

Physical and Chemical Changes

<p>Physical Change – a change in matter to look different but does not become a new kind of matter.</p>	<p>Chemical Change – a change in matter in which new matter forms, having new properties, and those changes are permanent (nonreversible).</p>
<p>Tearing – pulling something into pieces (<i>Ripped paper has the same properties of matter even though it's torn.</i>)</p> <p>Crushing – squeezing or pressing something so that its shape changes or it breaks</p> <p>Freezing – Cooling a liquid until it becomes a solid</p> <p>Melting –Warming a solid until it becomes a liquid (<i>The freezing point and melting point of a substance such as water is the same. The type of change it is depends on whether the temperature is increasing or decreasing.</i>)</p> <p>Boiling – Heating a liquid to a certain temperature to make it bubble and turn into a gas (<i>Ex. Water boils at 100 degrees Celsius or 212 degrees Fahrenheit.</i>)</p> <p>Condensing/Condensation – change from a gas to a liquid, caused by cooling (<i>This appears as clouds or moisture on surfaces that were cooler than the surrounding air, such as glass or metal.</i>)</p> <p>Evaporating/Evaporation – change from liquid into gas (<i>Boiling causes evaporation, but it can also happen without boiling.</i>)</p>	<p>Burning – need oxygen, heat, and fuel (something to burn)</p> <p>Rusting – need iron, oxygen, and water</p> <p>Cooking</p> <p>Souring</p> <p>Decaying/Rotting</p> <p>Ripening</p> <div data-bbox="1104 436 1396 588" style="text-align: center;"> </div> <p>Signs of a Chemical Change <i>(For each change listed above, consider which of the following signs are evident.)</i></p> <ul style="list-style-type: none"> • Gas forms. • Heat is given off or absorbed. • A solid forms or disappears. • A new color occurs. • A new odor is created • Light is produced.

Burning: a change requiring oxygen, fuel, and heat.

Take one or more of these away and the fire goes out. Why does a fire extinguisher put out a fire? The type shown to the right prevents oxygen from getting to the fire.

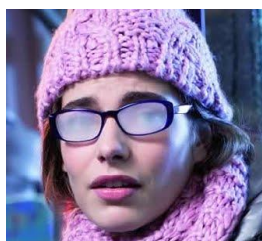
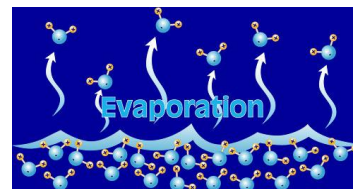


How do you know a truck **rusting** is a chemical change?
A solid disappears and a new color occurs.

What kind of a change is **corroding** metal?
Corroding is similar to rusting. Iron is not the only metal that corrodes. So does magnesium, aluminum, and other metals (some faster or more easily than others).

Evaporating: changing matter from a liquid to a gaseous state

Liquid water turns to water vapor – a clear gas. This is sped up with heat and movement of air.



Condensing: changing matter from a gas to a liquid

Why did the girl's glasses get foggy? The water vapor – a gas – turned into tiny liquid water droplets when the water vapor came in contact with the cooler lenses of her glasses.

What kind of a change is **frying** an egg? How do you know?

What kind of a change is **burning** toast? How do you know?