Year: 1 Term: 1a Cornerstones Unit: Everyday Materials

National Curriculum Progression

Y1	Y2	Y3	Y4	Y5	Y6
Everyday Materials i. distinguish between an object and the material from which it is made ii. identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock iii. describe the simple physical properties of a variety of everyday materials iv. compare and group together a variety of everyday materials on the basis of their simple physical properties.	**Use of Everyday Materials** i. identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses ii. find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	**Rocks** i. compare and group together different kinds of rocks on the basis of their appearance and simple physical properties ii. describe in simple terms how fossils are formed when things that have lived are trapped within rock iii. recognise that soils are made from rocks and organic matter.	**States of Matter** i. compare and group materials together, according to whether they are solids, liquids or gases ii. 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) iii. identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	**Properties and Changes of Materials** i. 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 ii. know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution iii. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating iv. give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic v. demonstrate that dissolving, mixing and changes of state are reversible changes vi. 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.	

Scientific Enquiry Skills

Asking Questions	Investigating	Gathering and Recording Data	Presenting and Analysing Findings
♣ asking simple questions and recognising that they can be answered in different ways	♣ observing closely, using simple equipment ♣ performing simple tests ♣ identifying and classifying	♣ gathering and recording data to help in answering questions.	♣ using their observations and ideas to suggest answers to questions

Key Vocabulary – Unit Specific	Key Vocabulary – Scientific Enquiry
everyday materials – object, material, glass, plastic, fabric, wood, stone, metal – distinguish, **observe, sort, group, features** **physical properties - hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof; absorbent; shiny,** natural materials, human-made materials **– investigate, describe, sort group**	**question - what, why, how, who, when, which** **equipment - metre stick, measuring tape, egg timer, hand lens, sorting circles** **measure, measurement, observe** **test, instructions, prediction, method** **identify, sort, group, compare, classify** **results, information, investigate, investigation, noticing patterns** **record, data, table, Venn diagram**

	Conceptual Learning Goals - Core Knowledge	Procedural Learning Goals - Skills
Substantive Knowledge	a. Know that a material is what an object is made from and that everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric. b. Know that objects can be looked at and compared according to their material. c. Know materials have different properties, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof; absorbent; shiny d. Know that materials can be grouped according to their physical properties.	a. Know how to distinguish between an object and the material it is made from, including wood, plastic, glass, metal, water, rock, brick, paper and fabric. b. Know how to observe, sort and group objects and materials based on their features. c. Know how to investigate and describe simple properties of materials, hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof; absorbent; shiny d. Know how to group materials according to their simple physical properties.
Disciplinary Knowledge	e. Know that question words include what, why, how, who, when, which f. Know that simple equipment - metre stick, measuring tape, egg timer and hand lens - is used to take measurements g. Know that simple tests can be carried out by following a set of instructions h. Know that objects and materials can be compared. i. Know that results are information found out from an investigation j. Know that data can be recorded and displayed as tables, pictograms, Venn diagrams, drawings, diagrams	e. Know how to ask simple scientific questions f. With support, know how to use simple equipment to measure and observe g. With support, know how to follow a set of instructions to perform simple tests and begin to talk about what they might do or what might happen h. Know how to observe objects and materials to sort or group them i. Know how to talk about what they have done and say, with support, what they have found out. j. With support, know how to gather, and record simple data using tables, pictograms, Venn diagrams, drawings, diagrams

Scientific Enquiries:

Observing changes Over a Period of Time	Noticing Patterns	Grouping and Classifying Things	Carrying out Simple Comparative Tests	Finding Things Out using Secondary Sources of Information
Best bunting investigation	Asking questions about human-made objects	Exploring natural materials - share their observations, the materials' similarities and differences, where the material comes from (ground, animal or plant) Sorting and grouping material Properties of materials Making Venn diagrams	Testing and comparing properties of materials Best bunting investigation	What is a material?

Assessment Criteria

Disciplinary Knowledge and Skills

using appropriate scientific language from the national curriculum:

- ask their own questions about what they notice
- use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions:
  - observing changes over time
  - noticing patterns
  - grouping and classifying things
  - carrying out simple comparative tests
  - finding things out using secondary sources of information
- communicate their ideas, what they do and what they find out in a variety of ways

Substantiative Knowledge and Skills

- distinguish objects from materials, describe their properties, identify and group everyday materials

Resources

- Raw, natural materials, such as sand, water, metal ores, logs or timber, wool (unspun), stone and clay
- Simple products made from natural materials, such as metal jewellery, wooden spoon, woollen hat, clay pot, rubber ball, leather belt, silk scarf, stone ornament and a cotton tea towel
- Simple but interesting objects made from human-made materials, such as ceramic ornaments; strong glass perfume bottles or vases; metal, plastic or wooden toys; synthetic fabric bags, purses or umbrellas; old electronic gadgets
- Wide range of objects made from everyday materials, such as wooden toys and utensils; papers and cardboard; metal coins, foil, jewellery and cutlery; glass jars, bottles and marbles; plastic wrap, containers and toys; leather shoes and belts; fabrics, such as cotton pillowcases, nylon tights and satin or silk scarves; concrete garden ornaments and pebbles; ceramic ornaments, mugs and plant pots; rubber balls, car mats and bike inner tubes
- Everyday materials, including glass, plastic, wood, brick, fabric, stone and metal (see above)
- Spray bottles filled with water
- Bunting materials to test, including tissue paper, soft and coloured plastic or cellophane, foil, rigid plastic, oilcloth, cotton fabric, nylon, newspaper