Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Homeroom: \_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_ 4.1

**Introduction to Physical and Chemical Changes Homework (SPI.9.8)**

**Part I: Defining Physical and Chemical Changes**

1. Fill in the table below with the appropriate missing information to describe physical and chemical changes.

|  |  |  |
| --- | --- | --- |
|  | **Physical Changes** | **Chemical Changes** |
| New substance formed? |  |  |
| Is composition or identity altered? |  |  |
| Are the reversible? |  |  |
| Do their products have new properties? |  |  |
| Are chemical bonds created? |  |  |
| Do their particles change? |  |  |
| Evidence of Change |  |  |

*2. Fill in the following Venn diagram with similarities and differences between physical and chemical changes:*

**Physical Change**

**Chemical Change**

**Part II: Common Outcomes of Chemical Changes**

1. List the common outcomes of all chemical changes. (Use your notes if you need help!)

1.

2.

3.

4.

2. A campfire is a chemical change. List three pieces of evidence from the campfire (thinking about the common outcomes of chemical changes and clues that chemical changes have occurred to explain why a campfire is a chemical change.



**Part III: Classify Physical or Chemical Changes**

*Identify the following reactions by writing a C if the change is chemical and a P if it is physical.*

1. \_\_\_\_ A bowl of cereal and milk

2. \_\_\_\_ Ripping a piece of money

3. \_\_\_\_ Roasting a marshmallow

4. \_\_\_\_ Fireworks

5. \_\_\_\_ Using hot glue

6. \_\_\_\_ Mixing baking soda and vinegar

7. \_\_\_\_ Lighting a match

8. \_\_\_\_ Crushing aluminum cans

9. \_\_\_\_ Shredding paper

10.\_\_\_\_ An iron nail rusts

11. \_\_\_\_ Molding clay

12. \_\_\_\_ Cutting an egg

13. \_\_\_\_ A rotting ham

14. \_\_\_\_ Grinding rocks into sand

15. \_\_\_\_ Stirring lemonade

16. \_\_\_\_ Ice melts

17. \_\_\_\_ Burning a candle

18. \_\_\_\_ You heat a pot of water for cooking

19. \_\_\_\_ A new product is formed when two substances combine

20.\_\_\_\_ Salt and pepper are mixed

21. \_\_\_\_ Tearing a office referral form

22. \_\_\_\_ Burning a piece of paper

23. \_\_\_\_ Milk goes sour

24. \_\_\_\_ Chopping wood

25. \_\_\_\_ Digesting your food