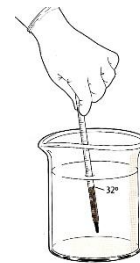


The Celsius Thermometer

Thermometers are very fragile and must be handled with care. **Read the following** rules for the proper use of a thermometer.

1. Never "shake down" a thermometer to reset it.
2. Never use a thermometer to stir a liquid. Many thermometers are broken this way.
3. Never allow a thermometer to touch the bottom of a container that is being heated.

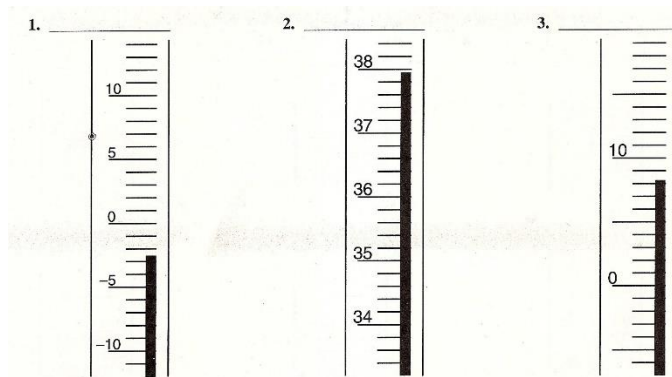


Read the following directions for using and reading a thermometer.

1. Place the bulb end of the thermometer into the object with an unknown temperature.
2. Wait several minutes for the thermometer to adjust to the temperature of the object.
3. Without removing the thermometer from the object, note the number nearest the top of the column of liquid in the thermometer.

Answer the following questions.

1. What are the temperatures shown by these thermometers?

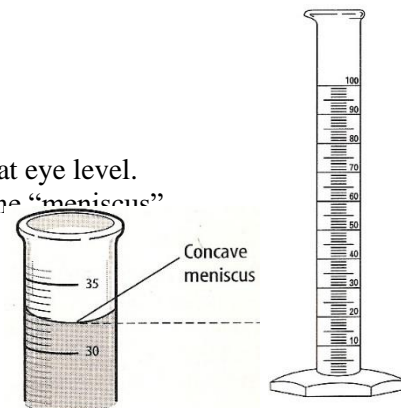


3. Why must you read the temperature without removing the thermometer from the solution?
4. Why should the thermometer never be used to stir a liquid?
5. Why should the thermometer never touch the bottom of a container that is being heated?

The Graduated Cylinder

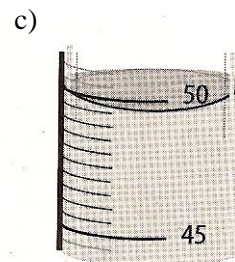
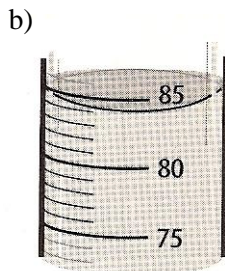
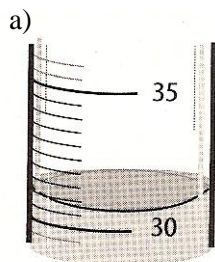
Read the following directions for using and reading a graduated cylinder:

1. Place the cylinder on a flat surface.
2. Look at the cylinder from the side at eye level. The top of the liquid should be at eye level. The view of the surface of the liquid will be curved. This curved surface is called the "meniscus".
3. Read the graduated cylinder at the bottom of the meniscus.



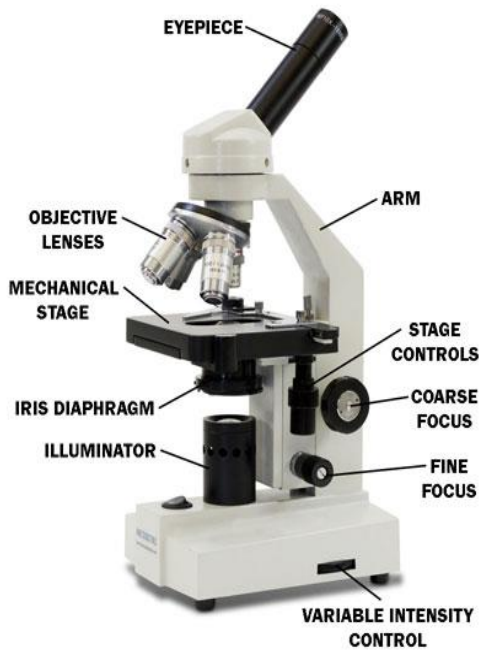
Answer the following on your notebook paper or on the worksheet provided.

1. How much liquid is contained in each of the following graduated cylinders?



Microscope

Use the picture to label this microscope. Then look up the purposes of each part of the microscope and the terms related to microscope use to match the term to its function or definition.



Using the Microscope

1. To avoid dropping the microscope, carry it with both hands and set the microscope in from the edge of the lab table.
2. Start with the **LOW** power (shortest objective) in place.
3. Turn the coarse adjustment so that the **STAGE** is as close to the low power as possible -- now while looking, turn the coarse adjustment so the stage starts to move away from the objective.
4. Once the object comes into view use the **FINE** adjustment to focus.
5. Never use the **COARSE** adjustment with the **HIGH** power objective while trying to focus.
6. **Clean** any spills or moisture and turn the microscope **OFF** when you are finished.

*Caution --keep all **WATER** away from electrical parts

*Be careful with the cord!

FUNCTIONS OF MICROSCOPE PARTS AND MICROSCOPE TERMS

- | | |
|------------------------|--|
| Arm _____ | A. A thin, square piece of glass or plastic used to flatten the specimen. |
| Slide _____ | B. The flat, table-like surface where the slide or specimen is placed. |
| Coarse Focus _____ | C. Used for holding and carrying the microscope |
| Stage Clips _____ | D. A piece of glass upon which the specimen is placed for viewing. |
| Cover Slip _____ | E. Focuses the image by bringing the specimen and objective lenses closer together or farther apart. |
| Objective Lenses _____ | F. A disc-shaped device, located beneath the stage, used to control the amount of light passing through the specimen. |
| Diaphragm _____ | G. Focuses the image by moving the specimen and Objective lenses very small distances closer together or farther apart. |
| Stage _____ | H. Holds the slide in place on the stage to prevent it from slipping around. |
| Fine Focus _____ | I. Focus and enlarge the specimen. |

SAFE USE OF THE MICROSCOPE – Use the Information Above to Fill in the Blanks

1. Carry with _____ hands.
 2. _____ with the _____ power (shortest objective) in place.
 3. Turn the coarse adjustment so the _____ is as close to the low power objective as possible -- now while looking turn the coarse adjustment so the stage starts to move _____ from the objective.
 4. _____ up all spills and moisture from stage before putting away.
 5. CAUTION -- KEEP ALL _____ AWAY FROM ELECTRICAL PARTS !
- Never use the _____ ADJUSTMENT with the _____ POWER OBJECTIVE while trying to focus, because of the danger of striking and breaking the glass slide with the objective.

Using the internet, research the Characteristics of Living Things.

Use the space below to list those characteristics and briefly explain each one.