

Teacher Instructions for the Laboratory

This information is given so that the teacher can come alongside the student in helping line up the necessary materials for each exercise, overseeing the procedures where necessary, and evaluating the lab reports. Be sure that complete sentences are used in the reports except items where data are being recorded. This provides added writing experience, and is clearer to someone reading the report. Do not hesitate to ask someone with more background in chemistry to come alongside in areas where you may feel less confident.

Students are to use the “Laboratory” pages for taking their notes and marking general observations. The “Laboratory Report” pages (see samples on pages 11 and 12) are for the student to write out their full observations and conclusions. Any questions asked in the lab are to be answered here. The hypothesis/purpose is stated with each lab.

WARNING: As with any science course that includes experiments, what is created can be potentially hazardous if not handled properly. Make sure to follow all instructions very carefully:

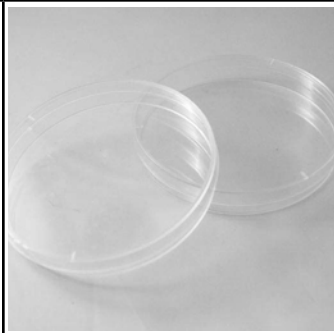
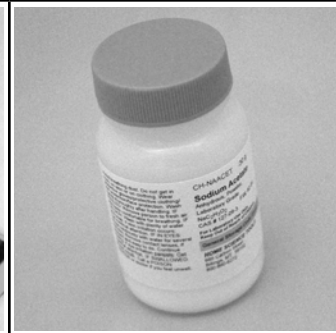

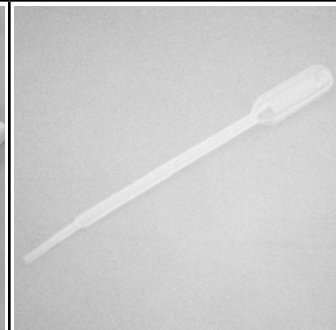
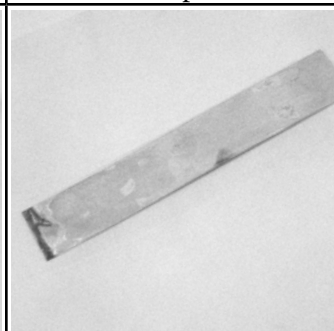
- ✓ wear proper safety equipment when needed, including safety goggles/glasses
- ✓ keep small children away from where the labs are conducted
- ✓ wash hands, surfaces, and equipment properly after each experiment
- ✓ and make sure clothing and other household surfaces are protected from staining.

Here is a list of supplies that need to be available for the labs. These are things that are not readily available outside of a science laboratory, and can be ordered online or purchased from a science supply retailer.

- | | |
|--|---|
| <input type="checkbox"/> Alcohol burner and stand | <input type="checkbox"/> Lugol's solution (30 ml) |
| <input type="checkbox"/> Barium hydroxide (10 grams) | <input type="checkbox"/> Mohr pipette and pipette pump (10 ml) |
| <input type="checkbox"/> Burette (50 ml capacity), burette clamp, and ring stand | <input type="checkbox"/> Molecular model kit |
| <input type="checkbox"/> Copper metal strip (4 inches long) | <input type="checkbox"/> Multimeter |
| <input type="checkbox"/> Economy pocket scale (500g x 0.1g) | <input type="checkbox"/> Petri dish (20 pack) |
| <input type="checkbox"/> Erlenmeyer flask, glass (250 ml, 2 each) | <input type="checkbox"/> pH paper (80 pack) |
| <input type="checkbox"/> Eyedropper | <input type="checkbox"/> Sodium acetate (30 grams) |
| <input type="checkbox"/> Filter paper, 100 sheets (11 cm diameter) | <input type="checkbox"/> Soil testing kit |
| <input type="checkbox"/> Glass beaker (100 ml, 3 each) | <input type="checkbox"/> Spectroscope analysis kit |
| <input type="checkbox"/> Glass beaker (250 ml) | <input type="checkbox"/> Test tube kit (6 22 ml tubes, rack, clamp, etc.) |
| <input type="checkbox"/> Glass stirring rod (10 inches) | <input type="checkbox"/> Transfer pipette |
| <input type="checkbox"/> Graduated cylinder, glass (10 ml) | <input type="checkbox"/> Weighing boats, aluminum (100 pack) |
| <input type="checkbox"/> Laboratory scoop | <input type="checkbox"/> Wire with alligator clips |
| | <input type="checkbox"/> Zinc metal strip (4 inches long) |

Note: Pipette is used for measuring. Please keep available for most labs.

			
<input type="checkbox"/> Alcohol burner and stand	<input type="checkbox"/> Barium hydroxide (10 grams)	<input type="checkbox"/> Burette (50 ml capacity), burette clamp, and ring stand	<input type="checkbox"/> Copper metal strip (4 inches long)
			
<input type="checkbox"/> Economy pocket scale (500g x 0.1g)	<input type="checkbox"/> Erlenmeyer flask, glass (250 ml, 2 each)	<input type="checkbox"/> Eyedropper	<input type="checkbox"/> Filter paper, 100 sheets (11 cm diameter)
			
<input type="checkbox"/> Glass beaker (100 ml, 3 each)	<input type="checkbox"/> Glass beaker (250 ml)	<input type="checkbox"/> Glass stirring rod (10 inches)	<input type="checkbox"/> Graduated cylinder, glass (10 ml)
			
<input type="checkbox"/> Laboratory scoop	<input type="checkbox"/> Lugol's solution (30 ml)	<input type="checkbox"/> Mohr pipette and pipette pump (10 ml)	<input type="checkbox"/> Molecular model kit

			
<input type="checkbox"/> Multimeter	<input type="checkbox"/> Petri dish (20 pack)	<input type="checkbox"/> pH paper (80 pack)	<input type="checkbox"/> Sodium acetate (30 grams)
			
<input type="checkbox"/> Soil testing kit	<input type="checkbox"/> Spectroscopy analysis kit	<input type="checkbox"/> Test tube kit (6 22 ml tubes, rack, clamp, etc.)	<input type="checkbox"/> Transfer pipette
			
<input type="checkbox"/> Weighing boats, aluminum (100 pack)	<input type="checkbox"/> Wire with alligator clips	<input type="checkbox"/> Zinc metal strip (4 inches long)	