



Properties and Changes of Materials

Science - Pentecost 2

Examples of Materials:



wood



metal



fabric



leather



paper



brick



plastic



glass

Can materials be changed?

There are two types of changes: reversible and irreversible changes.

Reversible changes can be reversed or changed back to recover the original materials. They are physical changes, which means no new materials are formed, and recovered materials are the same, even if they look or feel different. Reversible changes happen between the three main states of matter: solids, liquids and gases. Melting, freezing, evaporation, condensation and dissolving are all reversible changes.

Irreversible changes cannot be reversed or changed back to recover the original materials. They are chemical changes that form new materials. Several processes cause irreversible changes, including cooking, burning, rusting, decaying and chemical reactions. Signs of irreversible changes include the production of a gas, a sound, a smell or light. The temperature, colour and smell can also change.



burning

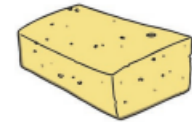


rusting

Properties of Materials:



magnetic



absorbent



transparent



bendy



dissolvable



conductive

Separating

What is a mixture?

A mixture is a combination of two or more substances that aren't chemically joined and can be separated into their individual substances. There are two types of mixtures: heterogeneous and homogeneous.

Heterogeneous Mixtures

Heterogeneous mixtures consist of distinctly different substances. This means you can easily see the different parts and they are easy to separate. Soil is an example. It is a mixture of solid, decayed organic matter and eroded rock. Salad is an example. It is a mixture of different solid fruits and vegetables.



Homogeneous Mixtures

Substances in homogeneous mixtures are evenly distributed and you cannot see the different parts. Homogeneous mixtures are difficult to separate. Coffee is an example. It is a mixture of solid coffee granules dissolved in liquid water. Steel is an example. It is a mixture of iron and carbon.

Glossary

chemical reaction a process when two or more materials react together to make new materials

evaporation the process of a liquid becoming a gas due to being heated

filter a device that removes small solid particles from a liquid or gas, by not permitting the solid particles to pass through



sieve sieve is a mesh that separates solids from liquids or large solid particles from smaller solid particles

