## St John's Primary School: Science knowledge organisers Year group: Year 5 Science focus: Everyday materials



#### Key knowledge: Uses of common materials Soluble Can be dissolved, like coffee granules. Cannot be dissolved, like pebbles. Insoluble Transparent See through, like glass. Not see through, like a wooden door. Opaque Electrical Lets electricity pass through easily, like conductor copper wire. Electrical Do not let electricity flow through insulator easily, like plastic or rubber. Thermal Lets heat pass through easily, like a conductor metal kettle. Thermal Does not let heat pass through easily, insulator like a wood pan handle. Magnetic Is attracted to a magnet, like a steel spoon. Is not attracted to a magnet, like a Not magnetic wooden spoon. Separating Sorting out the big bits from the small Sieving bits, e.g. stones from soil. Separating solid bits from a liquid, e.g. Filtering sand from sand and water. Evaporating Used when the substance is too mixed into the water. A liquid evaporates into a gas when it is heated. This removes the liquid and leaves the substance behind. Changes Reversible A change that doesn't last forever. E.g. changes water can turn to ice when frozen, but can be turned back to water by heating it. Irreversible A change that lasts forever and is usually caused by heat. E.g. Eggs, changes flour, butter and sugar heated to make a cake. The original ingredients can't be recovered.

#### Key concepts:

Explaining Grouping Demonstrating Describing Comparing

### Kev vocabulary:

Dissolving	A solid being incorporated with a
	liquid to form a new solution
Separating	The action of moving things apart
Evaporation	When a liquid turns into a gas due to
	an increase in temperature

#### Diagrams:

# Separating materials nixture made of solid particles of different sizes, for example sand and gravel, can be separated by sid Filtering A mixture of water and an insoluble substance like sand can be separated by filtering.

The mixture of sand and water is poured into the filter funnel, which is lined with filter paper. The water can pass through the paper to collect in the beaker. The sand particles cannot pass through the filter paper and collect in the filter funnel.



Evaporating By dissolving salt in water we make a solution. The salt dissolves (seems to disappear) into the water. We can separate the salt from the water by boiling a solution. The water will evaporate until it is all gone. The salt will be left behind.



### Possible experiences:

Experiments to find properties of materials, e.g. does it attract to a magnet? Can heat pass through it? Design an everyday item (oven glove, pan stand... based on the properties it would need. Experiment with reversible and irreversible changes, e.g. vinegar and bicarbonate of soda.