

Chem 4.1

Goals:

- Discuss mixtures and how we determine amounts of substances
- Distinguish between elements and compounds
- Compare and contrast metals to non-metals

Bellwork:

- 1) If I had a clear liquid, how could I test whether it is a pure substance or a mixture?
- 2) Is the water you drink a pure substance or a mixture? Explain.

Discussion: water quality

- Flint Michigan: quantitative amount of a substance can be more critical than just the presence of it
- How do we determine what is "safe"? (LD-50 tests)

Distinguish between elements and compounds

- How do we know it is a compound and not a mixture?
 - Physical vs chemical separation
 - Examples of formation or degradation of compounds
- Diatomic elements, identifying which ones are most likely to pair

Metals vs nonmetals

- Describe qualities of metals (conductivity, malleability, appearance, etc.) and nonmetals
- Where metalloids fit in

Kahoot: element, compound or mixture

HW: Quizlet vocabulary: find definitions for any terms that are still unfamiliar

Chem 4.2

Goals:

- Compare and contrast chemical and physical changes to matter
- Formulate whether changes of state are chemical or physical

Bellwork:

- 1) When you eat a baked potato, what steps are involved from the plate to your intestines?
- 2) In what ways do we physically change it? Do chemical changes come in

Physical vs chemical:

- Which parts of eating are physical? Which are chemical?
- What signs are there that a chemical reaction is happening?
 - Heat
 - Change of composition
 - Different molecules
 - Release of a gas
 - Color change
- Videos: describe each as a physical or chemical change
 - Fire
 - Sharpening an object
 - Crushing
 - Change in color and texture

HW: Prelab: chemical and physical changes

Chem 4.3

Goals:

- To explore chemical and physical changes
- Identify possible patterns in chemical or physical changes

Bellwork:

Prelab: identify any hazards or practices that need our attention. When using a flame, what precautions should be taken?

Discussion: Pre-lab safety and stations

Lab: Chemical and physical changes (see lab)

Clean-up and post lab discussion

HW: Post lab questions and discussion