

Consolidated List of Lab Supplies for *Science in the Beginning*

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

- 8 small rocks (It is best to collect rocks that are all different.)
- Three 2-liter bottles
- Two 2-liter bottles of Diet Coke
- A 9-volt battery
- A ball that fits in your hand, like a baseball (It works best if the ball is white.)
- Several round balloons ranging in size between roughly 3 and 11 inches in diameter
- A few balloons that are much longer than they are wide
- A bathtub
- A bird's feather (You need one of the bird's outer feathers, so it can't come from a pillow. It needs to have a well-defined shaft running down its center. You can buy them at craft stores, but you can also find them in places where birds are found. It could be a fun activity to take your children out to a place where birds are found and hunt for a feather.)
- A black (or very dark) plastic garbage bag
- A broom
- A can of Coke or Pepsi
- A can of diet Coke or diet Pepsi
- A can opener
- A candle that can stand on its own or a candle in a holder
- A carpet or rug
- A cheap digital camera with a screen that shows you what the camera is seeing. The less sophisticated, the better. A cell phone's camera usually works great.
- A cheese grater
- A clear glass or plastic bowl that is large enough for a fork to be laid out on the bottom.
- **A clear straw**
- A clear, 1-liter bottle, such as the kind in which bottled water is sold (**Two if you are doing the challenge lessons**)
- A closed window where someone can stand outside but be near the window and roughly on the same level as a person looking through the window from the inside of the house.
- A Compact Disc (CD) or Digital Video Disk (DVD). It doesn't matter whether or not it is blank.
- A cork or some other small object that floats
- **A cotton ball**
- **A counter that is white or nearly white**
- A countertop
- A cup
- A cup of chilled lemon juice (It can be store-bought or freshly-squeezed. If it is freshly-squeezed, filter out the pulp and seeds.)
- A dark night (It doesn't need to be pitch black – just dark)
- A dark room
- **A deep cardboard box made from thick enough cardboard to block most of the light that hits it**
- **A dim or dark room with a sink (Don't use a stainless steel sink.)**
- **A few peanuts (Any nut with a shell that you have to remove before you eat it will work.)**
- **A few strands of cooked spaghetti (Any thin pasta will work.)**
- **A few tea bags (You need only one, but it is best to have a few, since the effect is not always as dramatic as it could be. Also, it is best to have a few different brands, since the material the bag is made of matters. I find**

that Bigelow tea bags work the best, but Lipton will work as well. Any brand should work to some extent, but some work better than others.)

- A flashlight that uses two batteries
- A hand-held mirror (The mirror should be bigger than the light on the flashlight listed above.)
- A flavor extract (Like vanilla extract or lemon extract used in cooking – the stronger the aroma, the better.)
- A floor that is either hardwood, tile, linoleum, or vinyl
- A fork
- A freezer
- A fresh carrot (It needs to be firm. If it has greenery on it, that's fine, but it is not necessary. The main thing is that it can't be soft.)
- A fresh orange or apple
- A funnel
- A hammer
- A hard-boiled egg
- Two uncooked eggs
- A houseplant
- A knife
- A lamp without a shade
- A large ball (Ideally, you should use a globe. However, a large ball will work.)
- A large cardboard box or a large piece of poster board.
- A large glass baking pan that is clear and roughly rectangular
- A long hallway where you can lay down a long strip of toilet paper
- A long-stem lighter, like the kind you would use to light a campfire
- A magazine or book with a smooth, glossy finish
- A magnifying glass
- A marker
- A pen
- A pencil
- Two colored pencils of different colors
- Two crayons of different colors
- A measuring tablespoon
- A measuring teaspoon
- A measuring ¼ teaspoon
- A measuring ½ teaspoon
- A measuring spoon that allows you to measure $\frac{1}{8}$ of a teaspoon (You can always estimate from a ¼ teaspoon.)
- A measuring cup
- A measuring ¼ cup
- A metal paper clip
- A nice hard surface that can get banged up (This could be a workbench or just a big, flat rock.)
- A pad or notebook of paper
- A page from the newspaper (The more white space on the page, the better.)
- A pan for boiling water. The flatter the bottom of the pan, the better.
- A paper cup
- A peeled apple
- A peeled potato
- A pin for popping a balloon
- A potato
- A refrigerator
- A remote control for a television, DVD, or music player

- Whatever the remote listed above controls
- A roll of toilet paper
- A room with a mirror (You need to be able to make the room very dark.)
- A ruler
- A saucer that can get hot without breaking
- A sheet of black construction paper
- Two sheets of white construction paper
- A sheet of colored paper
- A sheet of red construction paper
- Eight sheets of white paper
- A sheet of paper or the cardboard center from a roll of paper towels
- A shovel or garden spade with which to dig
- A shower that has a curtain rod
- A sink with a faucet and plug
- A small box
- A small cookie cutter or something else that will cut a defined shape out of a slice of a potato, such as a melon baller
- A small piece of bread
- A small piece of celery (not the leaves)
- A small piece of cheese
- A small piece of cracker
- A small piece of potato
- A small piece of ripe banana
- A small piece of very green banana (optional)
- A small plate (It cannot be a paper plate. It needs to be one that you can wash.)
- A small rug
- A sock
- A stove
- A straw
- A swimsuit
- A table
- A table that is outside
- A tap that provides hot and cold water
- A thermometer that an adult can use to take your temperature
- A towel
- A white plastic garbage bag
- A wide open space in which you can play with an umbrella
- A window that has direct, bright sunlight shining through
- Three Ziploc bags
- Aluminum foil (Heavy duty is ideal but not necessary.)
- An earthworm (If you live in the right climate, you can find one outside. Earthworms tend to surface after a hard rain, and they tend to live under rocks and logs in places that have a lot of dirt. If you find one, keep it in a lidded container that is $\frac{3}{4}$ full of dirt, but make sure to poke small holes in the lid. If nothing else, you can buy some at a live bait shop.)
- An empty metal can (like the kind soup comes in)
- An energy-saving fluorescent bulb (often called a compact fluorescent light bulb)
- An extension cord

- An index card or something else made from cardstock that completely covers the top of the glass. Half of an old greeting card works well also. Be sure that the card is not glossy or laminated. It needs to have the same basic feel as an index card.
- An old cake pan or other shallow baking dish
- An onion
- An open space outdoors
- An umbrella
- Two balls, one larger than the other
- A glass jar (the taller the better) that has a lid
- Two glass jars that are roughly the same size with good lids
- A piece of wood or hard plastic that is bigger than the opening of the jars listed above
- Binoculars (They don't have to be expensive ones.)
- Black construction paper
- Books, rocks, or something else that will keep a cup from rolling on its side
- Butter
- Cereal or oatmeal
- Clear (often called "white") vinegar
- Dishwashing soap
- Duct tape
- Epsom salt (available at any drug store)
- Table salt
- Four bowls (two of them should be the same size and one should be large)
- Hot pads
- Ice cubes
- Root kill
- Iodine (This can be bought at any large drug store. It might be sold as Betadine, povidone-iodine, Lugol's solution, or tincture of iodine. Any of these will work.)
- A medicine dropper, unless the iodine listed above comes in a container that allows you to dispense it in drops
- Kitchen tongs
- Matches
- Milk
- Modeling clay or Play-Doh
- One package of Mentos chewy mints (The package should say something like "The Chewy Mint")
- Oven mitts or gloves to protect your hands
- Paper towels
- Pepper
- Peppercorns
- Plastic wrap
- Rubbing alcohol
- Sharp scissors
- Several dried beans (The kind you soak before cooking, such as kidney beans, lima beans, pinto beans, navy beans, etc.)
- Several toothpicks
- Shortening or lard
- Soap (Liquid soap works best.)
- Some dirt
- Some heavy books
- Instant Jell-O
- String

- Something an adult can use to make a round hole that is about ½ inch in diameter (A drill is ideal, but the adult can use anything that will make a round hole in a plastic bottle.)
- Something you can use to protect your eyes, such as safety glasses or safety goggles.
- Sugar
- **Sunscreen with an SPF of at least 30**
- Cellophane tape
- Ten pennies
- **Four quarters**
- The bone from an uncooked T-bone steak (optional)
- A drumstick from a chicken (uncooked)
- Three tall glasses (At least two of them should be the same height.)
- Three small glasses (like juice glasses)
- Three small bowls to serve as Jell-O molds (They shouldn't be much wider than a toothpick. If you don't have such tiny bowls, cut some paper or Styrofoam cups down to the point where they will make small Jell-O molds.)
- Turkey baster
- **Tweezers**
- Two chairs
- Two colors of food coloring (they should be very different, like red and blue)
- Two large metal spoons
- A saucepan
- Two pans that are much taller than the saucepan listed above but are close to each other in size
- A pan lid that is larger than the saucepan listed above
- Three paper plates
- Three dinner plates that are not paper plates
- Two sets of pliers (A vice and a pair of pliers will work, as will a really strong person.)
- Four Styrofoam cups
- Vegetable oil
- Water