**Year 1 Science Curriculum – Spring Term 1**

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| **Theme: Naming & describing materials**  |
| **Curriculum objectives** | **Vocabulary** | **Links across the curriculum** |
| 1. To distinguish between an object and the material from which it is made.
2. To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
 | **Keyword** | **Definition**  | Transparent | A material that you can see through | **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**: Planet Plastic; Charlotte Guillain – What is plastic made for and why do we need to e cautious about its daily use? Discover the problems of today’s plastic production and what we can do to help our environment. **English:** Recycling Plastic; Anthony Robinson - What actually happens to the things we recycle? This photographic information book looks behind the scenes at how we recycle, what can be done with recycled material and what the benefits are.**Design & Technology:** Fabric Faces, Puppets.**Geography:** Materials used in homes in the past and present. |
| **Compare** | Estimate, measure, or note the similarity or difference between items | Reuse | To use a material or object again |
| **Describe**  | To use words to tell someone else what something is like | Recycle | To turn waste materials into new materials and objects |
| **Different**  | Not the same | Property | What a material is like |
| **Record** | To draw or write what you observed or measured | Natural | Tound in nature; not made by humans |
| **Similar** | Not identical but very alike | Material | The substance something is made of |
| **Sort** | To arrange things in a particular way | Manufactured | A material that has been made into another material by humans |
| **Suitable** | Right for purpose | Absorb/ absorbent | To take in fluid |
| **Use** | Purpose of something | Magnifier | A piece of equipment that makes things look bigger when you look through it |
| **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?* |
| Materials is a Chemistry topic, building on children’s early experiences in Foundation stage.Children may have previously learnt:* To explore the movement of sand, water and other materials using a variety of equipment such as funnels, sieves and colanders
* To choose clothing to suit the day’s weather conditions
* To explore materials that could be used to build animal and human homes
* About changes to some materials, for example, ice and chocolate.
 | This prepares children for later learning:* About the observable properties of everyday materials (Year 1 Chemistry – Everyday materials)
* About the suitability of a variety of everyday materials for particular uses (Year 2 Chemistry – Uses of everyday materials)
* Recognising how the shapes of some solid objects can be changed by squashing, bending, twisting, and stretching (Year 2 Chemistry –Uses of everyday materials)
* Distinguishing between things that are living, once living, and never lived (Year 2 Biology – Living things and their habitats)
* About rocks (Year 3 Chemistry – Rocks)
* Solids, liquids and gases, and changes of state (Year 4 Chemistry – States of matter).
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| **Lesson Sequence** | **Key Knowledge** | **Key Skills** |
| 1. *What material is this? Part 1*
 | Everything around us is made from materials. Some materials are natural materials, naturally sourced materials that are used without modification. Some materials are manufactured materials, made by changing naturally sourced materials. Different materials have different properties. Materials should be used carefully and can often be reused or recycled. | **Working scientifically****Skills children will learn, use and develop*** Observing closely, using simple equipment.
* Performing simple tests.
* Using their observations and ideas to suggest answers to questions.

**Knowledge about science children will learn**Children will learn about the methods scientists use to build scientific knowledge.They will learn that scientists build explanations by making observations of materials and test their ideas by collecting, analysing, and interpreting data.They will develop an understanding of the following types of enquiry: identifying and classifying, comparative testing. |
| 1. What material is this? Part 2
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| 1. *Is all paper the same?*
 | Paper is a manufactured material made from wood, which is a natural material. Different types of paper have different properties and uses. Some paper can be recycled. |
| 1. *Is all fabric the same?*
 | Fabric is a manufactured material which can be made wholly or partly from different source materials and therefore there are different types of fabric with different properties. Different types of fabric have different properties and uses. Fabrics can be made from recycled materials and should be reused or recycled whenever possible. |
| 1. *How can we group objects made of different materials?*
 | Objects can be sorted according to their source material, and as natural and manufactured. Objects can be made from more than one material. |
| 1. *Assessment*
 | Children work in small groups to look at different materials used throughout term, agree on a selected material to create a waterproof jacket for a teddy. Groups then carry out their investigation and discuss their findings. |
| **Themes and links** |
| **Themes (types of enquiry)** | **Where these are covered:** | **Links across the Science curriculum** |
| **Observing closely (using simple equipment)** | Lessons 1, 2, 3 and 4Can make observations of different materials using their senses of sight, touch, and hearing.Can describe observations using sensory and context-specific vocabulary (for example, rough, smooth, shiny, dull, see-through).Can use a handheld magnifier correctly to see more detail. |

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| EYFS | Exploration of the natural world around them (EYFS Framework; ELG The Natural World). |
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| 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.Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching.  |
| 3 | Compare how things move on different surfaces.Notice that some forces need contact between two objects, but magnetic forces can act at a distance.Observe how magnets attract or repel each other and attract some materials and not others.Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify some magnetic materials.Describe magnets as having two polespredict whether two magnets will attract or repel each other, depending on which poles are facing. |
| 4 | Compare and group materials together, according to whether they are solids, liquids, or gases.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).Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. |
| 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. |
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| **Gathering and recording data to help in answering questions** | Lessons 3 and 4Can use simple scientific language to describe differences between papers and fabrics. |
| **Comparative and fair testing** | Lesson 3Can follow simple instructions to carry out comparative tests on paper. |  |