

Science - Year 5 - What are the properties of different materials and how can they change?

Glossary:

- soluble – able to be dissolved, especially in water
- solution – a mixture of two or more substance that stays evenly mixed. They do not change into new substances
- conductivity - allow things to pass through. (Electrical and thermal)
- filter – something that separates solids from liquids
- evaporation – a process where liquids change to a gas or vapour
- melting – when one substance changes from a solid to a liquid
- dissolving – when a material is mixed with a liquid to form a solution
- irreversible – a change that cannot be changed back and a new material is formed
- dependent variable - the variable being tested or measured during a scientific experiment
- independent variable - the variable that is altered during a scientific experiment
- control variable - a variable that is kept the same during a scientific experiment



Stephanie Kwolek
1923-2014
Inventor of Kevlar

Reversible and irreversible changes



Baking a potato



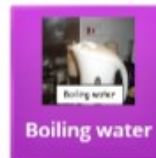
Melting butter



Cooking meat



Melting chocolate



Boiling water



Melting ice-cream

Transparent

All light passes through



Translucent

Some light passes through



Opaque

No light passes through



States of Matter	Properties				
	Can be weighed	Occupies Space	Fixed Shape	Fixed volume	Can be compressed
Solids	✓	✓	✓	✓	✗
Liquids	✓	✓	✗	✓	✗
Gases	✓	✓	✗	✗	✓

Sticky Knowledge:

- Know how to compare and group together everyday materials on the basis of their properties
- Know that some materials dissolve in liquid to form a solution
- Know how to recover a substance from a solution
- Know how to sort solids, liquids and gases
- Know how to separate mixtures through filtering, sieving and evaporating
- Know how to carry out a fair test
- Know and explain that some changes result in the formation of new materials and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda
- Know what a hypothesis is
- Know and identify suitable variables to test hypothesis
- Know how to control variables when necessary
- Know why repeated measurements are sometimes necessary
- Know how to present and report findings

