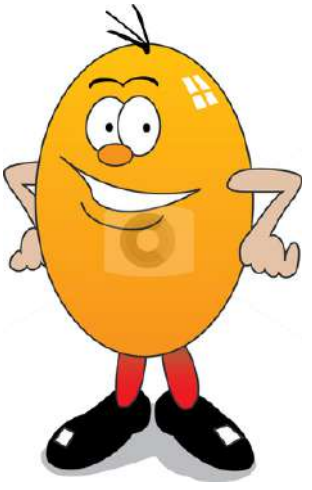
Name: _____ Per: _____ Date: _____

An Egg-cellent Activity



Introduction: In this lab your group will be given a RAW egg. A raw egg – one, singular, uno. Your group has ONE chance to do the lab. If your egg breaks, cracks, or drops, so will your grade! Treat this egg with kid gloves. Treat it as a baby. In fact, I urge you to name your egg if you so desire. Eggbert, Roy Boy, Egg Sullivan – these are all acceptable names. Remember, though, the egg cracks or breaks, your grade will reflect that, and you won't be able to continue with the lab. Speaking of the lab…

The lab is going to last for roughly a week. You will be manipulating the egg daily, transferring from beaker to balance and back to beaker. YOU NEED TO BE CAREFUL! Your grade and your group are depending on that.

DAY ONE:

Meet your egg. Take a couple of minutes to acquaint yourself with the egg. Shake hands, chat about the goings-on in your life… It's cool. I'm not judgin'…

1. Start by finding the mass of your egg. MAKE SURE THAT THE BALANCE IS MEASURING IN GRAMS (g)!!!!!
2. Turn on the balance, change the units to grams (g), if need be. Zero out your balance if you need to by hitting the "tare/zero" button. GENTLY place your egg on the balance, wait until the display stops changing, and record the mass of your egg (in grams) on the data table, under '**Day One - Mass**.' P.S. Mass needs to be in grams – grams… like the crackers, just spelled differently.
3. After you find the mass of your egg, put your egg in a clean cup. IF YOU DON'T WANT YOUR EGG TO BREAK YOU WILL READ THIS BEFORE CONTINUING!!! For best results, you need your cup to ALMOST be parallel with the ground. Then, SLOWLY roll your egg down the side of the cup. Remember, the goal is to be able to actually finish the lab. We wouldn't want a cracked egg on the first day. Get in the habit of putting your egg into the cup this way.
4. Another group member should write the group members' names, period, and egg's name (if applicable) on a piece of masking tape or on the cup directly. Use a sharpie to do this.
5. Next, pour enough vinegar into your beaker to just cover the top of your egg.
6. Put your egg on the designated spot assigned by your teacher.
7. Clean up your lab area, return the supplies to where they belong.
8. Wait 24 hours to begin the next step.

DAY TWO:

~Get your egg from where you left it yesterday and take it back to your workspace.

Once you get your egg back to your workspace, answer the following questions **before doing ANYTHING else.**

-Does the egg look any different today than it did the previous day? If so, explain. _____

_____

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-Does the solution your egg was sitting in look any different? If so, explain. _____

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_____

DIRECTIONS – DAY TWO

****DAY TWO DISCLAIMER**** As I'm sure you can tell, things are gonna get VERY tricky, very quickly. From here on out the potential for egg destruction is HUGE. **BE CAREFUL**!!!

1. VERY CAREFULLY pour off the vinegar surrounding the egg. You need to be EXTREMELY careful to not break your egg. You might want to put your hand on top of the beaker as you pour… just in case. When you are done with this step, you should have an egg sitting in an otherwise empty cup.

2. Being careful not to break the egg, remove the egg from the cup and pat it dry. Again, PLEASE make sure you are PATTING, not rubbing the egg. It needs to be almost completely dry before it's put on the balance.

3. Put a small square of paper towel on the balance. Turn on the balance, and hit the 'tare/zero' button to zero out the balance. Very carefully place the egg onto the balance and record the mass (in grams) in the box labeled "**Day Two Mass"** on the data table.

4. Rinse out the cup, dry, and then fill about half way with distilled water.

5. Carefully put the egg into the cup, tilting - to decrease the chance of the egg slamming into the bottom of the beaker and breaking.

6. Return your egg to the designated place.

DAY THREE:

~Get your egg from where you left it yesterday and take it back to your workspace.

Once you get your egg back to your workspace, answer the following questions **before doing ANYTHING else.**

-Does the egg look any different today than it did the previous day? If so, explain. _____

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-Does the solution your egg was sitting in look any different? If so, explain. _____

_____

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Construct a hypothesis to explain what you think may have happened overnight – in regards to the egg and the solution in the cup.

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DIRECTIONS – DAY THREE:

1. Carefully pour off the water surrounding the egg. Again, put your hand over the mouth of the cup. Remove the egg from the beaker and pat dry. Put a square of paper towel on the balance, turn on the balance and "tare/zero" the balance.

2. Find the mass of your egg, in grams, and record the mass in your data table under "**Day 3 mass**".

3. Put the dry egg back into the cup and coat with corn syrup (pour syrup over the egg). If the egg begins to float, try pushing it down until submerged. If it comes up again, don't try anymore. You will only need to fill it up about 1/3 of the way.

DAY FOUR:

~Get your egg from where you left it yesterday and take it back to your workspace.

Once you get your egg back to your workspace, answer the following questions **before doing ANYTHING else.**

-Does the egg look any different today than it did the previous day? If so, explain. _____

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-Does the solution your egg was sitting in look any different? If so, explain. _____

_____

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**Try pushing a popsicle stick into the solution to see if there are different layers.

Make, and write, a hypothesis to explain what you think may have happened overnight – in regards to the egg and the solution in the beaker.

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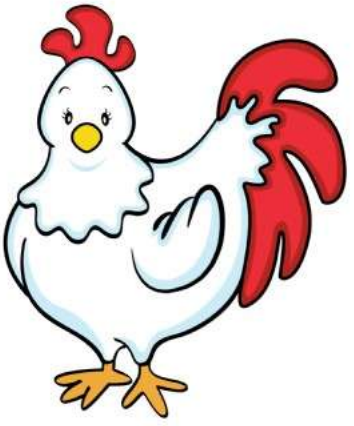
DAY FOUR – DIRECTIONS:

1. Using your fingers, gently remove the egg from the corn syrup and place it on a folded paper towel. Rinse the remaining corn syrup down the sink. Make note of the consistency of the solution. Do you notice anything different from the day before? **As best you can** clean off the syrup from your egg.

2. Dry your egg (as much as possible) and put a dry square of paper towel on the balance. ‘‘Tare/zero” the balance and get the final mass of your egg, in grams. Record the mass in the data table under “**Day 4 – Mass**”.

3. Take your egg back to your seat, on a dry piece of paper towel. Work on answering the following questions while others finish.

THIS LAB MADE POSSIBLE BY GENEROUS CONTRIBUTIONS FROM HENS ACROSS AMERICA



	Mass (grams)	Mass difference from previous day (grams)
Day 1 [new egg]		----------
Day 2 [vinegar]		
Day 3 [water]		
Day 4 [corn syrup]		

CONCLUSION QUESTIONS:

1. Define **diffusion** and give an example. (2 points)

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   _____

   _____

   Example:

   _____

   _____

2. Define **osmosis**. (1 point)

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3. What is your best explanation for what happened when the egg was placed in vinegar? (Why did the egg shell disappear, and why did the egg get bigger) (2 points)

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4. The following day we put the egg in water, then observed the changes after a night in water. Explain what you think happened to cause the changes we observed in the egg caused by the water? (2 points)

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5. After the egg was put in water, it was put in corn syrup. There was another change in the appearance of the egg. Explain what you think caused this change? (2 points)

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