**Bill Nye – Phases of Matter** - answers

1. All the stuff in the universe is made up of \_\_\_\_matter\_\_\_\_\_\_\_\_\_\_\_
2. Matter comes in 3 basic forms called \_\_solid\_, \_\_liquid\_\_\_&\_\_gas\_\_\_\_\_
3. In terms of energy, what is the difference between solid and molten (liquid) steel?

In solid steel the particles have less energy and are moving slower than in liquid steel.

1. In what phase do we buy gasoline? \_\_\_\_\_liquid\_\_\_\_\_\_\_\_\_
2. In what phase is gasoline when it is burned in a car motor? \_\_\_\_\_gas\_\_\_\_
3. What does it take to make things change phase? \_\_\_\_\_energy (heat)\_\_
4. Describe how energy must change in order to make the following phase changes.

Liquid 🡪 gas \_\_\_energy is added\_\_\_\_\_ Liquid 🡪 solid \_\_\_energy is taken away\_\_\_\_

1. Where does the energy from the inside of the “stainless steel freezer of science” go? The heat must go someplace. \_\_\_\_the energy goes outside of the freezer\_\_

9. What does the heat from the room do to liquid nitrogen molecules?

The heat makes the molecules move faster and turn into a gas.

10. Compare the relative speeds of the molecules of solids, liquids and gases.

Solids \_\_\_slowest\_\_ Liquids \_\_medium\_ Gases \_\_fastest\_

11. When you “see” your breath, what phase of matter is the water in? \_\_gas\_

12. 3 things that are not in a single phase of matter are:

Liquid crystals jello plasma

13. Describe the relationship of the states of matter to the containers they may be placed in.

Solids \_\_\_keep their own shape\_\_\_

Liquids \_\_take the shape of the container they are in\_\_\_\_\_\_\_\_

Gases \_\_\_\_take the shape of the container they are in\_\_\_\_\_\_\_\_