Some Interesting Ways to Measure

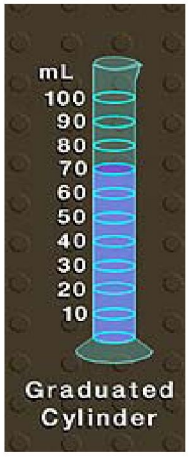
The ancient Romans had some interesting ways to measure liquids. One measurement was a *ligula*. This word means "a lick." A ligula was the amount of liquid you could pick up with your tongue in one lick. Another measurement was the *sextarius*. This word means "one-sixth." A sextarius was one-sixth of a congius. A *congius* was the amount of liquid that would fit in a seashell.

Based on the Roman measuring system, this seashell holds six *sextarii* of liquid.

Although these were interesting ways to measure liquids, they were not very accurate. For example, a ligula measured by an adult with a bigger tongue would be larger than a ligula for a baby. If someone told you they had a congius of liquid, you would not know whether they used a tiny shell or a large one.

Today, people measure liquids with containers that are made so that you know exactly how much they hold. For example, you can use a measuring cup to add 4 fluid ounces (fl oz) of milk to a recipe. You can also use a measuring cup to add 250 milliliters (mL) of water to a recipe. Unlike the Roman measurements, these are accurate. When you use the measuring cup, you can be sure that you are adding the exact amount of liquid that the recipe requires.

People use containers like measuring cups to measure the volume of a liquid. The *volume* is the amount of space the liquid takes up. In a laboratory, scientists use a tool called a *graduated cylinder* to measure the volume of a liquid. Imagine that you use a graduated cylinder to measure 100 mL of water. The water forms a column, just like the shape of the graduated cylinder. You then pour the water into a glass. Now the water takes the shape of the glass. A liquid always takes the shape of the container that holds it. (The Romans probably noticed that water can also take the shape of a seashell!)



Graduated cylinders come in various sizes. The one you use depends on how much volume you need.

Now imagine that you pour the water from the glass back into the graduated cylinder. You would find that you still have 100 mL. A liquid has the same volume, but its shape depends on the container that holds it. Even though their measuring system was not very accurate, the Romans probably knew this fact about liquids.