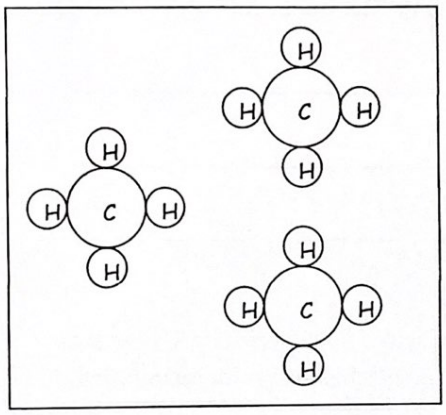
Elements, Compounds and Mixtures

1. Fill in the missing words in the definitions below.

Missing words: **elements, different, one, joined, atom, type, two**

- An **element** consists of _____ _____ of _____.
- A **compound** contains _____ or more _____ _____ joined together.
- A **mixture** contains two or more _____, but they are not chemically _____.

2. Using the definitions, decide whether the following diagrams represent an element, a compound, or a mixture. Explain your choice.



a) This diagram shows particles in

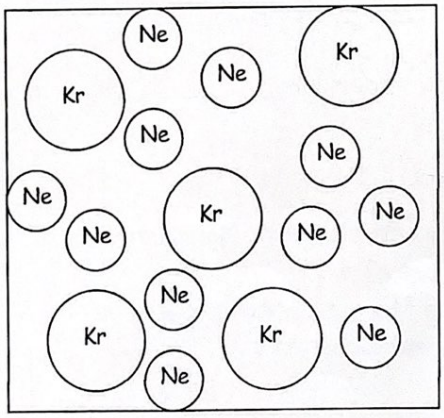
_____.

I think this because:

_____

_____

_____



b) This diagram shows particles in

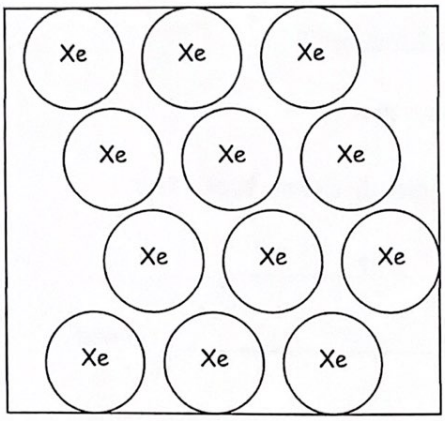
_____.

I think this because:

_____

_____

_____



c) This diagram shows particles in

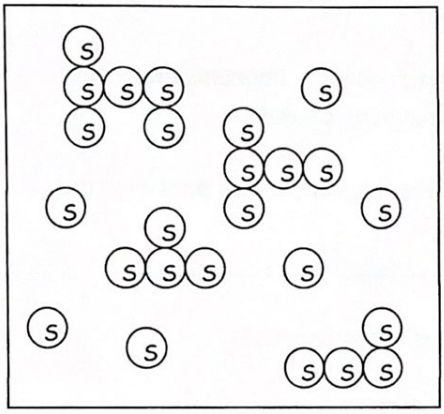
_____.

I think this because:

_____

_____

_____



d) This diagram shows particles in

_____.

I think this because:

_____

_____

_____

3. According to our definition above, H_2O (water) is a compound. However, it is sometimes called a **molecule**. O_2 (oxygen gas) is also a **molecule**. Can you think of a way to define a **molecule**?

A _____ consists of _____ or more _____ chemically

_____ together. These _____ can be of the same _____ or

different elements.

4. There are around 100 different elements. How many compounds do you think there are?
(Hint: think about how many different combinations you could make with just 3 different elements.)