

Name: \_\_\_\_\_

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## Physical vs. Chemical Changes

### Physical Change:

- 1) **Atoms do not rearrange** (switch partners).
- 2) Only physical properties change. Chemical properties do not change.
- 3) Physical changes are generally **easy to reverse**.
- 4) **No energy is produced** by the substance.

Example: An ice cube ( $H_2O$ ) melts in the sun and turns into water ( $H_2O$ ).

### Chemical Change:

- 1) **Atoms are rearranged** into different molecules. There will be a new chemical formula .
- 2) Both **physical and chemical properties** are **changed**.
- 3) Changes are **not reversible** without another reaction.
- 4) **Energy** is often **produced** ( fire or heat, for example).

Here are two examples:

1. Two hydrogen atoms and one oxygen atom combine to make a water molecule.

	2 Hydrogen	+	1 Oxygen	=	Water
Physical Properties					
Chemical Properties					

2. One sodium atom and one chlorine atom combine to make a molecule of table salt.

	Sodium	+	Chlorine	=	Salt
Physical Properties					
Chemical Properties					

Identify each of the following as a Physical or Chemical Change.

Put a **P** next to **Physical Changes**

Put a **C** next to **Chemical Changes**

1. A piece of wood burns to form ash. \_\_\_\_\_
2. Water evaporates into steam. \_\_\_\_\_
3. A piece of cork is cut in half. \_\_\_\_\_
4. A bicycle chain rusts. \_\_\_\_\_
5. Food is digested in the stomach. \_\_\_\_\_
6. Water is absorbed by a paper towel. \_\_\_\_\_
7. Hydrochloric Acid reacts with zinc. \_\_\_\_\_
8. A piece of an apple rots on the ground. \_\_\_\_\_
9. A tire is inflated with air. \_\_\_\_\_
10. A plant turns sunlight, CO<sub>2</sub>, and water into sugar and oxygen. \_\_\_\_\_
11. Sugar dissolves in water. \_\_\_\_\_
12. Eggs turn into an omelette. \_\_\_\_\_
13. Milk sours. \_\_\_\_\_
14. A popsicle melts. \_\_\_\_\_
15. Turning brownie mix into brownies. \_\_\_\_\_

Choose 2 of the above examples and explain why you chose chemical or physical. Please choose one of each type of change. Back up your explanation.

Physical change explanation: \_\_\_\_\_

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Chemical change explanation: \_\_\_\_\_

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