Year 1: Materials Our Learning Leaves Curriculum – Science

	Required prior knowledge	Knowledge to be explicitly taught	How knowledge will be built upon
Substantive knowledge	• Feel, hear, smell and see natural materials of grass, mud, water, rock and sand (YR) • Materials can be artificial (man-made) or natural (YR) • Materials include plastic, wood, and fabric (YR) • Some materials are hard whilst others are soft, some can be described as rough whilst others are smooth, and some are dull whilst others are shiny.(YR)	• An object is a 'thing' that can be seen and touched • Objects have a name and often have a purpose. For example a cup is the object, and its purpose is for drinking from. • The material is what an object is made of, for example a cup can be made of paper or plastic • Common materials include wood, paper, metal, glass, plastic, water, rock and fabric • Materials have different physical properties, some materials are hard whilst others are soft, some can be described as rough whilst others are smooth, some are dull whereas others are shiny. • Materials can be grouped in a number of ways based on their physical properties • The material that we choose to make an object from depends on its purpose (i.e. no chocolate teapot)	Materials have physical properties that make them better or worse for certain uses, such as waterproof, absorbent, windproof, heatproof, malleable (Y2) • Materials such as wood, metal, plastic, brick, rock, paper and cardboard have these physical properties to different extents (Y2) • Different combinations of materials could be used to create different object, including a wall, a mop and a saucepan(Y2)
Disciplinary knowledge	• Use a table to classify items based on properties (Y1)	Sort materials into a Carroll diagram based on their characteristics • Scientists group objects or living things based on their properties • Use a Carroll diagram to classify items based on properties • Find the best material for a boat (waterproof and floats • Make simple statements about the results of an enquiry	The thing that we measure is called the dependent variable; the thing we change is the independent variable (Y3)

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Key Drivers

Culture and Diversity - which helps pupils to develop enquiring minds about the wider world –

- How are different materials suited for different environments and uses.
- Scientists' values and beliefs are influenced by the larger culture in which they live. Such personal views can, in turn, influence the questions they choose to pursue and how they investigate those questions.
- Scientific activities are social activities, so scientific culture is the product of humans' or particular groups of humans' activities. The thinking patterns, values, behavioural norms and traditions of science formed in its history reflect its cultural connotation.
- PSTT – 'A Scientist Just Like Me' - https://pstt.org.uk/resources/curriculum-materials/ASJLM Case studies of different scientists from diverse and under-represented backgrounds.

Environment and Community - which helps to instil in our pupils a respect for our environment and for our local and wider

- British Science Week
- Outside speakers
- Eco School – use of plastics, recycling of materials
- School community reminders
- RESPECT characters reminders
- Children to appreciate our communities values, similarities and our unique qualities that make us special.

Creative arts and physical development - which helps our pupils to express themselves and excel as holistic learners.

- links to DT curriculum
- Forest School
- Scientists have to use their imagination to come up with explanations, theories and predictions.
- Scientists have to use their prior and new knowledge to create links

Learning to learn - which helps pupils to concentrate and focus and build resilience as learners –

- Investigating (**comparative test)** different materials related to creating boats
- Patttern seeking, Identifying and classifying, Using secondary resources
- Respect characters model learning behaviours to develop resilience and perserverance.
- Respect characters model excellence in attitudes to learning.