Name: _____   Date: _____

Volume and the Overflow Method

Water sticks to the sides of its container, so the surface is always a little higher at the edges than in the middle. It makes a curve like a letter "U". This curved surface is called a **meniscus**. To take an accurate reading, always measure at the bottom of the curve.

Safety Precautions

- Clean up spills immediately.
- Be careful with glass. If it breaks, use a dust pan to collect the pieces. Put them in the broken glass container.
- Wash your hands at the end of the activity.

What You Need

graduated cylinder
water
100 mL beaker
larger beaker
object
tweezers or tongs

Part A: Reading a Meniscus
What to Do

1. Put some water in a graduated cylinder.
   - Sketch what the surface of the water in the cylinder looks like. This is the meniscus.

2. Place the graduated cylinder containing some liquid on a flat surface like a table.
   - Lean down or sit down to be able to read the meniscus at eye level.
   - Record the volume you see at the bottom of the meniscus curve. _____ mL
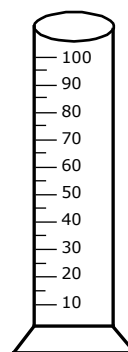
Making Connections

3. You can see the same meniscus effect in thermometers. Describe how to read the temperature on a thermometer.

_____

_____

_____

Name: _____   Date: _____

Part B: Measuring Volume With The Overflow Method

What to do

1. Place a small beaker or container inside a larger one.

2. Carefully fill the inside beaker up to the top with water. If a drop or two spills into the larger container, dry it carefully with a paper towel.

3. Gently lower an object into the inside beaker.

- Be careful not to push out more water with your fingers. Only the object should go into the water.
- If the object floats above the surface of the water, gently push it with the tip of your finger to hold the whole object just under the water.

4. Carefully remove the object with tweezers or tongs. Then lift the smaller container out without spilling any more water. Now, pour the water from the larger container into a graduated cylinder.

5. Measure the volume of water in the cylinder. This is the volume of your object. Remember to record the units.
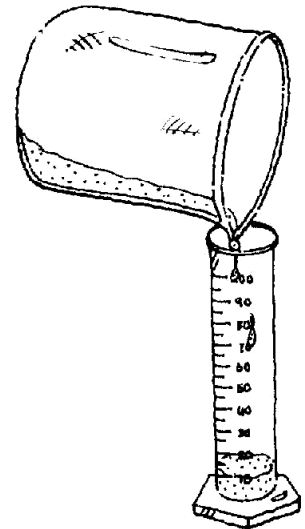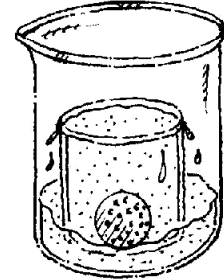
What Did You Observe?

6. Complete the table.

Object	Volume