

APPENDIX C

A COMPLETE LIST OF LAB SUPPLIES

Items in boldface, blue type are found in the laboratory equipment sets that are sold for the course. The other materials are available at supermarkets, hardware stores, or drug stores. If the bullets are black, the items are used in an experiment that employs only household items. Green bullets accompany items used in microscope experiments. Red bullets accompany items used in dissection experiments.

Module #1

- ◆ **Microscope**
- ◆ **Lens paper**
- ◆ **Slides**
- ◆ **Coverslips**
- ◆ **Eyedropper**
- ◆ **Methylene blue stain**
- ◆ Water
- ◆ Small pieces of bright thread
- ◆ Cotton swabs

Module #2

- ◆ **Microscope**
- ◆ **Slides**
- ◆ **Coverslips for the slides**
- ◆ **4 eyedroppers**
- ◆ Four jars with lids (You do not want a lot of light to get into the jars. Thus, jars with darkened glass or plastic work really well. If you can't find that kind of jar, cover your jars with paper or foil to keep the light out.)
- ◆ A small amount of chopped hay (Dried grass will work as a substitute.)
- ◆ Uncooked white rice (Brown rice will not work as well.)
- ◆ Egg yolk (uncooked)
- ◆ A small amount of rich soil
- ◆ A long-handled ladle (A good one can be made by attaching a kitchen ladle to a broom handle with duct tape.)
- ◆ The 4 culture jars made in Experiment 2.1
- ◆ A small amount of cotton (from a cotton ball, for example)
- ◆ A pond or small body of water (A still creek will do in a pinch, but it will not be ideal.)
- ◆ Something to rest your lab notebook on while you draw in it
- ◆ Colored pencils

Module #3

- ◆ **Microscope**
- ◆ **Slides**
- ◆ **Coverslips**

- ◆ **Prepared slide: amoeba**
- ◆ **Prepared slide: paramecium**
- ◆ **Prepared slide: euglena**
- ◆ **Prepared slide: volvox**
- ◆ **Prepared slide: *Spirogyra***
- ◆ **Prepared slide: Diatoms**
- ◆ The 4 culture jars used in Experiment 2.2
- ◆ 4 eyedroppers (one for each jar)
- ◆ A small amount of cotton (from a cotton ball, for example)

Module #4

- ◆ **Microscope**
- ◆ **Slides**
- ◆ **Coverslips**
- ◆ **Eyedropper**
- ◆ **Methylene blue**
- ◆ Camembert cheese (available at large supermarkets)
- ◆ Roquefort cheese (available at large supermarkets)
- ◆ Water
- ◆ Magnifying glass
- ◆ Needle (or probe from your dissection kit)
- ◆ Mushrooms
- ◆ Puffballs
- ◆ Shelf fungi
- ◆ Gloves
- ◆ Packet of active dry yeast (can be purchased at a grocery store)
- ◆ Tablespoon
- ◆ Measuring cup
- ◆ Glass that holds at least 2 cups of water
- ◆ Sugar
- ◆ Bread, jelly, and/or fruit mold (Only one specimen is necessary, but if you observe more than one specimen, you will learn more!)
- ◆ Knife

Module #5

- ◆ Sugar
- ◆ Tablespoon
- ◆ Water
- ◆ A small glass
- ◆ A paper napkin
- ◆ Cellophane tape
- ◆ Plastic wrap
- ◆ Three coffee mugs
- ◆ One fresh, raw egg
- ◆ A measuring cup for liquids

- ◆ A tape measure
- ◆ White vinegar
- ◆ Clear sugar syrup (like Karo[®] syrup)
- ◆ Distilled water (You can purchase this at any large supermarket.)
- ◆ Part of a *fresh* pineapple (It cannot be canned. It must be fresh.)
- ◆ A blender or fine cheese grater
- ◆ Three small bowls
- ◆ A small box of Jell-O[®] gelatin mix - any flavor (Generic brands work just as well.)
- ◆ Pot
- ◆ Stove
- ◆ Refrigerator
- ◆ Two tablespoons

Module #6

- ◆ **Microscope**
- ◆ **Lens paper**
- ◆ **Slides**
- ◆ **Coverslips**
- ◆ **Eyedroppers**
- ◆ **Iodine**
- ◆ **Prepared slide: Hydra**
- ◆ **Prepared slide: Ranunculus root**
- ◆ **Prepared slide: Zea mays root**
- ◆ Water
- ◆ Onion
- ◆ Cork (Any cork item can be used.)
- ◆ Knife or scalpel
- ◆ Anacharis leaves (Anacharis is a generic term for aquatic plants that come from genus *Elodea* and genus *Egeria*. Sometimes called “water weeds,” they can be purchased at aquarium stores. If you live in a state that has outlawed the sale of these plants due to their tendency to take over an ecosystem, ask the salesperson at the aquarium shop what they are selling in place of Anacharis. You could also use thin leaves from another plant like Impatiens. The main point is that the leaves need to be alive and very thin.)
- ◆ Banana
- ◆ Cotton swab
- ◆ Salt water (1 tablespoon of salt in about $\frac{1}{8}$ cup of water)

Module #7

- ◆ Blender
- ◆ Plastic bowl
- ◆ Toothpick
- ◆ Clear liquid hand soap or dish soap (The liquid hand soap tends to work just a bit better, and colorless will work a bit better than soap that is tinted with a color.)
- ◆ Salt
- ◆ Water

- ◆ Strainer
- ◆ Small glass
- ◆ Meat tenderizer (Make sure it has been bought within the last year or so.)
- ◆ Rubbing alcohol
- ◆ ½ cup of split peas
- ◆ Measuring cups and spoons
- ◆ Flashlight
- ◆ **Microscope**
- ◆ **Prepared slide of *Allium* (onion) root tip**
- ◆ **Prepared slide of *Ascaris* Mitosis**

Module #8

- ◆ Your parents, grandparents, aunts, uncles, and siblings (Even if your grandparents, aunts, and uncles are not living or are living far away, you might be able to find pictures of their ears, which is all that you need for the experiment. If you don't have many siblings or cannot determine the earlobe characteristics of your grandparents, aunts, and uncles, you might consider studying another family as well so that you can get even more information.)
- ◆ Mirror
- ◆ 60 radish seeds (purchase locally)
- ◆ 2 shallow pans or dishes
- ◆ Potting soil
- ◆ Clear plastic wrap
- ◆ Box to cover one dish
- ◆ Water
- ◆ Lab notebook
- ◆ Magnifying glass (if available)
- ◆ **Eyedropper**

Module #9

There are no experiments in Module #9

Module #10

- ◆ Thermometer (It must be able to read temperatures from room temperature to at least 100 degrees Fahrenheit. The smaller the thermometer, the better.)
- ◆ A large, clear Ziploc[®] freezer bag (It must be large enough for the thermometer to fit inside once it is zipped.)
- ◆ Sunny windowsill (If it's not sunny today, just wait until it is.)
- ◆ Plastic, two-liter soda pop bottle
- ◆ Vinegar
- ◆ Baking soda
- ◆ Teaspoon

Module #11

- ◆ **Microscope**
- ◆ **Prepared slide: sponge**
- ◆ **Prepared slide: *Hydra***
- ◆ **Prepared slide: planarian**
- ◆ Colored pencils
- ◆ Natural sponges (optional)
- ◆ **Dissecting tools and tray that came with your dissection kit**
- ◆ **Earthworm specimen**

Module #12

- ◆ **Dissecting tools and tray that came with your dissection kit**
- ◆ **Crayfish specimen**
- ◆ Magnifying glass
- ◆ Insect specimens (collected from outside or from someone's insect collection)

Module #13

- ◆ **Dissecting tools and tray that came with your dissection kit**
- ◆ **Perch specimen**
- ◆ **Frog specimen**
- ◆ Magnifying glass
- ◆ Water
- ◆ Small bowl
- ◆ Colored pencils
- ◆ Magnifying glass
- ◆ Field guide (Get one that covers both plants and animals in your area, or get one that covers plants and another that covers animals.)

Module #14

- ◆ Leaf press or old newspapers or old telephone books
- ◆ Tree identification book (from the library)
- ◆ Red (some people call it purple) cabbage (just a few leaves)
- ◆ Stove
- ◆ Stirring spoon
- ◆ Pot
- ◆ White vinegar (It must be clear. Apple cider vinegar will not work for this experiment.)
- ◆ Clear ammonia solution (This is sold in grocery stores with the cleaning supplies.)
- ◆ Water
- ◆ 2 eyedroppers
- ◆ 2 small cups or glasses
- ◆ 1 small glass (It must be see-through!)
- ◆ A white sheet of paper (preferably without lines)

- ◆ Measuring cups (1 cup and ¼ cup)
- ◆ Tablespoon
- ◆ **Microscope**
- ◆ **Prepared slide: Zea mays (corn) cross section of stem**
- ◆ **Prepared slide: Zea mays (corn) cross section of root**
- ◆ **Prepared slide: Ranunculus (buttercup) cross section of stem**
- ◆ **Prepared slide: Ranunculus (buttercup) cross section of root**
- ◆ **Prepared slide: Leaf cross section with vein**
- ◆ Colored pencils

Module #15

- ◆ Sharp scissors (If you have the dissection kit, use the scissors in it.)
- ◆ Sharp blade (If you have the dissection kit, use the scalpel in it.)
- ◆ Slides and coverslips
- ◆ Water
- ◆ Eyedropper
- ◆ Magnifying glass
- ◆ **Microscope** (optional)
- ◆ Colored pencils
- ◆ A variety of flowers (Most flower shops will save old flowers for you, if you contact them ahead of time and tell them why you want them. They do not need to be fresh, but you should get a good variety. An example of a good variety would be: a rose, a carnation, a daisy, a lily and a tulip. At least one of them, preferably more, should have stamens and at least one carpel that are easy to see. In the list above, the lily and tulip will have easily-visible stamens and a carpel. The rose and carnation will have them as well, but they will be harder to find. Look in the very center of the flower. The daisy is a composite flower, so its reproductive organs will be even harder to see.)
- ◆ A variety of different fruits (suggested fruits: apple, plum, orange, tomato, walnut, sunflower seed, maple seed, pea in pod, strawberry, and raspberry)

Module #16

- ◆ **Micro slide: The Chick Embryo**
- ◆ **Microscope (optional)**
- ◆ Magnifying glass
- ◆ Desk lamp
- ◆ Colored pencils
- ◆ Bird field guides (available at your local library)
- ◆ Binoculars (if available)
- ◆ Bird seed