



Properties of The States of Matter Video Notes

Solids

1. Why are solids usually hard? \_\_\_\_\_
2. Solids hold their \_\_\_\_\_ and don't flow like liquids. The atoms inside of a solid are not allowed to \_\_\_\_\_ around too much. Instead they just \_\_\_\_\_ in place. The molecules in a solid are \_\_\_\_\_ in a specific structure or \_\_\_\_\_ of atoms. The atoms will spin and the electrons fly around, but the entire atom will \_\_\_\_\_ position.
3. What do you call solids with more than one type of compound inside of them? \_\_\_\_\_ What are some examples of mixtures? \_\_\_\_\_

When a solid is made up of a pure substance and forms slowly, it can become a \_\_\_\_\_. The atoms in a crystal are arranged in a regular repeating pattern called a \_\_\_\_\_.

4. Even though they are both made from carbon. What makes the structure of a diamond different from the structure of graphite? \_\_\_\_\_



Cubic



Hexagonal

What do we call different structures of the same element? \_\_\_\_\_

5. What are at least three characteristics of solids? \_\_\_\_\_

### Liquids

6. Fill out the following chart at 3:20 in the video by saying yes or no for the descriptions.

	<i>Solid</i>	<i>Liquid</i>	<i>Gas</i>
<b>Definite shape</b>			
<b>Definite volume</b>			
<b>Definite mass</b>			
<b>Close particles</b>			
<b>Kinetic energy increases or decreases</b>			

7. If you have a variety of materials dissolved in a liquid, it is called a \_\_\_\_\_. Liquids will fill up the \_\_\_\_\_ container from the bottom to the top.

8. What does it mean to compress something? \_\_\_\_\_  
Why are liquids difficult to compress? \_\_\_\_\_

9. Liquids actually want to \_\_\_\_\_. How does evaporation make liquids not stick together? \_\_\_\_\_

Overall, liquids have \_\_\_\_\_ forces at work to hold the molecules together?

## Gases

10. What is the atmosphere? \_\_\_\_\_
11. Gases are really \_\_\_\_\_ out and the atoms and molecules are full of \_\_\_\_\_. They are around constantly. Gases can \_\_\_\_\_ a container of any size or shape. It doesn't matter how \_\_\_\_\_ the container is. The molecules still spread out to fill the \_\_\_\_\_ space equally.
12. What is the difference between liquids and gases? \_\_\_\_\_  
Vapor and gas mean the \_\_\_\_\_ thing. The word vapor is used to describe gases that are usually found as \_\_\_\_\_ at room temperature. \_\_\_\_\_ and \_\_\_\_\_ are two examples of 'Vapor'.
13. Gases hold huge amounts of \_\_\_\_\_, and their molecules are \_\_\_\_\_ out as much as possible. Why is it easy to compress gases? \_\_\_\_\_  
What happens when you open a can of soda as it pertains to gases? \_\_\_\_\_

## Plasma

14. Plasmas are made up of \_\_\_\_\_ and \_\_\_\_\_ of an element such as neon (Ne).
15. What are two types of naturally occurring plasmas? \_\_\_\_\_
16. How is plasma different from a gas? \_\_\_\_\_  
In neon gas, the electrons are all \_\_\_\_\_ to the nucleus. In neon plasma, the electrons are to move around the system.
17. Two examples of man made plasmas are \_\_\_\_\_ and \_\_\_\_\_.  
How do fluorescent light bulbs work (7:38)? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
18. How do neon signs work? \_\_\_\_\_  
\_\_\_\_\_
19. What causes the different colors in neon signs? \_\_\_\_\_  
\_\_\_\_\_
20. Both stars, neon signs, and compact fluorescent lights are all plasmas because they contain \_\_\_\_\_  
\_\_\_\_\_