**Egg Laboratory Teacher Notes**

Purpose -

The purpose of this laboratory is to give students an opportunity to see osmosis using a model cell (in other words, an egg without the shell). Students will investigate the effect of different concentrations of hypertonic or hypotonic solutions on the model cell. After completion of the laboratory, they will model what they have learned about scientific writing and compose their own scientific reports.

Preparation -

In addition to the student materials per team described in the egg laboratory powerpoint (which should be provided to students), the teacher should also prepare:

* Enough eggs with the shells removed for each team to have one egg PLUS at least 3 extra eggs. Some will probably break!
  + To prepare the eggs, cover them with ½” of vinegar in a container for two days. Make sure the container is covered or the vinegar will evaporate.
  + Prepare the eggs two days in advance of the laboratory to ensure shell removal. Keep an eye on them as some may need to be rotated.
  + Since the vinegar contains water, it acts as a hypotonic solution and will cause the eggs to swell. This is why students must begin the laboratory with a hypertonic solution.
* Hypertonic solutions/materials
  + I recommend putting out salt, sugar, water, corn syrup, and soda for students to choose from in making their hypertonic solution.
* Hypotonic solutions/materials
  + I recommend putting out the same materials for students on the next day for them to prepare their hypotonic solutions. The solution just has to be less concentrated than what’s inside the egg, so students should experiment with using the same materials they used on the first day (except this time use less and add more water to decrease the concentration of solutes).