

Lab Equipment Challenge

Name: _____

Date: _____

Directions: This paper contains pictures, names safety concerns, and functions of common laboratory equipment. Your task for today is as follows:

1. Work cooperatively with your lab partners. Allow everyone to take tasks. Be encouraging to one another.
2. Look at the teacher table when you need help. Mrs. F. will be providing guidance along the way to help get this challenge completed.
3. Most importantly: Follow ALL directions. Reread and recheck often.

Let's get started.

1. Wear your safety goggles _____ and tie back long hair.

Function and safety concerns: Safety goggles are required any time there is a glass and/or chemicals being used in your lab experiment. Usually the vents on the goggles are to be close, but if they are steaming up, you can pop open the vents and get air into them through the vents. Tying back long hair means that you are probably going to be using lab equipment that could cause a dangerous situation should your hair get in the way. You should tie back long hair in any lab experiment as a general safety precaution anyway.

2. Set up a stand with a ring ("ringstand") _____. Set a Bunsen burner _____ on the stand and clamp the ring approx. 1" above the top edge of the burner. Place a wire gauze _____ on top of the ring. Measure 50 mL of water from the tap into the graduated cylinder _____ and transfer that into a beaker _____. Place the beaker that now has 50 mL of water on top of the wire gauze. PRETEND to turn on the gas and light the Bunsen burner.

Functions and safety concerns: Handle all equipment with care. The graduated cylinder is used for measuring liquids precisely. You transfer the contents of the graduated cylinder into another container and you NEVER would complete a reaction inside the graduated cylinder. The ringstand setup that you just made is designed to heat up liquids. The clamp must be tight on the ring so that it does not sag or slip. The wire gauze is used to prevent the bottom of the beaker from making direct contact with the flame. The wire gauze has a white substance that helps to distribute the heat for even heating of the liquid. NEVER bend the gauze to free the white substance; it must be there on the wire gauze in

order to be effective and if not, then your lab station is not safe: This setup also must be steady in order to prevent spilling of the liquid. You must always be safe when using a flame because of the potential of fire and burns. You would NEVER handle any of the equipment with your bare hands while it was being heated, while it was hot, or even while it was in a process of cooling down.

3. Pretending that you now have boiled the 50mL of water in the beaker, complete the following “PRETEND” steps:

Turn of the gas and remove the Bunsen burner from the stand. Then remove the beaker from the wire gauze with tongs _____. Set the beaker on top of the stand where it will cool down for a pretend period of 5 minutes. Stir the contents of the beaker with a stirring rod _____ while it cools down.

Functions and safety concerns: The tongs are for handling hot things. Extreme care must be exercised when using them! Sometimes students let them slip and drop the beaker and it can shatter on the floor. Your best bet is to use the tongs you are provided on an empty beaker first, just to make sure you can get them to work properly and safely.

4. Reverse out now: Making sure your sink has an open drain, pour out the water, dry the beaker and the stirring rod with paper towel, and return all items back to their PROPER LOCATIONS.

5. You may now take off your goggles and put them away into their proper storage area – Drawer C.

6. Access and set out on your lab counter the stack of ruler, glue bottle and scissors.

7. Now set the triple beam balance _____ on your lab counter. Make sure it is not too close to the edge of the counter. Weigh each of the objects from #6. Record below:

Glue: _____ Scissors: _____ Ruler: _____

Functions and safety concerns: The triple beam balance is for weighing items in grams. The more you practice with the balance, the better you get. It is important to understand the role of each slider and the corresponding scale it is on. This is a precision skill, not an accuracy skill! If you are clumsy, disrespectful of safety, or misuse the balance in any way, you are in violation of the lab safety contract for this classroom.

8. Reverse out: Put the ruler, glue bottle, scissors and triple beam balance back away to their proper locations.

9. From Cabinet A, set out the Petri dish. NEVER OPEN Petri dishes unless instructed to do so. Petri dishes are sterile when they are new and are mainly used to culture bacteria.

But many times they can also be used to examine things in a convenient see-through container. We will NOT open any of the Petri dishes today. Return Petri dish back to the cabinet.

Functions and safety concerns: Petri dishes are often used for culturing bacteria. When you are using Petri dishes, keeping things sanitary and clean are extremely important. You would NEVER touch the inside of a Petri dish. Often they are taped closed to prevent spills of bacterial colonies. When used in a more general way, the lids can be very loose. Taping the lids on and carrying the dishes carefully are important. When the Petri dish is made of glass, you need to be extra cautious.

10. Find these other items that we did not employ in the challenge today, provide a picture of them, state where they are stored, and make sure to put them away when you are done:

Name of equipment	Picture	Where stored (Cabinet A, Drawer B, Drawer C)
Pipette		
First Aid Bag		
Test Tube		
Test Tube Clamp		
Forceps		