

Period \_\_\_\_\_

# Basics of Matter

Name \_\_\_\_\_

- List 3 ways you might know whether or not a chemical change has occurred.
- Classify the following as either intensive property, extensive property, or a chemical property  
\_\_\_\_\_ Magnesium will produce bubbles when dropped into hydrochloric acid  
\_\_\_\_\_ changes from solid to liquid at 0°C  
\_\_\_\_\_ Water can be decomposed into the elements hydrogen and oxygen by electrolysis  
\_\_\_\_\_ steam condenses at 100°C  
\_\_\_\_\_ acetylene gas is produced when water is dropped on calcium carbide  
\_\_\_\_\_ the mass of the substance is 52g  
\_\_\_\_\_ the boiling point of water is 100° Celsius  
\_\_\_\_\_ Ice melts at 0° Celsius  
\_\_\_\_\_ My pencil is 20cm in length  
\_\_\_\_\_ 1mL of water boils sooner than 1L  
\_\_\_\_\_ bromine has a red color  
\_\_\_\_\_ Sulfur smells like rotten eggs  
\_\_\_\_\_ The density of pure water is 1g/mL
- Explain the difference between a physical property and a chemical property.
- Explain why dissolving is a physical change rather than a chemical change.
- Give the correct term used of each of the following physical changes:
  - A solid changing to a liquid –
  - A gas changing to a liquid –
  - A liquid changing to a solid –
  - A liquid changing to a gas –
  - A solid changing directly into a gas –.
  - A gas changing directly to a solid –
- Explain why all state changes are physical changes.
- What, in general, is being released when a substance bubbles or fizzes? What is this a sign of?

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8. What is a precipitate?

For each of the following, in the 1<sup>st</sup> blank put "chemical" or "physical" and explain why in the 2<sup>nd</sup> blank.

9. Putting Alka-seltzer in water is a \_\_\_\_\_ change because \_\_\_\_\_.

10. Tarnished silver is a \_\_\_\_\_ change because \_\_\_\_\_.

11. Defrosting meat is a \_\_\_\_\_ change because \_\_\_\_\_.

12. Food digesting is a \_\_\_\_\_ change because \_\_\_\_\_.

13. Lighting a match is a \_\_\_\_\_ change because \_\_\_\_\_.

14. Breaking a window is a \_\_\_\_\_ change because \_\_\_\_\_.

15. Rust forming on a nail is a \_\_\_\_\_ change because \_\_\_\_\_.

16. Baking a cake is a \_\_\_\_\_ change because \_\_\_\_\_.

17. Erosion of sandstone is a \_\_\_\_\_ change because \_\_\_\_\_.

18. Subliming of dry ice is a \_\_\_\_\_ change because \_\_\_\_\_.

Please complete the table:

<b>Material</b>	<b>Pure Substance or Mixture</b>	<b>Element, Compound, Homogeneous, Heterogeneous</b>
concrete		
sugar + pure water (C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> + H <sub>2</sub> O)		
iron filings (Fe)		
limestone (CaCO <sub>3</sub> )		
orange juice (w/pulp)		
Pacific Ocean		
air inside a balloon		
aluminum (Al)		
magnesium (Mg)		
acetylene (C <sub>2</sub> H <sub>2</sub> )		
tap water in a glass		
soil		