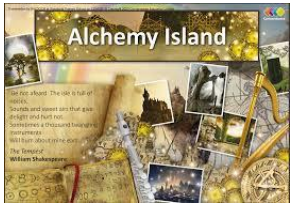
Alchemy Island



To know how to compare and group materials according to their properties.	**To understand how to separate materials using sieving, filtering and evaporation.**	**To know how to investigate conductivity of materials using a fair test.**	**To identify that some materials dissolve in other materials and be able to give examples.**	**To know and demonstrate that there are many reversible and irreversible changes going on in everyday life.**	**To report and present enquiries about properties and changes to materials.**

Key Vocabulary

Conductor

Compass

Magnetism

Transparency

Metals

Solution

Dissolve

Reversible

Irreversible

Sieve

Filtration

Evaporation

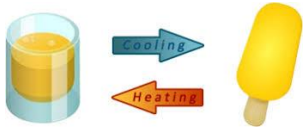
Condensation

Properties of materials refer to its appearance, behaviour and structure for example whether it is hard or soft, rigid or flexible. Properties can be tested in a variety of ways such as **hardness, magnetism, transparency, electrical conductivity or thermal conductivity.**

Some substances dissolve when you mix them with water. When a substance **dissolves**, it might look like it has disappeared, but in fact it has just mixed with the water to make a transparent (see-through) liquid called a solution. Substances that dissolve in water are called **soluble** substances.

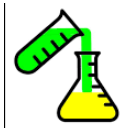
Materials which are mixed together such as sand and water, can be separated again. There are different methods for separating materials such as **sieving** them or **filtering** through filter paper. If the solid has dissolved in the liquid, sometimes you can separate them again using **evaporation**, for example a salt water solution. Let's try this out.

Changing state from solid to liquid to gas and back again is a **reversible** change. When chocolate is melted it can solidify again, the change is reversible. If you cook an egg by frying or boiling, the change is **irreversible**. Can you think of other examples?



A **conductor** is a material which gives very little resistance to the flow of an electric current or thermal energy. Materials which are not good conductors are called **insulators**. You can test for electrical conductivity by placing different materials in an electrical circuit and watching to see if the bulb lights up or not. **Metals** are usually very good conductors of electricity and heat. Wood is not.

As a **scientist,** it is useful to put your **discoveries** in to a report. You use it to **explain** what you have found out about materials. Use as many of the key vocabulary words as you can. You can choose how to do your report. It could be a presentation, a poster, a lab report or a demonstration.



The Scientific Method