

Name _____ EggCELLent Diffusion Lab Sheet
Date _____

Problem: Which substance's (water, oil, vinegar) molecules will be able to pass through (diffuse) the egg's membrane?

Brainstorm: On your own paper, write down facts that you know about diffusion.

Hypothesis: Place a check by the substances that you think will be able to pass through the egg's membrane.

_____ oil _____ water _____ vinegar

Materials needed:

_____ 3 raw eggs	_____ measure tape (cm)
_____ 3 clear plastic cups	_____ permanent marker
_____ vinegar	_____ 3 rubber bands
_____ oil	_____ plastic wrap
_____ water	_____ graduated cylinder

Experiment:

1. Using the pen, put a "V" (for vinegar) on one egg, "W" (for water) on the second egg, and "O" (for oil) on the third egg.
2. Measure the middle of each egg using the tape measure and record the measurements on your lab sheet.
3. Using the pen, label each cup with "vinegar", "oil", and "water".
4. Measure 180 ml of each liquid and pour each liquid in its labeled cup.
5. Place the egg that is labeled for each liquid in its labeled cup.
6. Using the marker, mark the level of each liquid on the outside of each cup. Be sure not to squeeze the cup as you mark. Write the date next to your mark.
7. Cover each liquid with plastic wrap and put a rubber band around the top of the cup to keep the plastic on tight.
8. Place your cups in a safe place for 2-3 days.

Observation:

1. Uncover the plastic wrap from the cups.
2. Using a marker, mark the level of each liquid on the outside of each cup. Write the date next to the new mark.

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3. Measure the amount of liquid in each cup by pouring the liquid into the graduated cylinder. Place two fingers over the cup's opening as you pour the liquid into the graduated cylinder to keep the egg from falling out.

4. Record the amount of each liquid.

5. Carefully measure the middle of each egg using the tape measure and record the measurements.

6. Answer the observation questions.

Data Charts:

Egg	1st measure	2nd measure	Difference
Vinegar			
Water			
Oil			

Liquid	1st measure	2nd measure	Difference
Vinegar			
Water			
Oil			

Observation Questions:

1. In which cup did the volume of liquid change? (Circle answer)

Vinegar

Water

Oil

2. How did the size of the egg change as the volume of the liquid changed?

Conclusion:

Which substance's molecules were able to pass through the egg's membrane? _____