Bell Work, May 5 – May 8 , 2014

Modeling Units 4 & 6

Bell Work, Monday, 5/5/14 (6 ques)

1. A sample of water in a pan is brought to a boil. Which of the following is true?

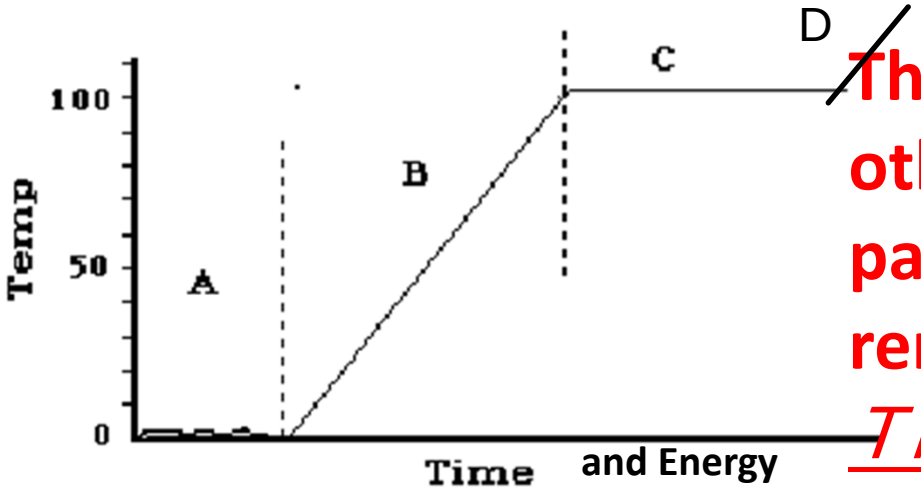
a. The temperature of the boiling water gradually increases.

b. The liquid water immediately flashes into gaseous water.

c. The temperature of the boiling water remains constant.

d. The liquid water begins to break down into *hydrogen* and oxygen gases.

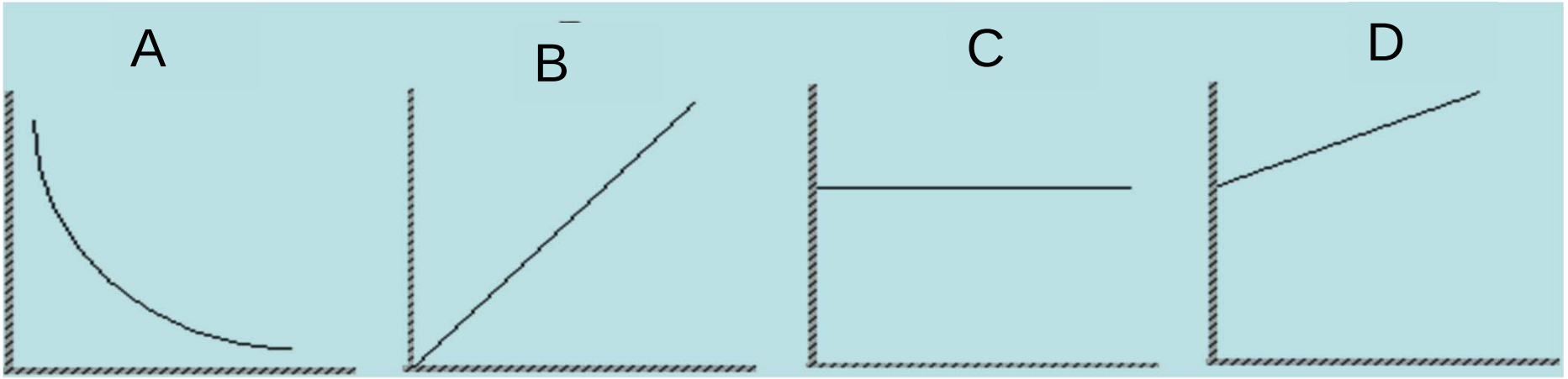
2. Describe the new feature of our model of matter.



The particles have attractions for each other. Energy must be added to get the particles to separate and if energy is removed the particles come together.

The particles are sticky.

Bell Work, Bell Work, Monday, 5/5/14



3. Which graph represents the relationship between the pressure of a gas and its volume? A B C D

4. Which graph represents the relationship between the volume of a gas and the Celsius temperature?

A B C D

5. Which graph represents the relationship between the volume of a gas and the Kelvin (absolute) temperature?

A B C D

6. Which graph represents the relationship between the pressure of a gas and the number of particles? A B C D

Bell Work, Tuesday, May 6, 2014 (8 ques)

1. A material that has a definite ratio and can be represented by a chemical formula is (4)

a. an element.
c. a homogeneous solution.
b. a mixture.
d. a pure substance.

2. Name the two types of pure substances.

Elements and compounds.

3. **Chemically combined substances always have**

A definite composition or ratio. Example $H_2 + O_2 \rightarrow H_2O$

4. **A substance that is made of at least two different types of atoms or elements and is chemically combined is a** (38)

Compound.

5. A substance made from only one type of atom is

An element

6. The substances that make up a mixture **retain their properties and do not chemically combine.**

Bell Work, Tuesday, Apr 30, 2013

7. When sample X is passed through a filter paper, a white powder, Y, remains on the paper and a clear liquid, Z, passes through. When liquid Z is vaporized (all liquid is boiled off) another white powder remains. Sample X is best classified as

a. a mixture

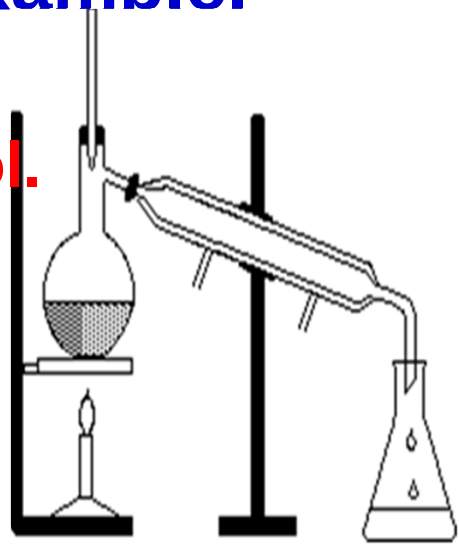
c. a compound

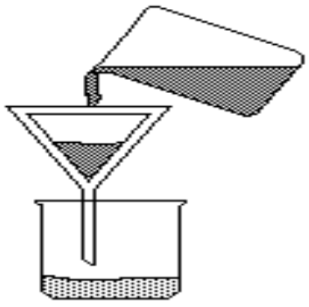
b. a gas

d. an element

8. See Unit 4 worksheet one. What is the name of these two processes? What is it used for. Give an example.

The process on the right is distillation. It is used to separate mixtures of liquids such as water & alcohol.





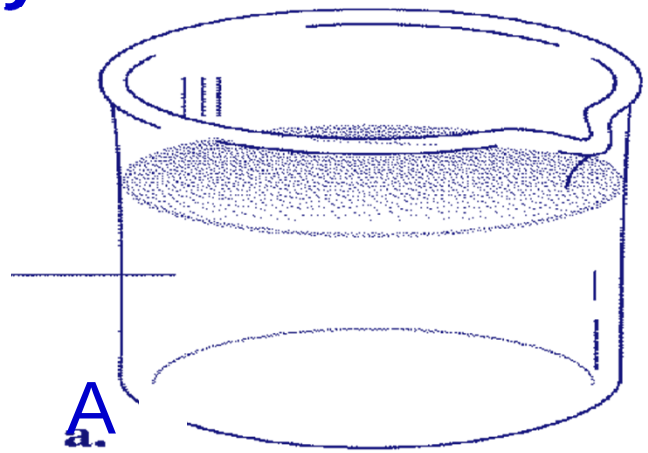
The process on the left is called filtration & is used to separate a solid from a liquid.
Example: salt & water.

Wednesday, May 7, 2014

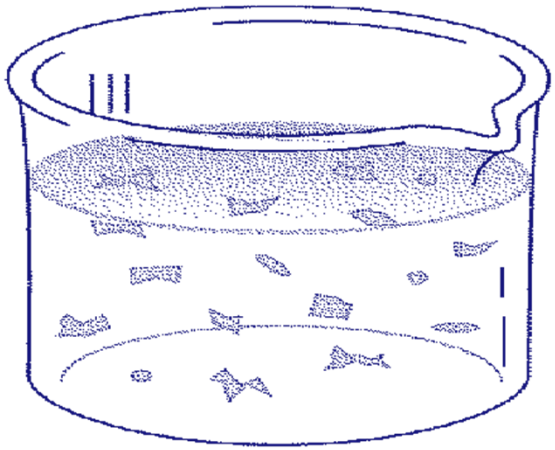
Draw the beakers.

1. **Identify the homogeneous mixture(s)**
2. **Identify the heterogeneous mixture(s)**
3. **Identify which beaker is not a mixture?**

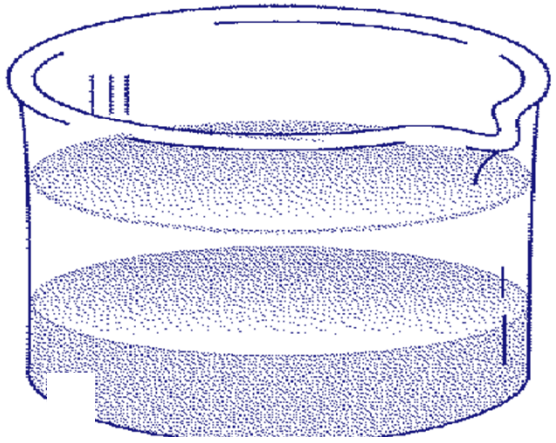
Salt water solution



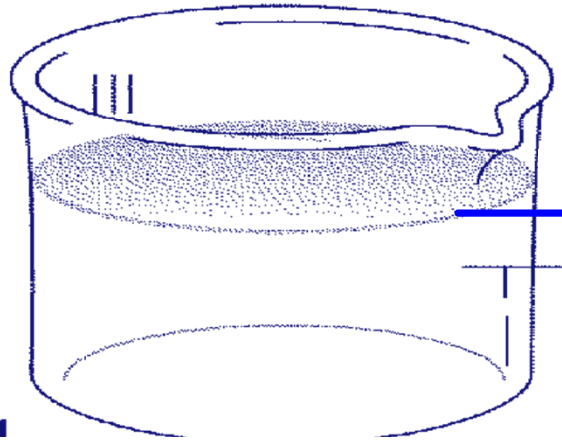
A



B



C

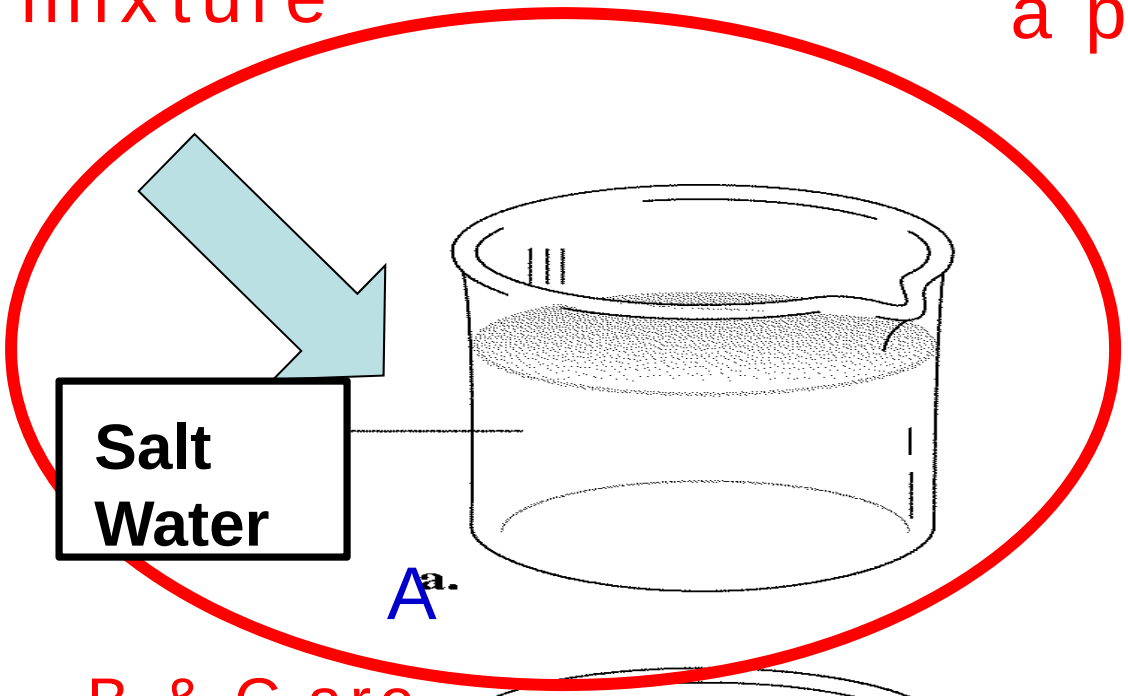


D

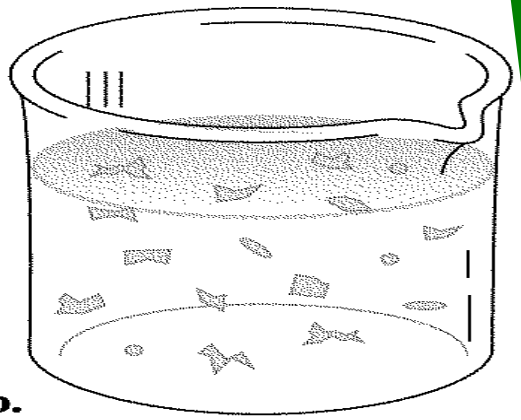
Wednesday, May 7, 2014

1. A is Homogeneous mixture

3. D: Not a mixture (it is a pure substance)

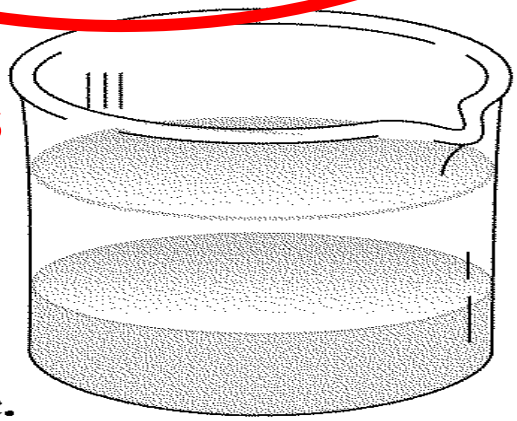


A

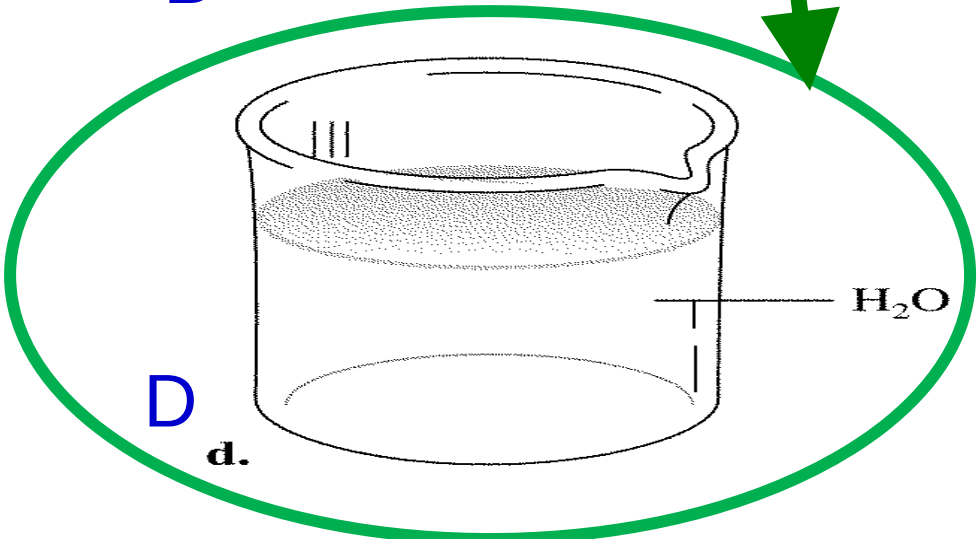


B

2. B & C are heterogeneous



C



D

Wednesday, May 7, 2014

4. This substance consists of two or more elements in a fixed mass ratio.

a. compound
c. element
b. pure substance
d. mixture

5. The composition of this substance is variable; its physical properties depend on the composition.

a. pure substance
c. compound
b. element
d. mixture

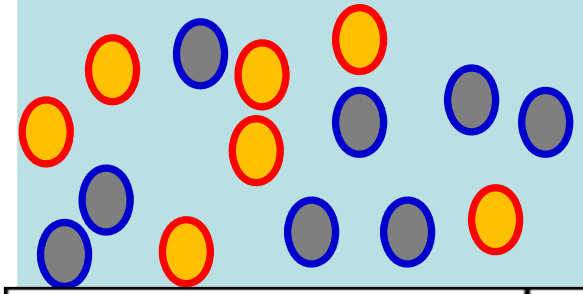
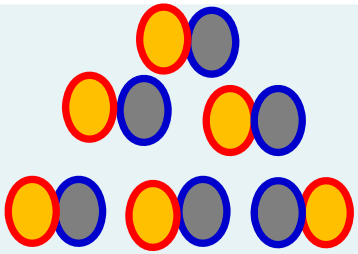
6. Explain why a magnet can separate iron atoms from the mixture but not from the compound.

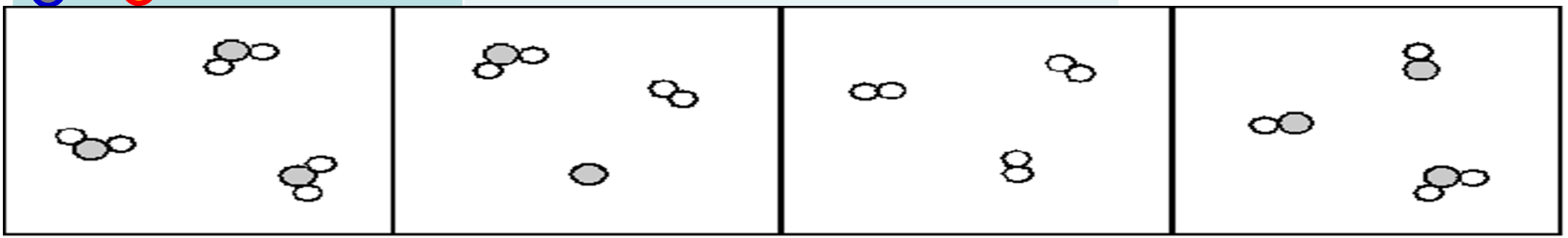
Iron atoms still retain their magnetic property in the mixture, but not when compounded with sulfur atoms because

- **the elements that make up a compound have different properties than the compound that is produced.**

Thursday, May 8, 2014

1. Draw particle representations for the following:

A mixture of iron and sulfur	A compound of iron and sulfur (FeS) in a 1:1 ratio
	



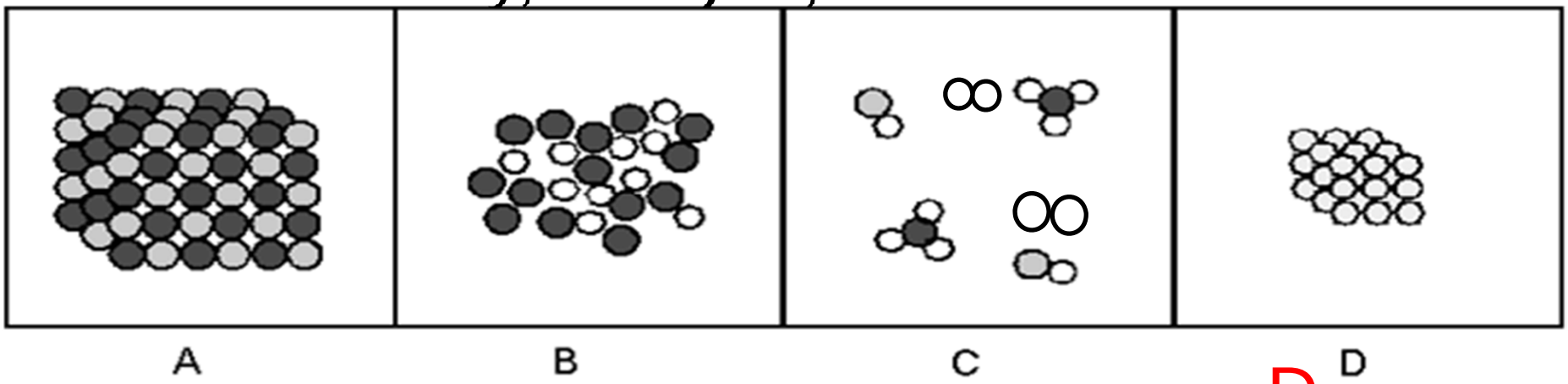
2. Which of these from Unit 4 worksheet 1, #5, are

a. mixtures? B & D b. pure substances? A & C

c. Which contain only compounds? A & D

d. Which contain only elements? C

Thursday, May 8, 2014



3. **Which of the above is pure metal (element)?** D
4. **Which of the above is a mixture of molecules?** B, C
5. **Which is a pure compound?** A
6. **Which is a mixture of elements & compounds?** B, C
7. **A substance that cannot be broken down into simpler substances is a(n)**

a. atom. c. compound.
b. element. d. mixture.

8. **An atom** the smallest unit of matter that maintains its chemical properties and physical properties.