Chemical properties and chemical change

Chemical properties

Properties that can only be observed when one substance changes into a different substance are called **chemical properties**. For example, if you leave an iron nail outside, it will eventually rust. A chemical property of iron is that it reacts with oxygen in the air to form iron oxide (rust).


Rust results from a chemical change

Chemical changes are hard to reverse

Any change that transforms one substance into a different substance is called a **chemical change.** The transformation of iron into rust is a chemical change. Chemical changes are not easily reversible. For example, rusted iron will not turn shiny again even if you take oxygen away.

Using chemical changes

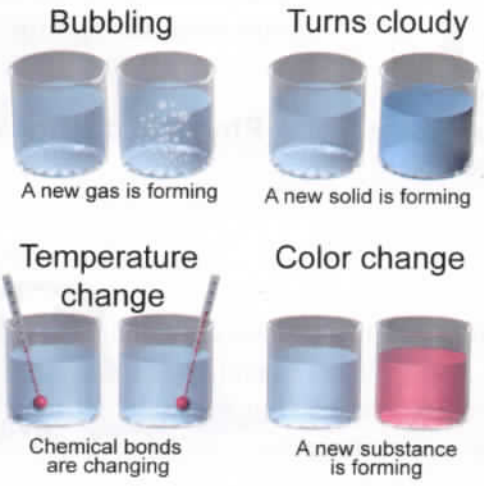
We use chemical changes to create useful materials. The slime you made in an experiment is an example of a chemical change. The polyvinyl acetate (PVA) in the glue was a viscous liquid. Adding the borax links adjacent molecules together like rungs on a ladder. That made the liquid into a semi-solid mass, a polymer, that is more able to hold its shape.


The glue and borax together created a chemical change

Recognizing chemical change

Chemical changes are created by **chemical reactions**. A chemical reaction is any process in which one substance changes into a different substance.

A chemical reaction occurs when you mix baking soda with vinegar. The mixture bubbles violently as carbon dioxide gas, a new substance, is formed. The temperature of the mixture also gets noticeably colder. Bubbling, new substances, and temperature change can all be evidence of a chemical change.



Chemistry terms

chemical property - property that can only be observed when one substance changes into a different substance - such as iron's tendency to rust.

chemical change - transforms one substance into another substance.

chemical reaction - the process that creates chemical changes.