



## Biology 2024 Supplies

Below are listed the most commonly used supplies for the Biology projects suggested in the Berean Builders Discovering Design with Biology course.

### Biology Dissection Kit

- ☐ 15 PTC paper strips
- ☐ Two feathers
- ☐ Dissection tools
- ☐ Dissection tray
- ☐ Earthworm specimen
- ☐ Crayfish specimen
- ☐ Perch specimen
- ☐ Frog specimen

### Biology Microscope Kit

- ☐ Blank microscope slides
- ☐ Slide coverslips
- ☐ Methylene blue
- ☐ Iodine
- ☐ Three medicine droppers
- ☐ Lens paper
- ☐ Slide: Onion Tip Root
- ☐ Prepared slide: Leaf cross-section with vein
- ☐ Slide: Ascaris mitosis
- ☐ Slide: Paramecium
- ☐ Slide: Amoeba Proteus
- ☐ Slide: Diatoms
- ☐ Slide: Euglena
- ☐ Slide: Volvox
- ☐ Slide: Spirogyra
- ☐ Slide: Hydra budding

- ☐ Slide: Planarian whole mount
- ☐ Slide: Zea Mays Root cross-section
- ☐ Slide: Zea Mays stem cross-section
- ☐ Slide: Ranunculus Root cross-section
- ☐ Slide: Ranunculus stem cross-section

### **Household Supplies**

- ☐ Rubbing alcohol
- ☐ Yeast
- ☐ Salt
- ☐ Baking Soda
- ☐ Sugar
- ☐ Vinegar
- ☐ Scissors
- ☐ Balloons
- ☐ Knife
- ☐ Measuring spoons
- ☐ Paper towels
- ☐ Ziploc sandwich bags
- ☐ Stove
- ☐ Microwave
- ☐ Food coloring

Please review your lesson plans for more project details as you consider what supplies to find and/or purchase.

[Blue](#) - internet link   [Green](#) - printable   [Red](#) - buy/borrow   [Gold](#) - Kitchen

- ☐ **2:** *Fruit DNA* - small strawberries or  $\frac{1}{4}$  of banana, a large plastic bag that zips, 3 small glasses, a  $\frac{1}{4}$  and  $\frac{1}{3}$  measuring cup, a  $\frac{1}{4}$  and 1 tsp measuring spoons, a spoon, a bamboo skewer, a strainer, salt ( $\frac{1}{4}$  tsp), 2 tsp of dish soap,  $\frac{1}{4}$  cup rubbing alcohol, and use of a freezer.
- ☐ **5:** *Energy in Chemicals* -  $\frac{1}{2}$  cup hydrogen, 1 tsp of yeast, a sink, and a small glass.
- ☐ **10:** *Capillary Action* - a sheet of white paper, a paper towel, wax paper, one facial tissue, scissors, tape, a pencil, a glass, water, and food coloring.
- ☐ **11:** *Comparing Starch and Smaller Carbohydrates* - iodine from your kit, a medicine dropper from your kit, a paper plate,  $\frac{1}{4}$  tsp flour, slice of potato,  $\frac{1}{4}$  tsp sugar, a slice of apple or banana, a marshmallow, knife or scissors, a  $\frac{1}{4}$  tsp measuring spoon.
- ☐ **13:** *The Effect of Temperature and pH on Proteins* - three thin slices of potato,  $\frac{1}{4}$  to  $\frac{1}{2}$  cup of hydrogen peroxide,  $\frac{1}{4}$  to  $\frac{1}{2}$  cup of vinegar, three small glasses, two mugs, a microwave, a sharp knife, a fork, and water
- ☐ **18:** *Microscope* - a microscope, blank microscope slides (kit), slide coverslips (kit), water, iodine (kit), two medicine droppers (kit), thread, tweezers, thin slice of onion, a paring knife.
- ☐ **20:** [Photosynthesis Experiment](#) - a funnel, tube, aquatic plant, baking soda, and flask.
- ☐ **21:** [Fermentation of Yeast and Sugar](#) - 4 glass or plastic bottles, yeast, sugar, balloons and water.
- ☐ **26:** *Budding in Yeast* - a microscope, a \*blank microscope slide, a \*slide coverslip, \*methylene blue, yeast, water, sugar, a small glass, a measuring tablespoon, a  $\frac{2}{3}$  cup measuring cup, a paper towel and \*two medicine droppers.
- ☐ **27:** [Cell Cycle](#) - 5 Oreos, sprinkles and a paper plate
- ☐ **28:** *Mitosis* - a microscope and prepared slides: Ascaris Mitosis and Onion Tip Roots from the kit for this course.
- ☐ **29:** [Meiosis](#) - five paper plates, markers, and red and yellow yarn. **(I)**
- ☐ **34:** *Punnett Squares* - 18 small objects (candies, beads or coins ) of one color, 12 of another color, two containers (bowls not transparent), a table, chair and several books **(I)**
- ☐ **35:** *Pedigree* - PTC paper strips (kit), your family members, white paper and scissors **(S)**
- ☐ **41:** *GMO Foods* - different fruits and vegetables with stickers still found on them **(W)**
- ☐ **43:** *Fingerprint* - a pencil, piece of paper, and tape. **(I)**
- ☐ **44:** *DNA Structures* - a microscope, prepared slide (Zea Mays) from your kit. **(S)**
- ☐ **46:** [Strawberry DNA Extraction](#) - measuring cups and spoons, isopropyl rubbing alcohol -70%, salt, water, dishwashing liquid, glass, cheesecloth, funnel, tall drinking glass, 3 strawberries, Ziploc sandwich bags that close, and a bamboo skewer. **(S)**

- ☐ **50: *Culturing Bacteria*** - a beef bouillon cube, a 1-cup measuring cup, a 1/2 cup measuring cup, two small glasses, a pan (large enough to hold four cups of water), a large wooden spoon, plastic wrap, a stove, water, and a sink.
- ☐ **53: *Cultures*** - two broth cultures from the previous experiments, a microscope, blank microscope slides, coverslips, Methylene blue, cleaning gloves, two medicine droppers, and paper towels.
- ☐ **57: *Fungi*** - half a slice of bread, two pieces of two different fruits (apple, cherry, tomato, etc.) that have the fleshy interior exposed, a small amount of cheese, a large plate, a room that stays dark and cool most of the time and water.
- ☐ **58: *Plasmolysis*** - an onion cell, microscope, microscope slide, medicine dropper, salt water, and water.
- ☐ **60: *Protists*** - a microscope, and these five prepared slides from your kit: Paramecium, Amoeba Proteus, Diatoms, Euglena, Volvox, Spirogyra
- ☐ **62: *Fungi*** - a microscope, the samples from Experiment 8.1, blank microscope slides and coverslips, paper towels, medicine dropper, tweezers, a knife and a small glass or cup of water.
- ☐ **65: *Painting*** - sponge(s), sturdy paper or canvas, and paint
- ☐ **66: *Hydra and a Planarian*** - a microscope, prepared slide: Hydra budding (kit) and prepared slide: Planarian w.m. (kit)
- ☐ **68: *Earthworm Dissection*** - an earthworm specimen (kit), dissection tools (kit) and the dissection tray (kit).
- ☐ **69: [Crayfish Dissection](#)** - a crayfish specimen, dissection tools, dissection tray and magnifying glass.
- ☐ **73: [Sink and Float](#)** - a small glass bottle (small opening at top), small balloon that fits inside the bottle, tubing (12 inches long), strong and waterproof tape, a bowl big enough for the bottle to rest on side, paper towels and water.
- ☐ **75: *Perch Dissection*** - a perch specimen (kit), dissection tools, and dissection tray
- ☐ **77: *Frog Dissection*** - a frog specimen, dissection tools and dissection tray.
- ☐ **81: *Egg Dissection*** - a chicken egg, dissection tools, a spoon, a hard plate (not paper) and a well-lit room
- ☐ **82: *Snake*** - Slinky or piece of string
- ☐ **83: *Feather*** - a feather, dissection tools, a microscope, a blank microscope slide and coverslip, a small glass of water and a medicine dropper.
- ☐ **90: *Reaction Versus Reflex*** - a ruler, a clear baking pan, something soft to throw, like a beanbag or nerf ball. And someone to help you.
- ☐ **91: *Blood*** - Pin that has a sharp point, microscope, microscope slides, coverslips, methylene blue, medicine dropper, a lighter, and a paper towel.
- ☐ **93: *Diffusion Through Plastic*** - iodine, two Ziploc bags, cornstarch, water, a 1/ teaspoon measuring spoon (plastic), two bowls that hold about 2 cups of liquid, two spoons, and a twist tie.
- ☐ **98: *Flower Dissection*** - a flower, dissecting tools, dissecting pan, microscope, blank slide, coverslip, water and medicine dropper.

- ☐ **100: *Stems and Roots*** - a microscope, prepared slides: Onion tip, Zea Mays Root C.S., Zea, Mays Stem C.S., Ranunculus Root C.S., Ranunculus Stem C.S.
- ☐ **101: *Leaf structure*** - a microscope, and Prepared Slide: Leaf C.S. with Vein.
- ☐ **101-102: *Experiment*** - Water and 2-3 lima beans for tomorrow's experiment. Soak your lima beans in water overnight.
- ☐ **105: *Germination*** - several dried beans (kidney, lima or pinto), water, paper towels, a glass jar with lid, a Styrofoam or paper cup, scissors, soil, and a cardboard box. Save your plants.
- ☐ **106: *Water Transport*** - three stalks of celery with leaves on them, three small glasses, a spoon, a sharp knife, a small plastic sandwich bag, cellophane tape, water, blue food coloring and a fan.
- ☐ **109: *Sweetness*** - three apples from the same bag and three paper plates.
- ☐ **110: *Gravitropism*** - Take your plants that you grew in Experiment 14.1.
- ☐ **113: *Cloud Formation*** - ½- Liter bottle (Ex. water bottle), rubbing alcohol
- ☐ **117: *Air Pollution*** - a microscope, three blank microscope slides, a coverslip, a cotton swab, Petroleum jelly, and strong tape (packing or duct).
- ☐ **118: [Wind Generator](#)** - cardboard, glue gun, scissors, hot glue, DC motor, red wire, black wire.
- ☐ **119: *Carbon Dioxide*** - two 2-liter bottles, baking soda, vinegar, water, aluminum foil (one sheet), a thermometer, a pot and stove or microwave and mug, a 1-cup measuring cup, a ¼ tsp measuring spoon, and a stopwatch.
- ☐ **126: *Terrestrial and Aquatic Ecosystems*** - a pond or lake, a pleasant day, colored pencil, notebook, two jars with lids, a long-handled spoon, and a sunny spot indoors
- ☐ **127: *Aquatic Ecosystem*** - two jars that have been sitting in a sunny spot indoors, microscope, blank microscope slides, coverslips, two medicine droppers, and paper towels.