St Bernadette's Catholic Primary School -Willow Class
Materials

Gospel Value
Stewardship

What I should know already-

Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials) Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials) Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify some magnetic materials. (Y3 - Forces and magnets) Compare and group materials together, according to whether they are solids, liquids or gases. (Y4 - States of matter) Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). (Y4 - States of matter) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. (Y4 - States of matter)

Key Knowledge

- Materials have different uses depending on their properties and state (liquid, solid, gas). Properties include hardness, transparency, electrical and thermal conductivity and attraction to magnets
- Some materials will dissolve in a liquid and form a solution while others are insoluble and form sediment.
- Mixtures can be separated by filtering, sieving and evaporation
- Some changes to materials such as dissolving, mixing and changes of state are reversible, but some changes such as burning wood, rusting and mixing vinegar with bicarbonate of soda result in the formation of new materials and these are not reversible.

Key Vocabulary

thermal-a thermal column is a rising mass of buoyant air, a convective current in the atmosphere, that transfers heat energy vertically.
electrical -electrical equipment or circuitry.
insulator-a substance which does not readily allow the passage of heat or sound. a substance or device which does not readily conduct electricity.
conductor-a material or device that conducts or transmits heat or electricity, especially when regarded in terms of its capacity to do this.
change of state-changing state is the term used to describe the process of one state of matter (solid, liquid or gas) changing to another.
mixture-a substance made by mixing other substances together.
dissolve- become or cause to become incorporated into a liquid so as to form a solution.
solution-a means of solving a problem or dealing with a difficult situation.
soluble-(of a substance) able to be dissolved, especially in water.
insoluble-(of a substance) incapable of being dissolved.
filter-a porous device for removing impurities or solid particles from a liquid or gas passed through it.
sieve- a utensil consisting of a wire or plastic mesh held in a frame, used for straining solids from liquids, for separating coarser from finer particles, or for reducing soft solids to a pulp.
reversible-(of the effects of a process or condition) capable of being reversed so that the previous state or situation is restored.
non-reversible change-a change is called irreversible if it cannot be changed back again. In an irreversible change, new materials are always formed.
burning- on fire
rusting-the formation of reddish-brown ferric oxides on iron by low-temperature oxidation in the presence of water
new material-material that has not previously been used in the manufacture of another article used for any purpose.