

Key Stage **KS1**

Topic

Uses of Everyday Materials

Class **2**

Range **1 - 2 (3)**

End of Unit Goals

Pupils will be able to:

- Identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard.
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Classification

- Group by difference, similarity or change
- Link properties of materials to an application

Designing Experiments

- Use a range of equipment correctly
- Notice risk & know common dangers
- Follow short spoken & written instructions

Key Terminology:

Material types (e.g. wood, metal, plastic, wool, cotton, paper, cork, rock, etc), solid, liquid, gas, waterproof, hard, soft, flexible, stretch, bend, twist, squash, shiny, dull, warm, cold, colour, more, less, fluid, flow

Lesson	Content Objective	Skill Objective	Possible Activities
1	What are things made from?	Link properties to an application	<ul style="list-style-type: none"> • From a list of roles/uses (e.g. container, building, decoration, writing, etc). Sort materials into roles. Discuss similarities and differences. Challenge with pictures of all materials being used in roles. Discuss best and why for each purpose. Link to work on properties in year 1. • School walk. Note use of different materials for the same role. Ask why.
2&3	Do different materials have different properties?	Use range of equipment correctly	<ul style="list-style-type: none"> • Comparative test - waterproofing, scratch testing, bend testing, warmth/insulating, shiny/dull, transparent (see-through)/opaque, etc (link to possible uses). Use a range of equipment to test. • Make umbrellas, rafts, shoes, super-hero capes, etc. Select two relevant properties to support an understanding of combination of properties useful for an application.
4&5	Can we change the shape of materials?	Group by difference, similarity or change	<ul style="list-style-type: none"> • From a range of objects, which can be changed? Which properties prevent you from changing an object? E.g. wood which is thick can't be bent but wood shavings can be. Different metals / plastics. Show DVD clips of metals being forged at a blacksmiths. • Sort items into things which can be twisted, squashed or bent, and things which can't be. Discuss what use these items may have, e.g. to build something strong you need something which won't bend, twist or squash. To make something to wear you need materials which can stretch or be flexible etc. Link to property. • Towers, tunnels & turrets - make the strongest wall or choose the best material for a missile to throw at the wall. Competitive. • Comparative test - effect of heat (blowtorch; demo) on bending / stretching, twist test with playdough (in different water temperatures) • Fair test: (bungee jumping) - thickness of rubber band on stretching with hanging weights • Make rice crispy cakes / crispy Christmas trees
6	What are solids, liquids & gases?	Follow instructions	<ul style="list-style-type: none"> • Sort a range of materials into solid and liquid. Include melting chocolate, sand and correction fluid. Discuss and build understanding of properties and change. • Blow up a balloon (also over lemonade bottle). Feel air coming out • Demo: boiling water; condensation