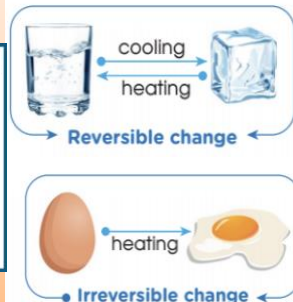
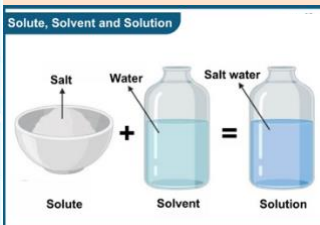


Science Knowledge Organiser



Properties and changes of Materials



Scientific Enquiry Types:

- Comparative / Fair Testing
- Research
- Identifying, Grouping and Classifying

Sticky Knowledge

- Materials have different uses depending on their properties (e.g. hardness, transparency, thermal conductivity) and state (liquid, solid, gas).
- Some materials can be dissolved in liquid to form a solution.
- Some changes can be reversed and some can't - reversible and irreversible change.
- Some mixtures can be separated by filtering, sieving and evaporation.
- Indicators that something new has been made are: The properties of the material are different (colour, state, texture, hardness, smell, temperature).
- Electrical conductivity is the ability of a material to transfer electrical current from one point to another.
- Thermal conductivity is the ability of a material to transfer heat from one place to another
- An insulator is a material that can be used to stop or slow the flow of heat or electrical current.
- Some materials are magnetic and they can be used as a magnet or be affected by a magnet.

Vocabulary

- **Insulator** - a material which does not easily allow heat and/or electricity to pass through it.
- **Conductor** - a material that allows electricity or heat to pass through it easily.
- **Magnetism** - an invisible force or field that causes objects to attract or repel one another.
- **Mixture** - a physical combination of two or more substances that aren't chemically joined.
- **Dissolve** - the process that occurs when a solute is added to a solvent and the solute disappears e.g. sugar in water.
- **Solution** - a mixture of two or more substances that stays evenly mixed.
- **Soluble** - capable of being dissolved in a liquid.
- **Insoluble** - incapable of being dissolved in a liquid.
- **Reversible** - a change where no new materials are created, and the original materials can be recovered.
- **Irreversible** - a change where new materials are created, and the original materials cannot be recovered.