

# Eggcellent Eggsperiment

## Project Components

Use the following as guidelines for creating your lab report. Read the description and examples for each category and place a check in the box as you complete each section. Be sure to include all six components in your project!

## Problem

What is the effect of osmosis on an egg's mass and circumference when soaked in solutions of varying water concentration?

## Experiment

In order to solve your problem and test your hypothesis, what steps did you take, how did you set up the experiment, how did you go about collecting data? Your explanation should include how you measured and weighed the egg each day, what equipment you used, and should be written in paragraph form.

## Hypothesis and Conclusion

Include a hypothesis for each solution: vinegar, water, colored water, salt water, and solution of choice. Each hypothesis should be in complete sentences and take into account the mass, circumference, color, texture, etc.

*Ex: Day Four: I hypothesized that the egg, when soaked in red Gatorade, will grow larger in mass and circumference as water is diffused from an area of higher concentration, (the Gatorade), to an area of lower concentration, (the egg). I also predict the egg's insides will turn red because the red dye in Gatorade will diffuse into the inside of the egg.*

You should present five conclusions, one for each hypothesis or solution. All conclusions should be stated in complete sentences and prove or disprove your hypothesis.

*Ex: Day Five: My hypothesis that corn syrup would make my egg heavier in mass, but remain the same in circumference was incorrect. The egg's mass and circumference both dramatically decreased because water was diffused out of the egg, (an area of higher water concentration), and into the syrup-filled cup, (an area of lower water concentration), to equalize the water concentration inside the cup.*

### Sources of Error

Using complete sentences in a paragraph format, note some of the human sources of error that can invalidate or change the accuracy of an experiment. Examples might include:

- Partners are different; perhaps your partner rounds up and you round down. Partners may not measure the circumference of the egg at the exact same point.
- Is the egg you started with the egg you finished with?
- Did you deduct the cup's mass from your total mass? Was the egg or cup ever wet?
- Equipment is imperfect; did you use the same triple-beam balance everyday, are all of the balances perfectly level?

### Data

You must include two graphs, (either bar or line), one for mass and one for circumference. Graphs must include a title, units of measure, and x and y-axis labels. Use an asterisk (\*) to indicate at what point an egg was broken or substituted.

See the sample below.

The Effect of Osmosis on an Egg in Relation to Mass and Circumference

