural feathers are actually illegal to have, even if you just pick them up from the ground. Duck and goose feathers are the safest to use if you use natural feathers. Artificial feathers can be purchased at any hobby store. You want a feather in which at least part of the feather is flat and not fuzzy, and the lighter the color, the better. See the picture on page 239.)
- 👉 A few leaves of lettuce or spinach (The darker green the leaves, the better.)
- 👉 A green vegetable like asparagus or broccoli (not lettuce)
- 👉 A few small pebbles
- 👉 A freezer with enough room to hold a balloon when it is inflated
- 👉 A funnel
- 👉 A glass of water
- 👉 A hair dryer
- 👉 A hammer
- 👉 A knife for cutting vegetables
- 👉 A lamp with a removable shade
- 👉 A large cake pan, preferably made of glass (A metal one will work, as long as the bottom is very smooth.)
- 👉 A large glass
- 👉 A large sink with a faucet
- 👉 A large spoon for stirring
- 👉 A lemon (A lime or grapefruit could be used instead, but the effect is best with a fresh lemon.)
- 👉 Two magnets of different strengths
- 👉 A magnifying glass
- 👉 A marker that will make a permanent mark on a balloon
- 👉 A marshmallow (not the tiny ones that you put in hot cocoa)
- 👉 Four metal paper clips
- 👉 A metal pie pan
- 👉 A metal spatula
- 👉 A metal spoon
- 👉 A microwave oven
- 👉 A microwave-safe plate
- 👉 A mothball
- 👉 A mug you use for hot drinks
- 👉 A pair of pliers
- 👉 A paper bag (or a deep bowl that can be covered)
- 👉 A paper plate
- 👉 A pencil
- 👉 A pin
- 👉 A plastic bag
- 👉 A plastic pill bottle or film canister with a lid (See the bottom picture on page 50.)
- 👉 A plate with a depression that will hold a thin layer of water
- 👉 A pomelo (It is sometimes called a pummelo. It would be ideal to have one, but don't worry if your supermarket doesn't carry it. There are pomelo pictures that the student can use in the experiment.)
- 👉 A pot for boiling water
- 👉 A pot lid with a holder on top

- ✎ Three potatoes
- ✎ A potted plant with a couple of leaves that are large enough to paint with glue. (You can also use a plant that is outdoors, but strong rains might affect the experiment.)
- ✎ A pushpin
- ✎ A ruler
- ✎ A serrated knife
- ✎ A small microwave-safe bowl
- ✎ A small paintbrush (You can use your finger; it will just be messier.)
- ✎ A small plastic sandwich bag
- ✎ A small plate
- ✎ A small saucepan
- ✎ A spoon for stirring
- ✎ A stick of butter or margarine
- ✎ A stopwatch or a watch with a second hand
- ✎ A stove, preferably one with an exhaust fan
- ✎ A strainer
- ✎ A straw
- ✎ Five Styrofoam cups
- ✎ A Styrofoam plate (A paper plate will not work.)
- ✎ A tall glass
- ✎ A tall, thin box, like the boxes cereal comes in
- ✎ A tapered candle (This is a taller candle that doesn't stand on its own.)
- ✎ A white grapefruit
- ✎ Two Ziploc bags
- ✎ Aluminum foil
- ✎ Ammonia
- ✎ Three apples
- ✎ An incandescent light bulb (This is what used to be called a "regular" light bulb. It has a filament that glows to produce light.)
- ✎ Two oranges (the fresher the better)
- ✎ An oven
- ✎ An uncooked chicken part that has both meat and skin on it (A breast or thigh is best, because they are large.)
- ✎ An uncooked egg
- ✎ An uncooked hotdog
- ✎ Baking soda
- ✎ Blue food coloring
- ✎ Cardboard
- ✎ Cellophane tape
- ✎ Construction paper (Black is best, but any dark color will work.)
- ✎ Crayons or colored pencils
- ✎ Dish soap
- ✎ Duct tape or black tape
- ✎ Elmer's Glue (or any glue that dries clear)
- ✎ Flour
- ✎ Four bouillon cubes
- ✎ Four nails (Use shiny nails.)

- ✎ Four small glasses, like juice glasses (Three of them need to be the same size.)
- ✎ Four washers (They need to be at least a bit larger than the pennies, and they need to look shiny and silvery. That means they are coated in zinc.)
- ✎ Grass (You will pull it from a lawn. It doesn't need to be green.)
- ✎ Hot pads
- ✎ Hydrogen peroxide (It is sold in drug stores to clean wounds.)
- ✎ Ice
- ✎ Kitchen tongs that can withstand flames
- ✎ Lemon juice
- ✎ Liquid hand soap
- ✎ Matches or a lighter
- ✎ Oatmeal (uncooked)
- ✎ Oven mitts
- ✎ Paper towels
- ✎ Pepper
- ✎ Plastic wrap
- ✎ Pot holders
- ✎ Red (sometimes called purple) cabbage
- ✎ Rubbing alcohol
- ✎ Salt
- ✎ Scissors
- ✎ Six cotton balls (They need to be made of cotton, not a synthetic fiber.)
- ✎ Steel wool
- ✎ String
- ✎ Sugar
- ✎ Tape
- ✎ Three glasses that are completely clear and as close to identical as possible
- ✎ Three small glasses, like a juice glass (They need to be transparent.)
- ✎ Three stalks of celery with some of the leaves still on them (They don't need a lot of leaves.)
- ✎ Several toothpicks
- ✎ Two rubber bands that will fit tightly around one a jar or glass
- ✎ Six blank white sheets of paper
- ✎ Two *fresh* leaves from a plant. They need to be picked directly from the plant and used in the experiment right away.
- ✎ Two table knives
- ✎ Two very different flowers (They can be from plants in the house or outside, and they can also be from a florist. Ideally, at least one of them should have easily visible stalks at the center, as shown in the picture on page 74.)
- ✎ Water
- ✎ White vinegar
- ✎ Wintergreen mints (Wintergreen Altoids and Wint O Green Life Savers are the best.)
- ✎ Yeast
- ✎ A ball-point pen (You can use one that has no ink if one is available.)
- ✎ A bathtub
- ✎ A blindfold
- ✎ A brush
- ✎ A chair

- 👤 A dish towel
- 👤 A clear soda, like Sprite (Room temperature is better than chilled, and it should be an unopened bottle or can.)
- 👤 A glass that has a stem, like a wine glass. (Ideally, the glass shouldn't be really thick, but any stemmed glass will work to one degree or another.)
- 👤 A large measuring cup or a pot that has a spout you can use for pouring (A tall glass will do in a pinch.)
- 👤 A measuring cup for liquids (It should have a pouring spout on it.)
- 👤 A measuring tablespoon
- 👤 A metal file
- 👤 A nail
- 👤 A nickel (Any coin that looks silver but isn't really silver will work.)
- 👤 A pen
- 👤 A penny (Any copper coin will work.)
- 👤 A penny that was minted after 1983 (If you don't have access to a U.S. penny, a very recently-minted copper coin from another country should work.)
- 👤 A plastic 2-liter bottle with a screw cap, like the kind soda pop comes in
- 👤 A pot or tea kettle for boiling (Ideally, you should be able to pour water from it easily.)
- 👤 A rectangular, metal baking pan, like the kind used to bake cakes
- 👤 A rolling pin
- 👤 A sheet of standard white paper
- 👤 A sheet of white tissue paper (not facial tissue or toilet tissue, but tissue paper)
- 👤 A short length of string
- 👤 A small amount of Play-Doh or modeling clay
- 👤 A small Styrofoam or paper bowl (You can use a Styrofoam or paper cup as well, just cut the top off so it is as shallow as a typical small bowl.)
- 👤 Three straws that bend
- 👤 A sturdy table
- 👤 A Styrofoam cup (the larger the better, but any size works)
- 👤 A Styrofoam plate that has enough of a raised edge that is a bit like a very shallow bowl (See the picture on page 67.)
- 👤 A toilet
- 👤 A toilet bowl cleaner whose active ingredient is hydrochloric acid, also known as hydrogen chloride (Four brands that have been tested are "The Works," "Home Sense," "Kaboom Bowl Blaster," and "Lysol." Those brands do make other toilet bowl cleaners, however, so you have to look at the ingredients and find hydrochloric acid or hydrogen chloride. Most brands have the chemical listed on the front of the bottle, but "Kaboom Bowl Blaster" has it on the back. If the cleaner says it contains bleach or hydrogen peroxide, it will not work.)
- 👤 Borax (This is sold in supermarkets next to the laundry detergents as a detergent booster. 20 Mule Team Borax is a popular brand.)
- 👤 Paper towels
- 👤 Play-Doh or modeling clay
- 👤 Root Kill (Sold at hardware stores to kill roots that get into underground pipes.)
- 👤 Several raisins
- 👤 Two TUMS tablets (They could be any antacid whose active ingredient is calcium carbonate.)
- 👤 Uncooked rice
- 👤 Watercolor paint or fingerpaint (any color will do)