Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_ Ast: \_\_\_\_\_

**CLASSIFYING MATTER STUDY GUIDE**

**Physical Science Honors**

Respond to the following prompts on your own sheet of notebook paper:

1. **TYPES OF MATTER**
2. Why do we say that “everything” is made of “matter”? What role do atoms play?
3. Identify the three types of matter.
4. Compare the three types of matter. (How are they similar? How are they different?)
5. Identify the following examples as one of the three types of matter:
   1. Beach Sand (*a collection of small particles of various kinds of rock & sediment*)
   2. Ocean Water (*a solution of H2O and NaCl [aka: saltwater]*)
   3. Limestone Rock (*a rock made of calcium carbonate [*CaCO3*]*)
   4. Aluminum Can (*an object made of Aluminum [*Al*]*)
   5. Spring Water (*a liquid consisting of* H2O)
   6. Steel Boat (*a solid object consisting mostly of iron* *[*Fe*], carbon [*C*], and other metals*)
6. **PROPERTIES OF MATTER**
7. How are the physical properties of a substance observed?
8. Describe the following physical properties:
   1. Conductivity (thermal or electrical)
   2. Solubility
   3. Magnetism
   4. Melting Point & Boiling Point
9. Which of the properties above do NOT depend on the amount of the sample (how much of the substance you are observing)?
10. How are chemical properties of substances observed?
11. Describe the following chemical properties:
    1. Flammability
    2. Reactivity
12. **STATES OF MATTER**
13. Explain how the motion of the particles in a substance influences the state/phase of matter.
14. Compare the characteristics of shape and volume among solids, liquids, gasses and plasmas.
15. Draw a diagram that illustrates the motion of the particles in a solid, liquid, gas, and plasma; as well as the relative shape and volume of each state. Indicate the role of energy in determining the phases.
16. How can you use the term, “viscosity,” to describe a liquid?