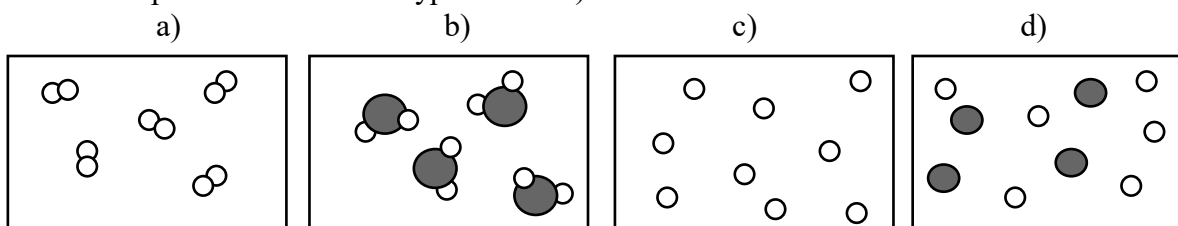


Chapter 2 Study Questions

- Define the following:
 - element
 - compound
 - pure substance
- Classify each of the following as a pure substance or a mixture. For each pure substance, indicate whether it is an element or a compound. Which of the mixtures are solutions?
 - air
 - titanium
 - oak
 - baking soda
 - oxygen
 - 7-Up
 - wine
 - carbon monoxide
- Label each of the following drawings as element, compound, or mixture: (Assume each type of circle represents a different type of atom.)



Which of the boxes above contain molecules?

- List four physical states of matter. For each physical state, indicate whether the particles are in motion and whether they are close or far apart.
- List one chemical and one physical property of the element chlorine. (You may use your textbook.)
- Describe three observations that frequently accompany chemical reactions and explain why they might indicate that a chemical reaction is occurring.
- Classify each of the following processes as physical or chemical changes.
 - combustion of natural gas
 - evaporation of alcohol
 - condensation of water vapor
 - photosynthesis
 - splitting of carbon dioxide into carbon and oxygen
 - formation of sodium chloride (NaCl) from its elements
 - distillation of a sodium chloride solution to collect pure water
- Record one a) qualitative and one b) quantitative observation about this page. State a theory about this page.

9. Give the name of the following types of containers:

a)



b)



c)



d)



Summary of Chapter 2: Matter and Energy

matter

physical states: solid, liquid, gas

physical & chemical properties

physical & chemical changes

elements

compounds

atoms

molecules

pure substances

homogenous and heterogenous mixtures

solutions

separation of mixtures: distillation, filtration, chromatography