Middle School Science Virtual Learning

Life Science

Physical and Chemical Properties of Matter

April 30, 2020

Life Science
Physical and Chemical Properties: 4/30/20

Objective/Learning Target:

I can identify the physical and chemical properties of matter

Let's Get Started

Grab a writing utensil and some paper to take notes on Matter.
Click the Video to the left to gather some information about the properties of Matter.

Let's get started!

Essential Question: **What are Properties of Matter?**

Discussion

Sounds like a complicated question! It's not if you break it down. Properties are attributes, qualities or characteristics of something. Properties are used to identify **Elements**. Properties are the characteristics of a substance which distinguishes it from another substance. In Chemistry these properties are called Physical and Chemical Properties.

DISCUSSION continued

MATTER is first classified by its Physical State - often referred to as its State of Matter. Matter is first classified as being a Solid, Liquid or Gas at room temperature. Secondly, Matter is classified by its chemical constitution or what it is made up of - an **Element** by itself, a **Compound** or a **Mixture**.
Substances have properties and/or characteristics by which we can identify and thus classify them. Two broad or wide classifications of these would include the **CHEMICAL and PHYSICAL Properties** of a particular substance.

PHYSICAL Properties can be observed or measured without changing the composition of **Matter**. PHYSICAL Properties are used to observe and describe Matter. Some examples of Physical Properties are: Color, Luster, Hardness, Odor, Conductivity, Malleability, Density, Viscosity, Freezing-Boiling-Melting Points - anything having to do with the nature of its Physical state is a Physical Property.

Discussion continued

Please Note: In a Physical Change, the substances are not altered chemically, but merely changed to another form, shape, combined or another phase such a as a solid, liquid or gas.

CHEMICAL Properties are only observed during a **CHEMICAL REACTION** and thus changing the substance's chemical composition.
Examples of Chemical Properties are: Flammability, Toxicity, Radioactivity, Reactivity with water and acids, heat of combustion, oxidation, corrosion - anything that has to do with the substance changing its chemical composition is a Chemical Property.

Please Note: In a Chemical Change, the substances are altered chemically and display different Physical and Chemical Properties after the change.

PROCESS what you have learned!

Now, let's view video to bring it all together for you!

Physical and Chemical Properties Explained

Physical vs. Chemical Properties

- Physical Properties
  - Color
  - Shape
  - Size
  - Density
  - Amount
  - Volume
- Chemical Properties
  - Flammability
  - Rusting
  - Burning
  - Corrosion
  - Reactivity

PRACTICE what you have learned!

Click below to Test your new skills!

Physical and Chemical Properties Activity

ANSWER KEY to Physical and Chemical Properties Activity

1. BOTH-Physical & Chemical
2. Physical
3. Physical
4. Chemical
5. Chemical
6. BOTH-Physical & Chemical
7. (P) Physical
8. (C) Chemical
9. (P) Physical
10. (P) Physical
11. (P) Physical
12. (P) Physical
13. (C) Chemical
14. (P) Physical
15. (P) Physical
16. (P) Physical
17. (C) Chemical
18. (C) Chemical
19. (P) Physical
20. (C) Chemcal
21. (P) Physical
22. (C) Chemical
23. (C) Chemical’
24. (P) Physical
25. (C) Chemical
26. (P) Physical
27. (C) Chemical
28. (P) Physical
29. (C) Chemical
30. (C) Chemical

Practice

Click on the Blue Links below to practice what has been covered so far.

On-Line Self Practice

On-Line Self Practice

On-Line Self Practice

Check For Understanding

See what you remembered about the characteristics of matter.

characteristics of matter