

# Year 5 Science

## Properties and changes of materials.



6 week unit of study



### National Curriculum Objectives.

- 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 that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through 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

### Line of enquiry.

1. What do we use materials for?

2. What are thermal conductors and insulators?

3. What happens when we mix materials?

4. What are reversible changes?

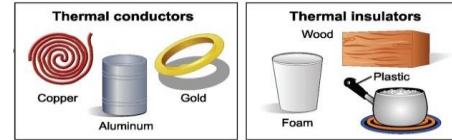
5. How do we separate some mixtures?

6. What are irreversible changes?

### Reversible and Irreversible Changes



### Thermal Conductors & Insulators



### Key Vocabulary

Ceramics, durability, silica, silicon, synthetic, thermal conductors, thermal insulators, microplastics, sieve, acetone, alloy, dissolved, soluble, solution, solvent, alkali, bicarbonate, irreversible, neutralisation, phlogiston

### Working scientifically.

Comparative testing, fair tests, variables, co-planning experiments, conclusions and evaluations.

### Prior learning

**Year 2:** Identifying and comparing suitability of everyday materials for specific uses

**Year 3:** Comparing and grouping rocks based on properties, comparing and grouping magnetic materials, the effects of forces on objects

**Year 4:** Compare and group materials based on states of matter, changes of state, compare and group materials based on electrical conduction or insulation.

