

2. Measure the length and diameter of each core to the nearest millimeter and record on your data table.

3. Carefully following the directions for proper use of the balance, weigh each core to the nearest hundredth of a gram. (Weigh 3 times - record the average on your data table.)

4. Measure the volume of each core by the following method: Pour water into the graduated cylinder until it is about half full. Hold the cylinder at eye level and read the line on the level with the lower part of the curved surface of the water (called the **meniscus**). See Fig. 1-A-2. Record this exact amount on a piece of scratch paper.

Now, holding the core by the needle end of your probe, sink it under the water. Record the new water level on your scratch paper. Subtract the original volume from the new volume (with the potato) to find the volume of the potato in milliliters. Record this volume on your data table.

5. Place each core in a different test tube and label each tube A, B, or C according to the core identification. Pour distilled water (100% water) into tube A until about ¼” above the top of core A. Pour 10% sugar solution (90% water) into tube B to cover core B in the same way. Pour 20% sugar (80% water) into tube C to cover core C.

6. Cover the test tubes with foil and leave them for 24 hours.

7. After 24 hours repeat all of the measurements. Record the new measurements and calculate the amount gained or lost.

8. Pay attention to any other changes in the cores – note their appearance, texture and feel compared to yesterday.