Year Group: 1 Term: Autumn

Everyday Materials

National Curriculum objectives

S1.1w Distinguish between an object and the material from which it is made
S1.1.x Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
S1.1y Describe the simple physical properties of a variety of everyday materials.
S1.1z Compare and group together a variety of everyday materials on the basis of their simple physical properties.

Specific substantive knowledge—what we want learners to know in this year group?

- A material is what an object is made from.
- All objects are made of one or more materials.
- Some objects can be made from different materials e.g. plastic, metal or wooden spoons.
- Some objects have more than one material that makes them e.g. metal spoon with plastic handle
- Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric.
- Name and identify an object and what t is made from
- Objects can be grouped together by the material that they are made from
- Materials have different properties, such as hard or soft; stretchy or stiff; rough or smooth; bendy or rigid; see through . Not see-through; waterproof or not waterproof; magnetic or non-magnetic.
- Materials can be sorted and grouped together based on their properties e.g. all of the materials that are waterproof / all of the materials that are not waterproof

What prior knowledge is this building upon? What should they focus on to build to age related? (Use with knowledge ladder)

- Use all their senses in hands-on exploration of natural materials.
- Explore collections of materials with similar and/or different properties.
- Notice that objects are made from different materials. Everyday materials include plastic, wood and glass..
- Objects can be compared and grouped according to their shape, colour, material or use.

Key questions for AFL:

- *Can you describe different objects and the material they are made of?*
- *Which other objects are made from the same materials?*
- *Can you describe the properties of different materials?*
- *Why is are these good material for these objects to be made from?*
- *Why would it be suitable for a _____ to be made of _____?*
- *Why might it be unsuitable for a _____ to be made from _____?*

Where is this learning progressing to? (Use with knowledge ladder)

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials)
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)
- A material's physical properties make it suitable for particular purposes, such as glass for windows and brick for building walls (Year 2—Uses of Everyday materials)
- Many materials are used for more than one purpose, such as metal for cutlery and cars. (Year 2—Uses of Everyday materials)
- Materials can be grouped according to their properties, such as whether they are whether they are solids, liquids or gases (Year 4—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) (Year 4—States of Matter)

Common misconceptions
Some children may think:

- only fabrics are materials (terminology warning)
- only building materials are materials
- the word ‘rock’ describes an object rather than a material
- ‘solid’ is another word for hard
- if a material absorbs water it makes it waterproof.

Distinction between the properties of materials and the objects they are made into is vital—children are encouraged to focus on the material, not the object when describing properties. It is important that they explore off cuts or samples of different materials and not just in object form.

Working scientifically focuses

S1.1a Ask simple questions and recognise that they can be answered in different ways

S1.1c Identify and classify

S1.1d Use their observations and ideas to suggest answers to questions

S1.1e Gather and record data to help in answering questions

What types of enquiry will we be undertaking?

1. Identification and classification,
2. Comparative testing

Process for enquiry or investigation

1. Undertake a range of identification and classification enquiries, allowing learners to consider the different ways that objects may be grouped based on their type, material or properties. Progressing from group activities, challenge pupils to work independently to identify their choice of classification and their undertaking of the enquiry as a means of assessment for learning.
2. Design and choose enquiries that compare the properties of one material e.g. how stretchy are different fabrics (using the same category of material). Progress to a further enquiry that compares at least two different types of material with the same variable e.g. which of our different materials will absorb water and which will repel water (and are therefore waterproof)?

How does it help learners develop their knowledge?
Children are able to demonstrate their understanding of the difference between objects, what they are made from and their properties. Using this understanding, they can hypothesise what will change about certain materials based on their properties, or will occur with the material when an external variable is added. They can use their description of the property of the material to explain what might happen to the material as a result of an external change.

Key Vocabulary

Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through

Name, label, group, sort, classify, gather, record, question, data, information, compare, similar, different, use, describe