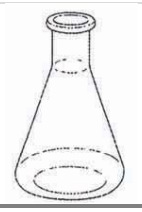
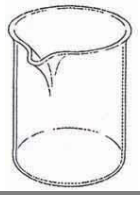
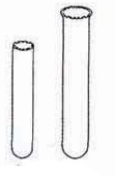
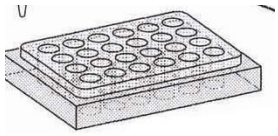
Name: _____ Date: _____ Class: _____

Laboratory Equipment Overview

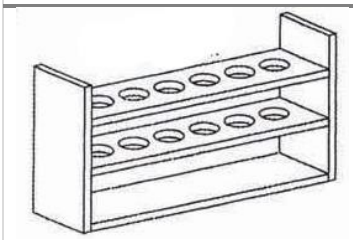
This lab will introduce you to a variety of laboratory equipment and their uses. The equipment is divided into general categories based on function.

PART 1: MIXING AND HOLDING CHEMICALS

1. All of the following are used to hold different amounts of liquids, and can be used as containers for mixing chemicals and observing chemical reactions.
    a. Label them with their names.
    b. Rank them from biggest to smallest in terms of the amount of liquid they could hold (1=biggest; 4=smallest)

				
Name of Equipment	Erlenmeyer flask	beaker	test tubes	well plate
Ranking	1 or 2	1 or 2	3	4

2. Label the following with the names and functions of the equipment. (If you are unsure, ask!)

test tube rack	runnel	spatula (stir rod)
		
to hold test tubes	transfer substances without spilling	to stir mixtures

3. The Erlenmeyer flask has a very different shape than a beaker, and yet they hold comparable amounts of liquid.
    a. What are 2 advantages of the Erlenmeyer flask when observing a chemical reaction?

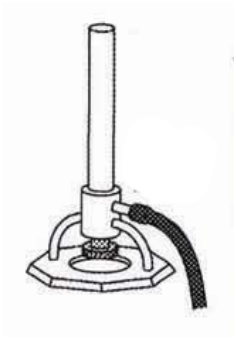
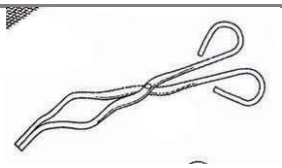
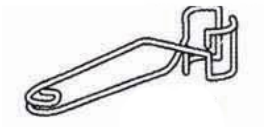
- can put a stopper in it to contain the reaction
- can swirl to mix contents easily, holding by the neck

    b. When might you use a beaker instead of an Erlenmeyer flask?

- when pouring
- when measuring

PART 2: HEATING

4. Label the following with the names and functions of the equipment. (If you are unsure, ask!)

Bunsen burner	hot plate	wire gauze
 to heat substances (with a flame)	 to heat substances	 to place hot objects on
	 to hold beakers while heating	 to hold test tubes while heating

5. What are two precautions we should take when heating things using glassware? (Hint: look at your Lab Safety Rules.)

- hot glassware looks like cold glassware
- keep glassware away from the edge of the table
- use something (e.g. tongs) to hold the object with
- ensure the glassware is not cracked or chipped

6. Look carefully at the hot plate that is on display.
   a. Other than heating chemicals, what else can the hot plate be used for?

- stirring

   b. Sometimes when students ask for help, they say that they have turned the knob but the hot plate is not heating up. What are they likely doing wrong?

- turning the wrong knob
- not plugged in

PART 3: SAFETY/CLEANING

Discuss as a class, and then record answers.

7. There are very few labs in this course where a lab coat will be required. Due to the pandemic, they may not be available (because upper Chemistry courses will be prioritized for their use). If we need to conduct a lab that needs a lab coat, but there are none available, what will we do instead?

- bring old clothing from home

8. Goggles carry the risk of COVID-19 transmission. What are 2 precautions we will take with goggles to minimize this risk?

- avoid wearing goggles where deemed unnecessary by the teacher
- sanitize before and after use, if use is necessary

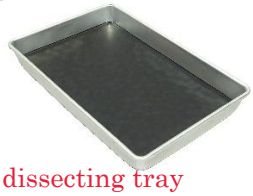
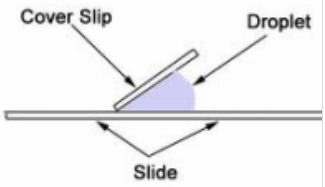
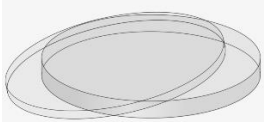
9. Label the following with the names and functions of the equipment. (If you are unsure, ask!)

wire brush	goggles	wash bottle	lab coat
 cleaning test tubes and beakers	 eye protection	 squirt cleaning agents (e.g. water, acetone)	 protection of body and arms

Fun Fact: The wash bottle can also sometimes be used in experiments to deliver very small squirts of distilled water. Also, wash bottles are fairly multi-purpose: they can hold other chemicals as well which can be useful in cleaning, such as acetone!

PART 4: BIOLOGY

10. Here are some pieces of laboratory equipment used primarily in biology. You are not required to learn these parts (yet), but they are listed here for your information.

 dissecting tray: Tray used to hold and pin down dissection specimens	 forceps: Blunt (not sharp) dissecting tool used to grasp and pull	 probe: Blunt (not sharp) tool used to investigate a dissection specimen	 scalpel: Sharp dissecting tool for cutting; blade often removable
 dissecting scissors: Sharp dissecting tool for cutting	 compound microscope: Views objects too small to be seen with the naked eye	 slide and cover slip: Mounts microbes to be viewed under the microscope	 petri dish: Used to grow bacteria (usually)