OSMOSIS WITH EGGS LAB            [Determining mass and circumference Slide show](http://local.brookings.k12.sd.us/biology/ch7transport/massandcm.ppt)

1. Buy enough eggs for each group to have 2 eggs. Make a few extras in case of breakage. Place raw eggs in a container and cover with vinegar.  I use a low flat plastic tupperware-like container. If you keep the lid on while they are soaking it doesn't smell so bad.  Allow eggs to soak several days to remove the calcium from the shell. Check them as they are soaking and add some sugar to the vinegar if they seem to be swelling up too much.

2. You will need a pitcher of distilled water and a pitcher of sugar water. (I start with a half full gallon container and keep adding sugar until no more will dissolve. It is really thick!)

2. Each group will receive 2 eggs and 2 plastic cups. Use [slide show](http://local.brookings.k12.sd.us/biology/ch7transport/massandcm.ppt) to remind them about using triple beam balance and measuring with a ruler (cm). Students will use a balance to determine the mass of each egg. Be careful, eggs will roll off the balance pans and desks. They will also determine circumference (short way around) by wrapping a string  around their egg and then placing the string alongside of a ruler.  Make sure they do one egg at a time and keep track of which egg is which.  [Egg data sheet](http://local.brookings.k12.sd.us/biology/WORKSHEETS/ch%207%20transport/eggosmosis.doc)

3. After measuring each egg. Students will place one egg in sugar water (hypertonic) and one egg in distilled water (hypotonic). Label cups with students names and liquid used.

4. Day 2: Students will determine and mass and circumference on each egg and change the liquid on their egg. *GENTLY* rinse the sugar water egg before massing. Be careful grabbing the eggs out of the cups, especially as the distilled water one gets bigger. It works best to have them take their cup to the sink, hold their hand over the top and tip the egg out into their hand. Make sure they keep track of which egg is which and get them back in the right liquids.

5. Day 3: Determine mass and circumference again.

5. The egg in sugar water will go flat and the egg in distilled water will get huge!  It is a cool visual and the kids remember which way the water moves for cells in hypertonic and hypotonic solutions because they remember what happened to their eggs.