Chem 11 **Matter Review Package**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hebden: Unit III

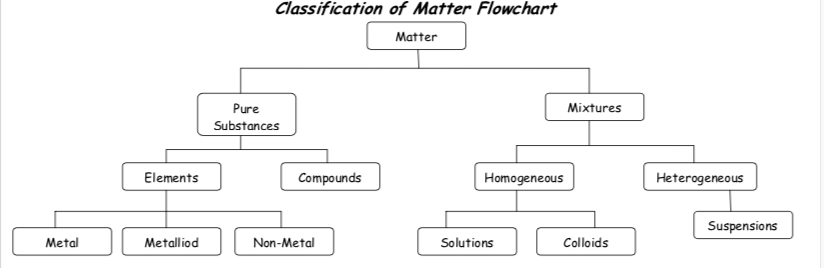
**UNIT III: MATTER**

*In addition to these questions, make sure to look at the definitions and examples in your notes.*

1. A mixture (**is / is not**) composed of two or more substances.
2. **True or False**: An element can be broken down into a simpler substance.
3. From the following list, circle the ones that are elements:

silver  
water  
oxygen  
air  
carbon dioxide  
hydrogen  
gold  
sulphur  
alcohol  
carbon  
sugar  
magnesium  
chromium  
nitrogen  
salt  
nickel

1. Draw the classification of matter flow chart. Be sure to include the following: **matter, suspensions, compounds, mixtures, pure substances, elements, solutions,** and **mechanical mixtures**. Write a characteristic below each word. Give examples of the two kinds of pure substances and the three kinds of mixtures.



1. Classify the following as pure substances or **mixtures.**

**air** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
mercury \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
**gasoline** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
sugar \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
oxygen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
gold \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
**salt water** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Classify the following as heterogenous or as **homogeneous** (assume they are all mixtures).

**salt water** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
**aluminum foil** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  
**tap water** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
tossed salad \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
unfiltered air\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
an apple \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
iron with rust \_\_\_\_\_\_\_\_\_\_\_\_\_\_  
wood \_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. a) Explain the principles behind how solvent extraction works.

2 solutions that aren’t soluble in each other separate through gravity

The solvent extraction apparatus allows the denser liquid to be separated through a funnel with a lever. This is not a very accurate separation tool.

b) Explain the principles behind how distillation works.  
A solution is separated from a mixture using the intrinsic physical property *BOILING POINT*. One liquid evaporates at a lower temp than the other (first) and is then captured/ collected in the distillation apparatus.

1. Classify the following properties of matter as physical or chemical.

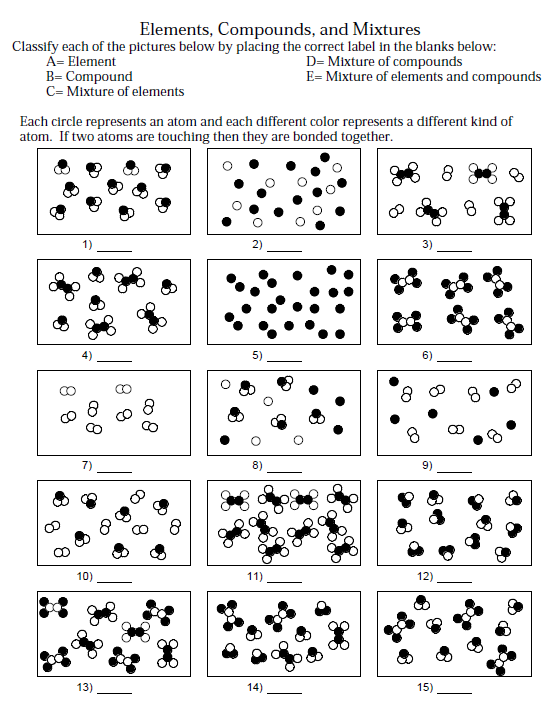
Colour \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Density \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Burns easily (flammable) \_\_\_\_\_\_\_\_\_\_\_  
Boils at 450°C \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Melts at 145°C \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dissolves in water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

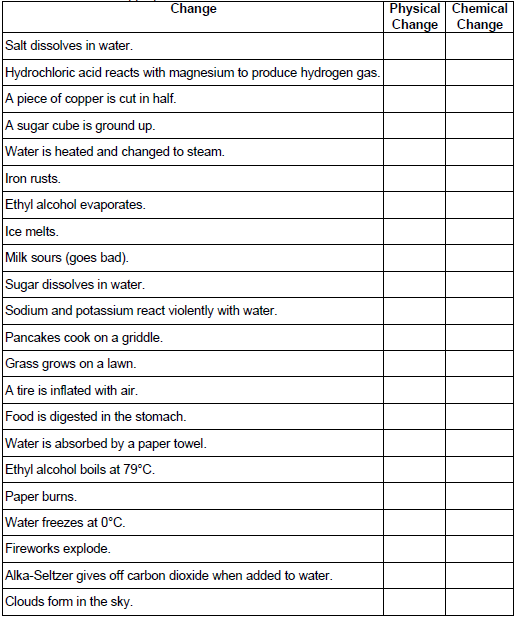
1. Classify the following as an intensive property (**I**) or an extensive property (**E**).

Mass \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Density \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Melting Point \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Colour \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Volume \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Length \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Answer the questions below.



1. Fill in the table below by checking the appropriate column.



1. Draw a heating curve for both a pure substance~~.~~ Be sure to include the following:
   1. x and y axis titles
   2. solid, liquid and gas states
   3. melting/freezing/recrystallization point
   4. evaporation/condensation/ boiling points

**Heating Curve of a Pure Substance**



****

