

Name: \_\_\_\_\_

Date: \_\_\_\_\_


Period: \_\_\_\_\_

## Chemistry of Life

Week # \_\_\_\_\_

We have already discussed that matter is anything that takes up space and has mass. Everything is also composed of matter, from rocks, to living things, to air. In this unit, we will discuss the matter and the interactions of matter that allow for life, starting with the smallest parts of matter.

*Direction: Use the given pages to answer each question.*

Question	Description, definition, or example
What is an atom? (p. 34)	
What is an element? (p. 35)	
Give 3 examples of elements	
What is a compound? (p. 36)	
How many atoms make up water and what are they?	
What is a polar molecule? (p. 40)	
Why do polar molecules like water attract each other? (p. 41)	
What is a hydrogen bond? (p. 41)	
What is a solution? (p. 42)	
What is a solute? (p. 42)	
What is a solvent? (p. 42)	

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

## Water Demonstration

Water makes up the majority of Earth and the majority of our bodies. It is an essential to life and yet, is such a small compound. This small compound however has such unique properties that allow for life to thrive on Earth.

### Materials

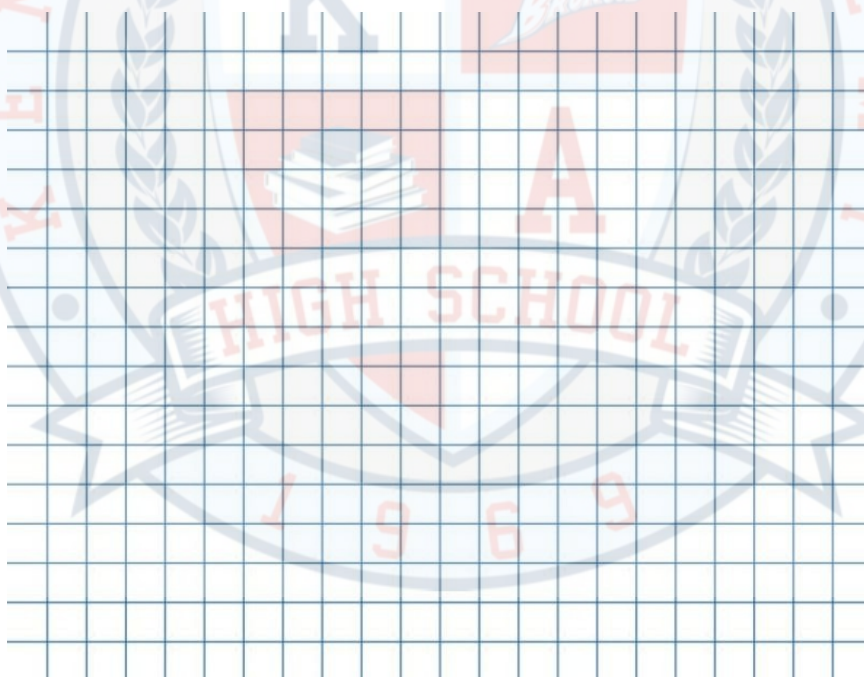
- 1 penny
- 2 droppers
- Cup of water
- Cup of soapy water
- Paper towels

### Procedure

1. Using a dropper, drop water onto a dry penny one at a time, until any water spills over the edge.
2. Record the number of drops for that trial.
3. Repeat steps 1 – 2 two more times.
4. Repeat steps 1 – 3 for soapy water.

Condition	Trial 1	Trial 2	Trial 3	Average
Water				
Soapy Water				

*Directions: Create a graph based on the average number of drops of water and soapy water.*



### Analysis Questions

1. How many more drops of water on average were you able to fit on the penny than soapy water?  
\_\_\_\_\_  
\_\_\_\_\_
2. Why were you able to fit more drops of water on the penny than the soapy water? Use the terms *polar (or polarity)* and *hydrogen bond* in your answer.  
\_\_\_\_\_  
\_\_\_\_\_