Key Vocabulary:

Melting- is the process of changing a solid into a liquid, usually by applying heat

Dissolving – A way of mixing a solid and a liquid. When a solid dissolves in a liquid it creates a solution

<u>Processes</u> – The different techniques that can be used to separate mixtures

Solution – What is created when a solid solves in a liquid

Reversible Changes – A change that can be reversed/changed back again. Melting and heating are examples of reversible changes

Irreversible Changes - A change that cannot be changed back again. Burning or mixing a liquid with bicarbonate of soda are examples of irreversible changes

Solubility – Degree to which a substance dissolves in a solvent to make a solution

Three States of Matter:

GAS: particles far apart and randomly arranged / move around

LIQUID: particles close but randomly arranged / move around

SOLID: particles very close together / vibrate around a fixed position







Gas Liquid

Examples Examples Examples Steam Water Ice Wood Milk (water

vapour) Washing Glass Diamond Hydrogen up liquid Carbon luice Dioxide Oxygen



Holy Family Halewood Year 5 & 6 Science Changes of Materials



Learning Objectives:

- To explain the difference between melting and dissolving and identify materials which will dissolve in water
- To investigate the rate of dissolving
- To identify different ways materials can be mixed together and know when to use which processes to separate mixtures
- To describe how to recover a substance from a solution by separating different mixtures
- To carry out a variety of investigations involving reversible and irreversible changes

Separating Mixtures:

SIEVING – A way to separate two solids of different sizes (e.g. flour and raisins).

FILTRATION – A mixture of liquids and solids which haven't dissolved can be filtered using paper with tiny holes (e.g. sand and

EVAPORATION – A solid dissolved in a liquid (solution) can be heated. Liquid evaporates and leaves behind the solid (e.g. salt and water solution).

MAGNETISM – Metal attracts to the magnet, leaving behind the other solid (e.g. paper clips and matchsticks).







DISSOLVING

Dissolving is when the



Reversible & Irreversible Changes:

Reversible

Ice (melts into water) > Water (evaporates into steam) > Steam (condenses into water) > Water (freezes into ice) >

Irreversible

Cooking an egg

Burning wood



MELTING

Involves only solids which change into a liquid due to heat. They stay as the same material (e.g. ice to water).

particles of solids mix with particles of

liquids, often appearing like it

dissolved in the liquid to make a

transparent solution (e.g. mixing

not always need heat to occur. If a material does not dissolve it is

insoluble. If it does, it is soluble.

has disappeared but it has

sugar into water). It does



