## Egg Procedure

Within your group of 8, you will be working in partners (of your choice).

Your group of 8 will be testing 4 different solutions (one per pair).

1. Assign 2 pairs to each of the following solutions: water and salt water.
2. The eggs should be soft. Remove them from the vinegar and gently brush any remaining shell off the egg until you can see the yolk through the membrane (clear covering).
3. Weigh each egg and record its mass (use correct units).
4. Carefully put the egg into a beaker.
5. Cover the eggs with your assigned solution.
6. Clean up any mess you made.
7. Leave all eggs overnight.
8. On your notesheet, predict what will happen to the mass of each egg. Support your prediction with an explanation.
9. Meet with your group of 8 to plan your presentation. You may use the computers and textbooks to do research if necessary.
10. **Tomorrow**: Re-weigh the eggs and record this final mass. Calculate the percent change in mass for each egg. Ask if you are not sure how to do this.

## Dialysis tubing Procedure

Within your group of 8, you will be working in partners (of your choice).

Each pair needs to follow the directions below:

1. Obtain a piece of dialysis tubing. Tie off one end of the tubing to form a bag. To open the other end of the bag, rub the end between your fingers until the edges separate.
2. Add 15 mL tap water to the bag.
3. Add 5 mL starch solution to the bag. Tie off the other end of the bag, leaving space for the expansion of the contents in the bag.
4. Weigh the bag and record this weight.
5. Fill a 250 mL beaker with 250 mL tap water. Add approximately 5 drops of Iodine solution to this.
6. Weigh the dialysis tubing bag and record this mass.
7. Observe the color of this solution, and immerse the bag in the beaker of water.
8. On your notesheet, predict what will happen. Will any of the materials move through the dialysis tubing. If so, in what direction. Support your explanation with an explanation
9. Allow to stand for at least 25 minutes or until you see a distinct color change in the bag or in the beaker.
10. MEANWHILE: Meet with your group of 8 to plan your presentation. You may use the computers and textbooks to do research if necessary.
11. After 25 minutes, record the final color of the solution in the bag, and of the solution in the beaker. Weigh the bag and record the weight.
12. Calculate the percent change in mass. Ask if you are not sure how to do this.
13. Clean up your work area and materials. Dialysis tubing should be thrown away. Beakers must be rinsed.

## Plant cells Procedure

Within your group of 8, you will be working in partners (of your choice).

Each pair needs to follow the directions below:

* + - 1. Prepare a wet mount slide using a piece of elodea leaf and water

(This is your control).

* + - 1. Prepare another wet mount slide using a piece of elodea and ***salt*** water.
      2. Observe both slides under the microscope at 400X magnification.
      3. Make a sketch of each slide in the circles in your packet.
      4. How did the cell change after being submerged in a saltwater solution? Why do you think this happened? (Hint: think about osmosis)
      5. Clean up! Cover slips go in the garbage.
      6. Meet with your group of 8 to plan your presentation. You may use the computers and textbooks to do research if necessary.

## Food coloring Procedure

Divide your group of 8 into two groups of 4. Each of these smaller groups needs to follow the directions below.

1. Fill the 150 mL beaker with 150 mL water. Add 4 drops food coloring to this glass's water (to make the it easier to see).
2. Take a paper towel and roll it lengthwise (see below). Place the one end of the towel into the glass of colored water and the other end into the empty, glass. Set aside **until** **tomorrow**.



1. Predict what will happen overnight. Record your prediction on your notesheet and support your prediction with evidence from your reading or research.

**Next:**

1. Pour 100 mL of room temperature, hot, and cold water into 3 beakers. Predict the water temperature in which the food coloring will evenly disperse the fastest. Record your reasoning on your notesheet.
2. Put one drop of food coloring into each beaker. Put red into the hot water, blue into the cold water, and green into the room temp beaker. (Add food coloring to all beakers at the same time. This will take 3 people.)
3. Start timing from when you added the food coloring. Observe the differences between each beaker and record how long it takes each beaker to become completely mixed.
4. Clean up!
5. Meet with your group of 8 to plan your presentation. You may use the computers and textbooks to do research if necessary.
6. **Tomorrow**: observe what has happened in the paper towel set up.