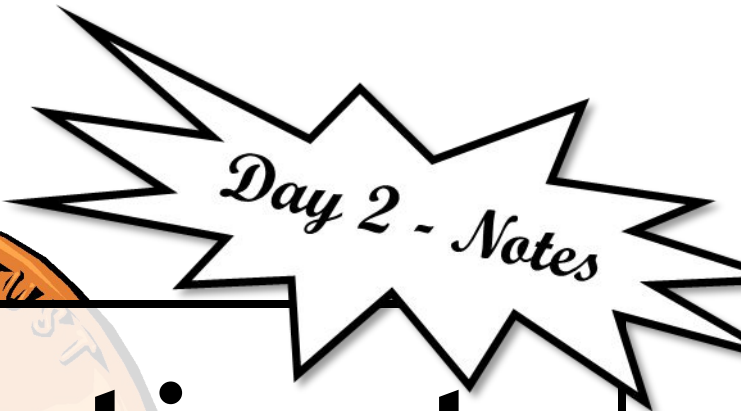


Grade 11 NTI Day #6 Chemistry

Please do the following:

- (1) Watch this youtube video:  
<https://www.youtube.com/watch?v=3lxM7KW3jV4&list=PL5wpmHJhOEi-i3V7JYsWcWp0hLqybi5Kt&index=4&t=5s>
- (2) Review the slidedeck/presentation (see below). It will match the video presentation above.
- (3) Complete the question sheet below the slidedeck at the end of this document.

If you have any questions, please email me: [tyler.hampton@pineville.kyschools.us](mailto:tyler.hampton@pineville.kyschools.us) . This assignment is on Google Classroom. **Please turn it in through Google Classroom.** While you are there, make sure to sign the sign-in sheet. The assignment is also on the school homepage <https://www.pineville.kyschools.us/>. Go to the tab that says, "NTI". Then go to the appropriate day. **However, please turn in the assignment through Google Classroom, even if you access it through the school website.**



Day 2 - Notes



# Unit: Introduction to Chemistry

## *Classification of Matter*

# After today, you should be able to:

- Differentiate between mass and weight
- Compare and contrast the properties of the states of matter
- Classify matter into categories including: pure substances and mixtures
- Explain the difference between homogeneous and heterogeneous mixtures

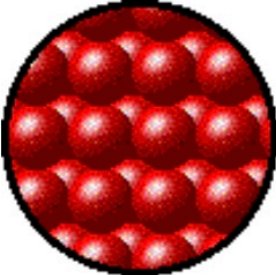

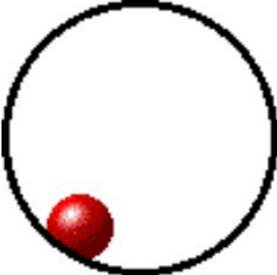
# Chemistry:

The study of *matter* and the *changes* it undergoes.

# Some terms you've seen before...

- **Matter**: anything that has mass and volume (EVERYTHING!)
- **Mass**: the amount of matter in an object (How much “stuff”)
- **Energy**: Anything that can do work or produce heat.
- **Weight**: The force of gravity acting on an object's mass.

# Review: Solids, Liquids, and Gases

SOLID	LIQUID	GAS
<ul style="list-style-type: none"><li>• Definite shape</li><li>• Definite volume</li><li>• Not compressible</li><li>• High density</li></ul> 	<ul style="list-style-type: none"><li>• Indefinite shape</li><li>• Definite volume</li><li>• Not compressible</li><li>• Less dense than solids</li></ul> 	<ul style="list-style-type: none"><li>• Indefinite shape</li><li>• Indefinite volume</li><li>• Are compressible</li><li>• Very low density</li></ul> 

There are two major areas that matter are classified into:  
*pure substances and mixtures.*



# Pure Substances

- Have uniform and definite composition
  - Elements: found on the Periodic Table (approx. 118)
    - Described by symbols: H, He, etc.
  - Compounds: formed when elements chemically combine:  $\text{H}_2\text{O}$ ,  $\text{CO}_2$ ,  $\text{NO}_2$

# Mixtures

- Two or more pure substances physically mixed together.
  - In compounds, the elements are *bonded* to each other
  - In mixtures, the substances are *blended*
  - No definite composition - cannot assign a fixed ratio (ex: H<sub>2</sub>O)

# Two Types of Mixtures:

- Heterogeneous mixtures: does not have a uniform composition
  - Parts of the mixture can be physically seen and “picked out” of the mixture
  - Examples: Cereal, pizza, salad

- **Homogeneous mixtures:** has a uniform composition
  - Parts of the mixture cannot be “picked out”
  - Examples: sugar water, milk



# Questions?

*Complete an exit ticket!*

## Day #6 Questions

### Multiple-Choice Questions

1. Which of the following is a characteristic of a pure substance?
  - a) It has a non-uniform composition
  - b) It is always a homogeneous mixture
  - c) It has a uniform and definite composition
  - d) It contains physically blended substances
  
2. What distinguishes a heterogeneous mixture from a homogeneous mixture?
  - a) A heterogeneous mixture has a definite composition, while a homogeneous mixture does not.
  - b) Parts of a heterogeneous mixture can be physically seen and separated, unlike a homogeneous mixture.
  - c) Homogeneous mixtures contain multiple pure substances, while heterogeneous mixtures do not.
  - d) Homogeneous mixtures are only liquids, while heterogeneous mixtures are only solids.
  
3. Which of the following is an example of a homogeneous mixture?
  - a) Pizza
  - b) Cereal
  - c) Sugar water
  - d) Salad

### Short Answer Question

4. Explain the difference between a compound and a mixture. Provide one example of each.