

Progression of skills, knowledge and understanding: Materials

- National curriculum level statements
 - Additional statements from QCA (2003)

Level	Characteristic of level
1	<ul style="list-style-type: none">• Know about a range of properties (e.g., texture and appearance) and communicate observations of materials in terms of these properties.<ul style="list-style-type: none">➤ Name familiar substances (e.g. sugar, water).➤ Describe how some objects can have their shape changed by squashing; knowing that other objects are too hard to be squashed.➤ Think in terms of specific objects rather than the material from which they are made.
2	<ul style="list-style-type: none">• Identify a range of common materials and know about some of their properties• Describe similarities and differences between materials.• Sort materials into groups and describe the basis for their grouping in everyday terms (e.g. shininess, hardness, smoothness)• Describe ways in which some materials are changed by heating or cooling or by processes such as bending or stretching.<ul style="list-style-type: none">➤ Identify some of the materials from which objects are made (e.g. wood, metal, plastic)➤ Describe how the shape of liquids can be changed by pouring them into different containers.
3	<ul style="list-style-type: none">• Use knowledge and understanding of materials when they describe a variety of ways of sorting them into group according to their properties.• Explain simply why some materials are particularly suited for specific purposes(e.g. glass for windows, copper for electric cables)

	<ul style="list-style-type: none"> • Recognise that some changes (e.g. the freezing of water) can be reversed and some (e.g. the baking of clay) cannot, and classify changes in this way. <ul style="list-style-type: none"> ➤ Give a number of examples of reversible physical changes (e.g melting ice, squashing plasticine, stretching elastic) ➤ Give a number of examples of irreversible changes (e.g toasting bread, eating food, burning paper). ➤ Demonstrate sieving to separate solid particles of different sizes. ➤ Interpret evaporation of water as a change in location.
4	<ul style="list-style-type: none"> • Describe the differences between the properties of different materials and explain how these differences are used to classify substances (e.g. as solids, liquids and gases) • Describe some methods (e.g. filtration) that are used to separate simple mixtures. • Use scientific terms (e.g. evaporation or condensation) to describe changes. • Use knowledge about some reversible and irreversible changes to make simple predictions about whether other changes are reversible or not. <ul style="list-style-type: none"> ➤ Demonstrate filtration and explain in simple terms how it works. ➤ Use correctly the terms associated with changes of states - e.g. boil, evaporate, condense, melt, freeze. ➤ Recognise that condensing and evaporating are reversible changes.
5	<ul style="list-style-type: none"> • Identify a range of contexts in which changes (e.g. evaporation, condensation) take place. • Use knowledge about how a specific mixture (e.g. salt and water, or sand and water) can be separated to suggest ways in which other similar materials might be separated. <ul style="list-style-type: none"> ➤ Know the temperature can affect the rate at which evaporation or condensation takes place. ➤ Describe the properties of mixtures which can be separated by filtration. ➤ Recognise that dissolving is a reversible change.

	➤ Demonstrate how to recover solids from their aqueous solutions
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