

Physical and Chemical Changes

Physical changes usually occur when heat (energy) is either added or taken away. The substance is the same (**NO CHANGE**).

Example: Ice cube melting, ripping paper, cutting an apple in half



In a **chemical change**, the substances are **changed chemically** and display different physical and chemical properties after the change.

Examples: combustion (burning), cooking an egg, rusting of an iron pan



Part A: Directions: Fill in the blanks: Chemical or Physical Changes

Crushing Rocks _____

Condensation _____

Baking a Cake _____

Water freezes to produce ice, this means a _____ change has taken place.

When a piece of magnesium ribbon is placed into beaker containing hydrochloric acid bubbling is observed, this means a _____ change has taken place.

Part B

Can you recognize the chemical and physical changes that happen all around us? If you change the way something looks, but haven't made a new substance, a **physical change** (P) has occurred. If the substance has been changed into another substance, a **chemical change** (C) has occurred.

1.	An ice cube is placed in the sun. Later there is a puddle of water. Later still the puddle is gone.
2.	Two chemicals are mixed together and a gas is produced.
3.	A bicycle changes color as it rusts.
4.	A solid is crushed to a powder.
5.	Two substances are mixed and light is produced.
6.	A piece of ice melts and reacts with sodium.
7.	Mixing salt and pepper.
8.	A marshmallow is toasted over a campfire.

9.		A marshmallow is cut in half.
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True (T) or False (F)

1.		Changing the size and shapes of pieces of wood would be a chemical change.
2.		In a physical change, the makeup of matter is changed.
3.		Evaporation occurs when liquid water changes into a gas.
4.		Evaporation is a physical change.
5.		Burning wood is a physical change.
6.		Combining hydrogen and oxygen to make water is a physical change.
7.		Breaking up concrete is a physical change.
8.		When ice cream melts, a chemical change occurs.
9.		Acid rain damaging a marble statue is a physical change.