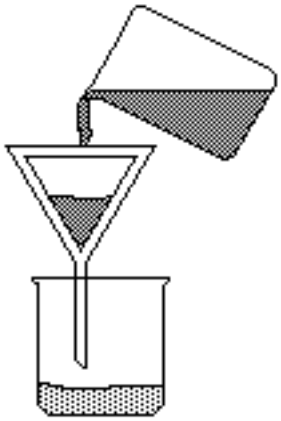
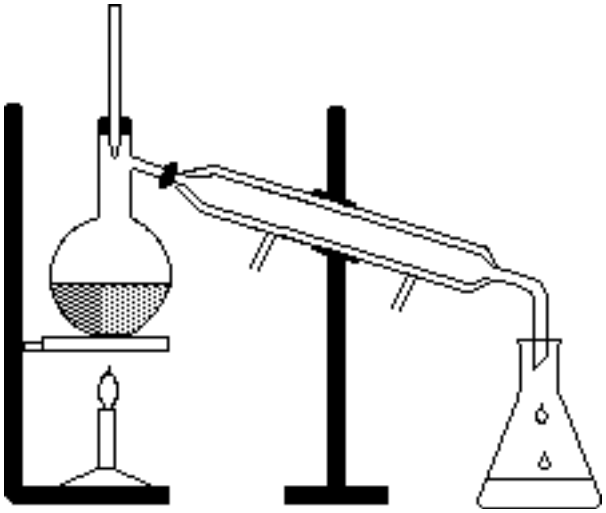
Name _____

Date _____ **Pd** ____

Chemistry – Unit 4 Worksheet 1

1. Identify the separation techniques pictured below. Which technique would be useful to separate a mixture of sand and salt? Of salt and water?





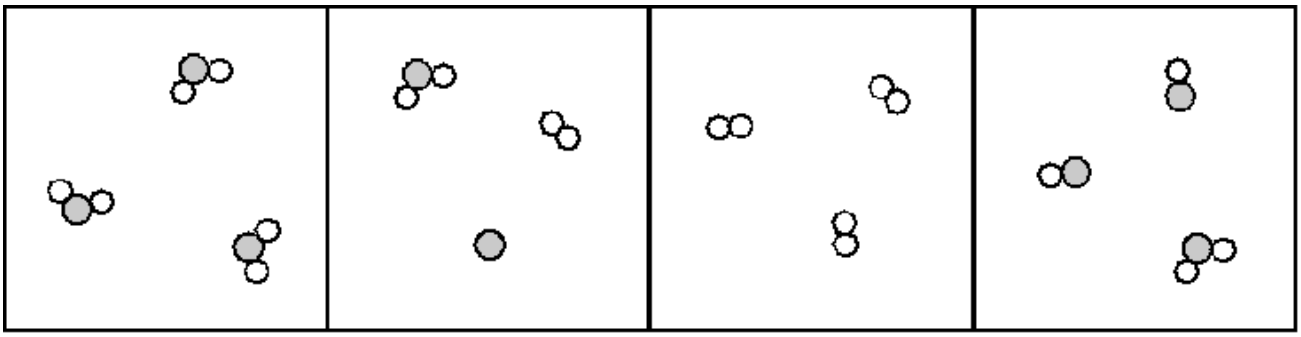
2. Explain why the technique at left would not be effective in separating a mixture of salt and sugar.

3. Draw particle representations for the following:

A mixture of iron and sulfur	A compound of iron and sulfur

4. Explain why a magnet can separate iron atoms from the mixture but not from the compound.

5. Consider the four containers below:

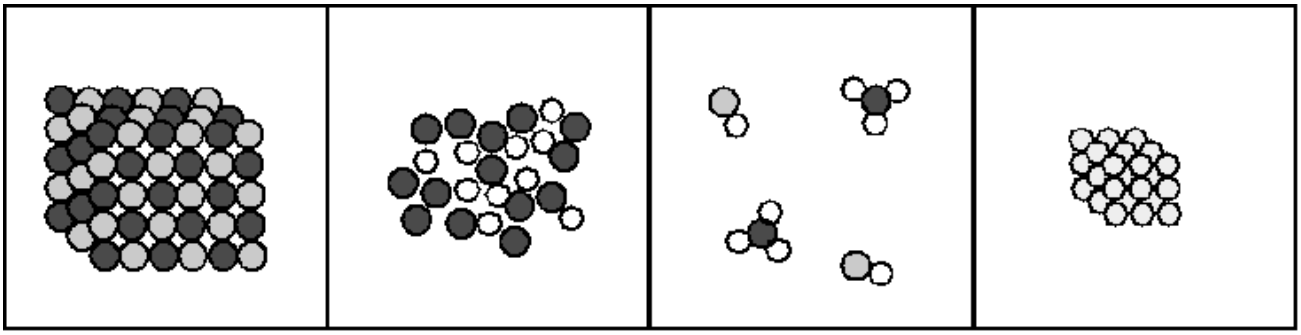


A B C D

a. Which of these are mixtures? _____ pure substances? _____

b. Which contain only compounds? _____ only elements _____

6. Consider the four containers below.

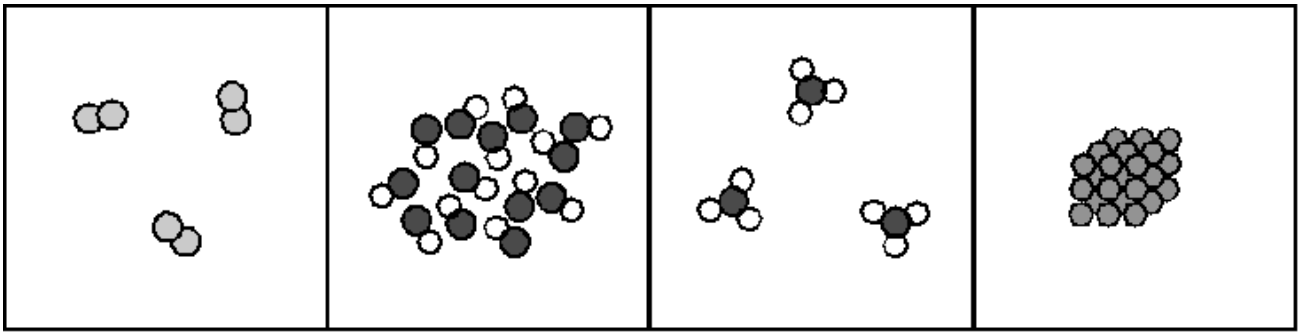


A B C D

a. Which of these are mixtures? _____ pure substances? _____

b. Which contain only compounds? _____ only elements _____

7. Consider the four containers below.



A B C D

a. Which of these are mixtures? _____ pure substances? _____

b. Which contain only compounds? _____ only elements _____

8. Which of the containers in #7 contain a gas? _____ a liquid _ a solid

9. Classify the following as physical or chemical changes. Justify your response, using a particle diagram to help you if necessary.

   *See Ch. 3, Sec. 3.1 & 3.2 for review. Work problem number 18 on pg 75 for more practice if needed.

   a) Mothballs gradually vaporize in a closet.

   b) Baking soda fizzes if mixed with vinegar.

   c) Calcium chloride dissolves in water and lowers the temperature at which water freezes, and can be used to melt ice on city sidewalks and roadways.

   d) Chemistry majors usually get holes in the cotton jeans they wear to lab because of the acids used in many experiments.

   e) Rubbing alcohol evaporates quickly from the skin.

   f) Acetone is used to dissolve and remove nail polish.

☆Great Web Resources:

http://www.chem.purdue.edu/gchelp/atoms/elements.html

http://www.iun.edu/~cpanhd/C101webnotes/matter-and-energy/elscmpdsmxts.html