



Fire indicates a chemical change.

### Phases of Matter

Each phase of matter has its own chemical and physical properties. The phases of matter you need to know are:

- **Solid** - a solid has a definite shape and volume
- **Liquid** - a liquid has a definite volume, but can change shape
- **Gas** - the shape and volume of a gas can change

### Phase Changes

These phases of matter can change from one to another. Remember the definitions of the following phase changes:

- **Melting** - melting occurs when a substance changes from a solid to a liquid
- **Boiling** - boiling is when a substance changes from a liquid to a gas
- **Condensing** - condensation is when a gas changes to a liquid
- **Freezing** - freezing is when a liquid changes to a solid

### [Physical & Chemical Changes](#)

The changes that take place in substances may be categorized in two classes:

- **Physical Change** - does not produce a new substance (e.g., phase changes, crushing a can)
- **Chemical Change** - produces a new substance (e.g., burning, rusting, photosynthesis)

### Solutions

A solution results from combining two or more substances. Making a solution can produce either a physical or chemical change. You can tell them apart this way:

- The original substances can be separated from one another if the solution produces only a physical change.
- The original substances cannot be separated from one another if a chemical change took place.