

Pre-Comp Review Part 1

1. Give a brief definition or description for each of the following:

- Element –
- Compound –
- Homogeneous mixture –
- Heterogeneous mixture –
- Solution –
- Solute –
- Solvent –
- Suspension –

2. Give one example of each of the following:

- Element –
- Compound –
- Mixture –
- Solution –
- Suspension –

3a) What is filtration?

b) What kind of mixture can be separated using filtration?

4a) What is distillation?

b) What kind of mixture can be separated using distillation?

5a) What is chromatography?

b) What kind of mixture can be separated using chromatography?

6. In the boxes below, draw particle diagrams for the indicated substances. All substances should be in the gas phase.

A) A mixture of H ₂ and O ₂	B) Pure H ₂ O	C) Pure H ₂

7. Complete the chart below:

	Solid	Liquid	Gas
Shape and Volume Properties			
Movement of Particles			
Arrangement of Particles			
Is it Compressible?			

8. In the boxes below, draw particle diagrams showing what helium, He, would look like in each state of matter:

A) solid He	B) liquid He	C) gas He

9. Circle the properties below that could help someone identify an unknown substance:

Mass

Density

Solubility

Conductivity

Boiling Point

Volume

Color

Temperature

Melting Point

10a) Define endothermic.

b) Give an example of an endothermic process.

11a) Define exothermic.

b) Give an example of an exothermic process.

12. Summarize the reactivities and properties of each group below.

- Alkali metals -
- Alkaline earth metals -
- Halogens -
- Noble gases -
- Transition metals -
- Lanthanides and actinides -

13. List four general properties of nonmetals.

14. List four general properties of metalloids.

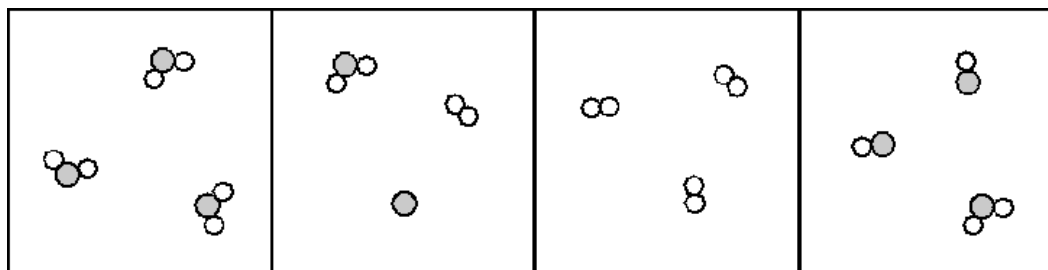
15. Calculate the number of valence and core electrons in:

a) Iodine

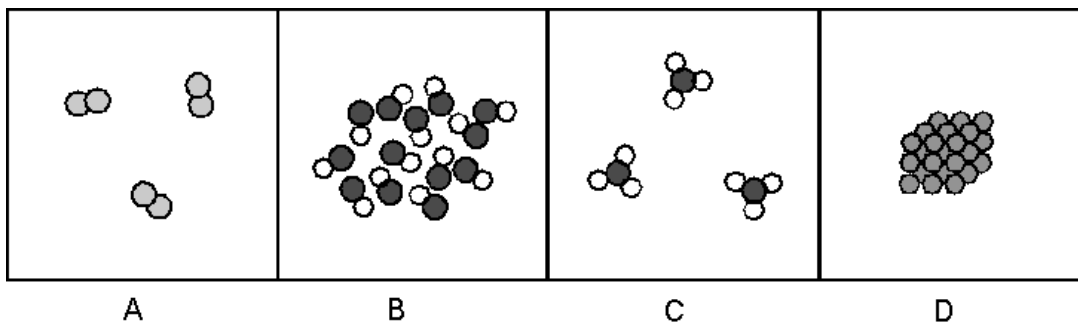
b) Phosphorous

c) Boron

16. Identify each box as a mixture, compound, or element:



17. Answer the questions that follow about the diagrams below:



- a) Which of the diagram(s) represent a gas? _____
- b) Which of the diagram(s) represent a liquid? _____
- c) Which of the diagram(s) represent a solid? _____
- d) Which of the diagrams represent elements? _____
- e) Which of the diagrams represent compounds? _____
- f) Which of the diagrams represent pure substances? _____