**Year 1 Science Curriculum – Spring 2**

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| **Theme: Properties and uses of materials** |
| **Curriculum objectives** | **Vocabulary** | **Links across the curriculum** |
| To distinguish between an object and the material from which it is made.To describe the simple physical properties of a variety of everyday materials.To compare and group together a variety of everyday materials on the basis of their simple physical properties.To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. | **Compare** | To notice how things are the same or different. | **Bar chart** | A way to show measurement or amount by using bars of different heights | Design/ English:**Sheep to Jumper** Fiona Macdonald - Discover how woolly clothes are made, from the shearing of the sheep on the farm to the making of the yarn in the factory, to the creation of fabric for clothes and other products.English:**At the Dump** Claire Llewellyn/Ley Honor Roberts - A family’s journey around the dump shows how different materials are sorted into different containers, ready for recycling. |
| **Different** | Not the same. |
| **Describe** | To use words to tell someone else what something is like. | **Suitable** | Right for the purpose |
| **Record** | To draw or write what you observed or measured. |
| **Similar** | Not identical but very alike. | **Use** | Purpose of something |
| **Sort** | To arrange things in a particular way. |
| **Bend**  | To move from a straight to a curve | **Opaque** | A material that you cannot see through |
| **Waterproof** | Does not let water pass through it | **Manufactured** | A material that has been made into another material by humans |
| **Transparent** | A material that you can see through | **Recycle** | To turn waste materials into new materials and objects |
| **Natural**  | Found in nature; not made by humans | **Observe** | To look carefully at something, to notice what it is like or how it has changed |
| **Flexible** | Able to bend easily without breaking | **Rigid** | Unable to bend |
| **Prior knowledge:** *What specifically have pupils learned that is relevant to this unit that they are building upon?* | **Future knowledge:** *What specifically will pupils learn in the future that is relevant to this unit?* |
| Children have previously learnt:* To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock and recognise when they have been used to make objects (Year1 Biology – Everyday materials).
 | * About the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses (Year 2 Chemistry – Uses of everyday materials).
* Recognising how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching (Year 2 Chemistry – Uses of everyday materials).
* About rocks (Year 3 Chemistry – Rocks), liquids and gases, and changes of state (Year 4 Chemistry – States of matter).
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| **Lesson Sequence** | **Key Knowledge** | **Key Skills** |
| 1. *Can the same object be made from different materials?*
 | Objects are made from one or more materials. Objects can be sorted in various ways, including by type of material or function/purpose. Materials should be used carefully, can often be reused and some can be recycled. | **Working scientifically****Skills children will learn, use and develop*** Observing closely, using simple equipment.
* Performing simple tests.
* Identifying and classifying.
* Gathering and recording data to help in answering questions.

**Knowledge about science children will learn:**Children will learn about the methods scientists use to build explanations about everyday materials, how and why they are used. They will learn that scientists make observations and collect and analyse data to test their ideas.They will develop an understanding of the following types of enquiry: identifying and classifying, comparative testing. |
| 1. *What properties do materials have?*
 | Materials have physical properties that make them useful for different purposes. |
| 1. *Does it bend or stretch?*
 | Some materials can be bent or stretched, making them useful for particular purposes. |
| 1. *Do all materials get wet?*
 | Some materials are absorbent, ‘soaking up’ liquid on contact and some materials are waterproof, making them useful for particular purposes. |
| 1. *Assessment*
 | Snapshot 2: Comparing and grouping materials.Curriculum statement is achieved if the child: Can sort materials into two sets according to properties. Can compare materials giving differences and similarities in properties. Can select materials with opposite properties. Can match properties with their opposites.  |
| **Themes and links** |
| **Themes (types of enquiry)** | **Where these are covered:** | **Links across the Science curriculum** |
| **Observe and describe**  | Lessons 1 and 2Can make observations using their senses of sight and touch.Can describe observations using sensory and context-specific vocabulary.Lessons 2 and 3Can use simple scientific language to describe observations and make comparisons of a variety of materials. |

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| **EYFS**  | To explore the differences, they notice between materials and how they can be changed (EYFS framework; ELG The Natural World). |
| **1**  |  |
| **2**  | Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses. |
| **3**  | Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. |
| **4**  | Compare and group materials together, according to whether they are solids, liquids, or gases. |
| **5**  | 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.Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood, and plastic. |
| **6** | About classification of rocks. |

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| **Gathering and Recording data** | Lessons 1, 3 and 4Can use first hand observations and simple practical tests to group and compare the properties of different materials.Can record observations in words and pictures.Can record observations and measurements in simple prepared tables and bar charts. |
| **Comparative and fair testing** | Lessons 3 and 4Can follow simple instructions to carry out comparative tests on a variety of materials. |