

Goonhavern Primary School- Science

TOPIC: Properties and Changes of Materials

YEAR: 5

STRAND: Chemistry

What should I know already?	What will I know by the end of the unit?	
<ul style="list-style-type: none"> • A variety of everyday materials including wood, plastic, glass, metal, water and rock. • The physical properties of a variety of everyday materials (including those that are transparent) and to compare and group materials on the basis of these properties • How materials are suitably used based on their properties. • How magnets and electrical circuits work. Some materials which are magnetic. • How shapes of solid objects can be changed by squashing, bending, twisting and stretching. • Materials that are solids, liquids and gases and their particle structure. • Some materials change state when they are heated or cooled and the temperature at which this happens. • The roles of melting, evaporation and condensation in the water cycle and the role temperature has on the rate of evaporation. • Some rocks are permeable. 	<p>How to group materials based on their properties using more complex vocabulary.</p>	<p>Magnetic, transparent, soluble, insoluble, permeable, flexible.</p>
	<p>To mix and separate materials.</p>	<p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p>
	<p>Understand the difference between reversible and irreversible changes.</p>	<p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>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.</p>

Vocabulary

Evaporation

To turn liquid into gas.

Filtering

A device which removes dirt or other solids from liquid or gases.

Insoluble	Impossible to dissolve.
Irreversible	Impossible to reverse, turn back or change.
Melting	To turn from solid to liquid through heat or pressure.
Permeable	A substance which allows a gas or liquid to pass through it.
Reversible	Can be reversed, changed or turned back.
Soluble	Able to dissolve.

Investigate!

- Find the best material to stop an ice cube from melting. Remember to keep it a fair test by using the same number of ice cubes, or same size and thickness material.
- Explain the difference between dissolving and melting.
- Investigate which materials are soluble and insoluble.
- Design an experiment that investigates dissolving - consider which variables you could change including: size of beaker, amount of liquid, number of stirs, size of solid, temperature of solid (remember that for a fair test all other variables must remain the same).
- Create a variety of mixtures using materials such as salt, sand, water, paper clips and rice and use a variety of methods to separate them - filtering systems.
- Observe and compare the changes that take place when cakes are baked, cooking eggs or bicarbonate of soda mixes with vinegar.

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Q1	Start of Unit	End of Unit	Q3	Start of Unit	End of Unit
Q2	Start of Unit	End of Unit	Q4	Start of Unit	End of Unit

