

Properties of Materials: Irreversible Changes Key Stage 2

Activity: Group materials according to their properties

Remind yourself of the properties of materials by finding objects from around the house, grouping them according to whether they are solids, liquids, or gases then use these cards from The Royal Society of Chemistry to match materials to their properties:

<https://edu.rsc.org/resources/materials-cards/2360.article>

Activity: Chemical reactions

Can you investigate an irreversible chemical change? Mix some sodium bicarbonate (we often use it in the kitchen to help cakes or pancakes rise in cooking!) with some vinegar or lemon juice.

Use small quantities and keep away from eyes and skin. Rinse immediately with water in case of splashes and spills. Adult supervision required.

Fizzing Potions



Bicarb and Vinegar 'volcanoes'

- 1 teaspoon sodium bicarbonate
- pour in a little vinegar or lemon juice

Bubbles of carbon dioxide are produced and can be seen as the effervescent fizzing! This one isn't for tasting!

NB Do not use heat or investigate burning without close adult supervision.

Activity: Physical and chemical changes

Fill in the gaps:

Some _____ to materials such as dissolving, mixing and changes of states are reversible.

Some changes to materials such as burning wood, rusting and mixing vinegar with sodium bicarbonate result in the formation of new materials and these are not _____.

Reversible means it can be changed back. Irreversible means it _____ be changed back.

You can separate some materials from solutions or mixtures by evaporating, _____ or sieving.

Some simple *reversible* changes include _____ ice to get water or _____ water to get steam.

An example of an *irreversible* reaction can be a physical change, such as cutting a loaf of _____, or a chemical change such as _____ metal or _____ wood.

Missing words:

burning	cannot	heating
melting	changes	reversible
filtering	rusting	bread

Activity: Secondary Research

Find out about some new materials which have been produced by chemists:

- A. Research **Spencer Silver** and **sticky note glue**

- B. Research **Ruth Benerito** and **wrinkle free cotton**



Images: cleanPNG.com