

# Physical Science Assignment 3-1

Name \_\_\_\_\_

Class Period \_\_\_\_\_

Date \_\_\_\_\_

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Read section 3-1. Then, **based on the information in your textbook, answer the following questions :**

1. ***physical properties***

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2. List the four ***phases*** of matter?

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3. What is a ***crystal***?

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4. What are ***amorphous solids***?

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5. List four examples of ***amorphous solids*** .

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6. What is ***viscosity***?

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7. Give an example of a liquid that has a **higher** viscosity than water.

8. Explain why the basic characteristic of all gases makes it very difficult for the moon or a small planet (like Mercury) to have an atmosphere.

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9. What does Boyle's Law say?

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10. In the boxes below, draw diagrams that show the motion and spacing of particles in the **solid, liquid** and **gas** phase.

solid

liquid

gas

11. Explain why a liquid or a gas can take the shape of its container, but a solid cannot.

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12. How many collisions per second does a gas particle undergo?

13. What causes the outward pressure on a container of gas?

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14. If we squeeze 2 liters of gas into a 1 liter space, what happens to the interior gas pressure on the walls of the container?

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15. If we allow 2 liters of gas to expand into a 4 liter container, what happens to the interior gas pressure on the walls of the container?

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16. If we have 1 liter of gas in a sealed balloon at room temperature then heat the balloon and gas another 10°C, what will happen to the volume of the gas?

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17. If we have 1 liter of gas in a sealed balloon at room temperature then cool the balloon and gas to 10°C below room temperature, what will happen to the volume of the gas?

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18. Describe the fourth phase of matter (plasma).

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19. Where is most plasma located?

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20. Describe how glass is formed.

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21. In the chart below, rank the following liquids in order of highest viscosity to lowest viscosity with **10 being the highest** and **3 being the lowest**.

Name of Liquid	Viscosity Ranking
rubbing alcohol	
water	
liquid dish soap	
completely melted ice cream	
roofing tar	
ranch style salad dressing	
vegetable oil	
honey	