Crockerne Church of England Primary

Year 5 – Materials

Key Concepts

- Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- Know some materials will dissolve in liquid to form a solution, know how to recover a substance from a solution
- Use knowledge of solids, liquids & gases to decide how mixtures might be separated, including filtering, sieving and evaporating
- Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- Demonstrate that dissolving, mixing and changes of state are reversible changes
- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible including changes associated with burning and the action of acid on bicarbonate of soda

Learning possibilities

• Investigate the properties of different materials e.g the waterproofness and thermal insulation to identify a suitable fabric for a coat.
• Explore adding a range of solids to water and other liquids e.g. cooking oil, as appropriate.
•Investigate rates of dissolving by carrying out comparative and fair test.

Scientific Enquiry

Prior Learning

Identify & compare the suitability of everyday materials, for particular uses. (Y2 - Materials)
• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Materials)
• Compare/group a variety of materials on the basis of whether they are attracted to a magnet, identify some magnetic materials. (Y3 - Forces & magnets)
• Compare and group materials together, according to 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, associate the rate of evaporation with temperature. (Y4 - States of matter)

Key Vocabulary

Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material

Cultural Capital

Anke Domaske a biochemist and fashion designer created a sustainable fabric **(Qmilch)** made from milk proteins