**District Assessment Review**

**CLS 1 – Matter**1. Fill in the following classification of matter diagram.

Mixture

2 or more substance in the same place; the substances keep their own properties

Pure Substance

Consists of only 1 type of substance

Element

Only 1 type of atom; bonded or unbonded

Compound

2 or more different atoms bonded to make a new substance with new properties

Heterogeneous

A mixture that is different throughout the sample

Homogeneous

A mixture that is the same throughout the sample

2. A \_\_\_\_\_\_\_\_physical\_\_\_\_\_\_ change is when a substance changes form, shape, or   
 phase but its identity remains the same.   
 Give two examples of this type of change:  
 1) \_\_\_\_\_\_\_freezing\_\_\_\_\_\_\_\_\_ 2) \_\_\_\_\_\_dissolving\_\_\_\_\_\_\_\_\_  
  
3. A \_\_\_\_\_\_chemical\_\_\_\_\_\_\_\_ change is when a substance changes identity from one   
 substance to another. A new substance forms with new properties.  
 Give two examples of this type of change:  
 1) \_\_\_\_\_\_\_burning\_\_\_\_\_\_\_\_\_\_ 2) \_\_\_\_\_\_\_rusting\_\_\_\_\_\_\_\_\_\_

**CLS 2 – Atomic Theory & Periodic Table**1. Identify the following elements:  
 a. The alkali metal in the 2nd period. \_\_\_\_\_\_\_Li\_\_\_\_\_\_\_\_\_\_  
 b. The alkaline earth metal in the 4th period. \_\_\_\_\_\_\_Ca\_\_\_\_\_\_\_\_\_\_  
 c. The halogen in the 5th period. \_\_\_\_\_\_\_I\_\_\_\_\_\_\_\_\_\_\_

d. The noble gas in the 1st period. \_\_\_\_\_\_\_He\_\_\_\_\_\_\_\_\_\_

2. Determine the number of protons, neutrons, and electrons for the following ions:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Symbol | Atomic # | Mass # | # of   protons | # of  neutrons | # of  electrons |
| Ca+2 | 20 | 40 | 20 | 20 | 18 |
| Cl-1 | 17 | 35 | 17 | 18 | 18 |
| Na+1 | 11 | 23 | 11 | 12 | 10 |

3. Circle all of the following that represent different isotopes of the SAME atom:  
  
           
4. What is an isotope?  
 Atoms of the same element that have different numbers of neutrons.

|  |  |  |  |
| --- | --- | --- | --- |
| Particle | Mass (amu) | Charge | Location |
| Proton | 1 | +1 | nucleus |
| Neutron | 1 | 0 | nucleus |
| Electron | 0 | -1 | outside nucleus |

5. Fill in the following chart:

6. Which elements are shiny, good conductors of heat and electricity, malleable,   
 and ductile? \_\_\_\_\_metals\_\_\_\_\_\_\_\_  
  
7. Which elements are dull, brittle, and not good conductors of heat and electricity?  
 \_\_\_\_\_nonmetals\_\_\_\_\_\_\_\_\_\_

8. Which elements have some characteristics from each of questions #6 and #7?  
 \_\_\_\_\_metalloids\_\_\_\_\_\_\_\_\_\_  
  
9. Put the following elements in order of lowest ionization energy to highest:  
 Ba S Mg Ba < Mg < S

10. Put the following elements in order of largest atomic radius smallest:  
 F K B K > B > F  
  
11. Put the following elements in order of lowest electronegativity to highest:  
 O Na Al Na < Al < O

**CLS 8 – Energy**  
1. On the graph below, label where **solid, liquid, and gas** phases exist.   
 Also identify the phase changes **melting and boiling.**  
  
  
  
  
 Temp  
  
  
  
  
  
 Energy  
  
  
2. An endothermic reaction is one where the system \_\_\_\_\_\_\_absorbs\_\_\_\_\_\_ energy.  
  
3. An \_\_\_exothermic\_\_\_\_\_ reaction is one where the system releases energy.   
  
4. Draw a graph to represent an endothermic reaction and an exothermic reaction.  
  
 Endothermic Exothermic  
  
  
  
Energy Energy  
   
  
   
  
 Reaction Time Reaction Time

Boiling

Gas

Liquid

Solid

Melting