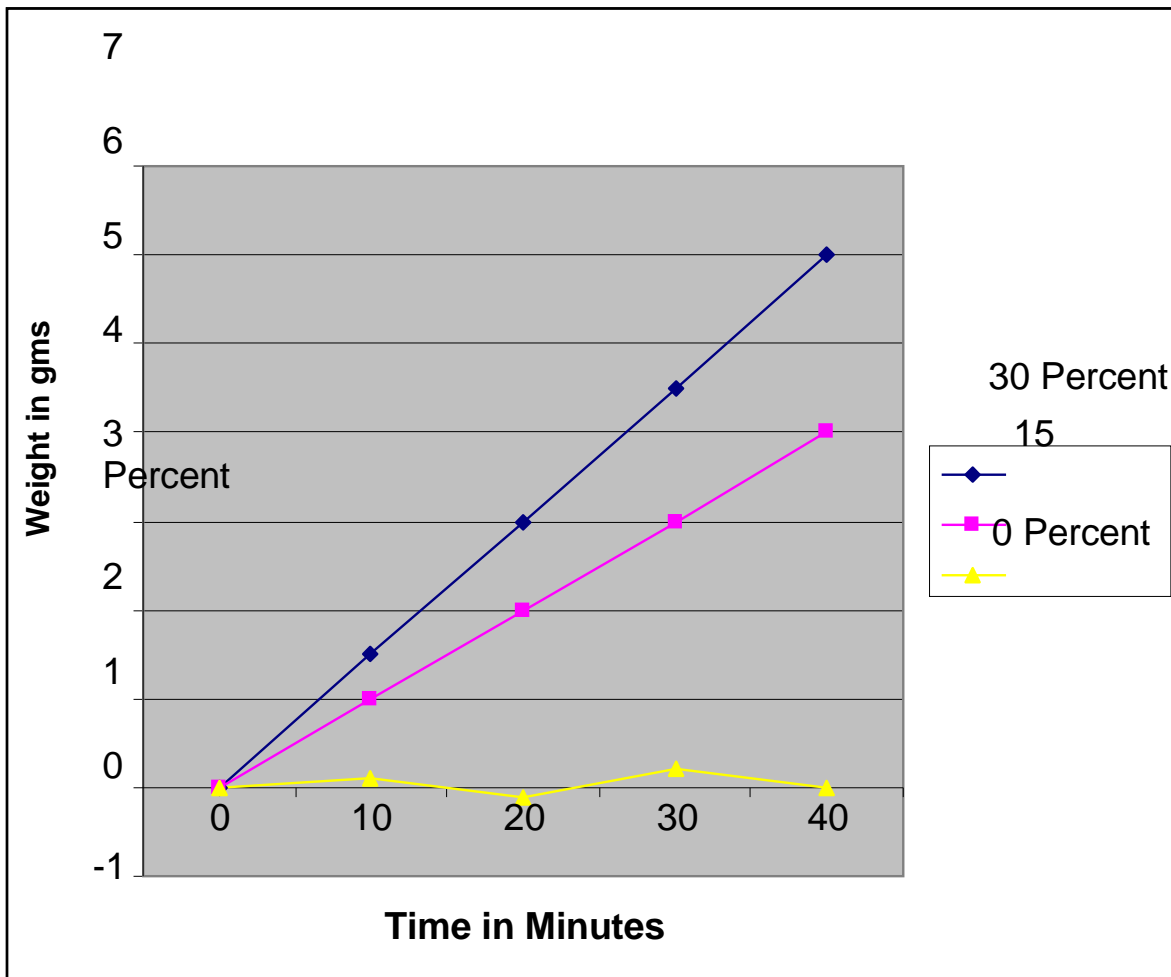


WATER LAB REVIEW

Rate of Osmosis with Three Different Gradients



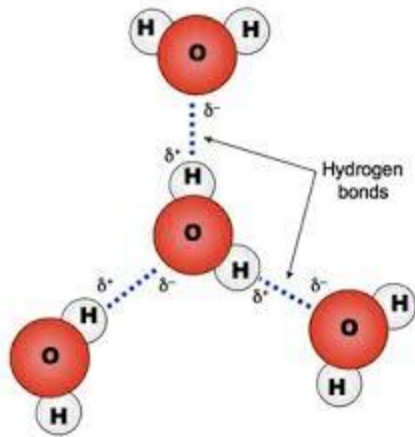
In this experiment we compared the rate of osmosis with three concentrations of sucrose.

- What is osmosis?
- How does concentration gradient affect the rate of osmosis?
- Why don't the sugar molecules move out of the osmometers?
- If an osmometer has 25% sucrose and it is in a solution of 35% sucrose, will the osmometer shrink or expand?
- Hint: Convert the sucrose concentrations to water concentrations.



	Starting Temperature °F	Ending Temperature °F	Change in Temperature °F
Water	82 °	105 °	23 °
Mineral Oil	82 °	129 °	47 °

- Given that equal heat is applied, which heats up faster? Water or mineral oil?
- Why?
- What is this called?



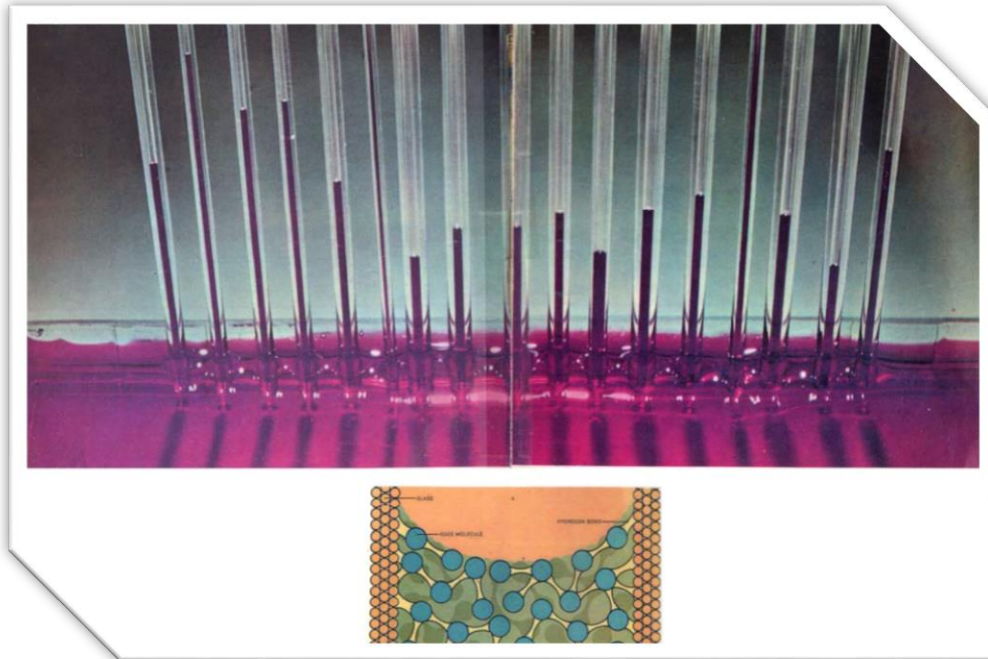
These are water molecules.

- What atom is represented by the white?
- What atom is represented by the red?
- What is the name of the chemical bond that holds the white atoms to the red atoms WITHIN the water molecule?
- What is the name of the attractive bond that is found BETWEEN water molecules?

Be sure you can draw four water molecules hydrogen bonded to one another.

Show and Label:

- Charges
- Covalent Bonds (within molecules)
- Hydrogen Bonds (between molecules)
- Hydrogen and Oxygen atoms



- Why does water rise in a glass tube?
- Why does water rise higher in the narrower tubes?
- What is this process called?

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- Why doesn't this water strider sink in the water?
 - What is this characteristic of water called?
 - What do you think would happen to the water strider if we added a drop of detergent?
 - Why?



Consider ice, warm water, and really cold water (4°C).

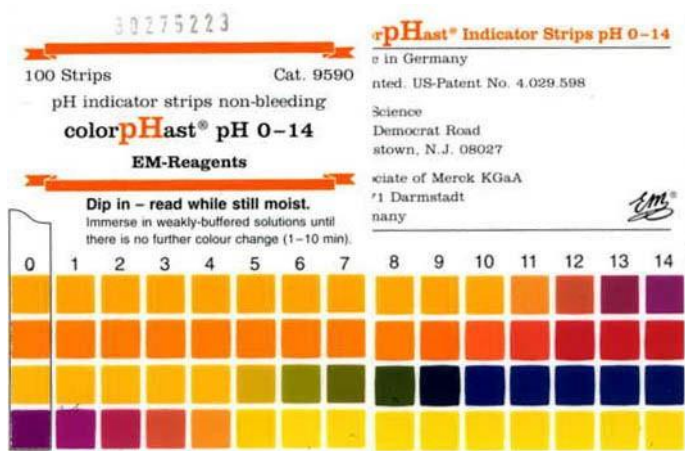
- Which is the most dense (heaviest)?
- Which is the least dense (lightest)?

Explain why.



- Why is the stream of water attracted to the charged rod?
- What do we mean when we say a molecule is polar?
- What do we mean when we say a molecule is non-polar?
- Would a non-polar substance be attracted to the rod?





Read the pH for
the strips
labeled A – E.

- Which strip has the highest concentration of H⁺?
- Which strip has the lowest concentration of H⁺?
- Which are considered acidic?
- Which are considered basic?
- What is the pH of a neutral substance?