Year R: : Materials Our Learning Leaves Curriculum – Science

	Required prior knowledge	Knowledge to be explicitly taught	How knowledge will be built upon
Substantive knowledge	• Children describe what different material feels like • We can choose different material to suit different purposes • Materials can be heavy, light, rough, smooth, hard, soft. • If you push or pull an object, it will move.	• A material is any substance that has a name. For example: chalk, paper, wood, iron, air, water, clay, plastic, rubber, stone, leather, wax. Everything is made up of materials. • When we want to make something we need to choose the best material for the job. • The property of a material is something about it that we can measure, see or feel and helps us decide whether or not it is the best material. • Most materials have more than one property and can be natural, man-made, strong, weak, heavy, light in weight, rough, smooth, shiny, dull, hard, soft, flexible, brittle, magnetic, non-magnetic. • Materials exist in three states: a solid, a liquid or a gas. Materials can sometimes be changed from one state to another, perhaps by heating them – for example, ice is a solid which becomes a liquid when it's heated. • A force is a push or pull. • Sometimes forces cause objects to move, and sometimes forces slow, stop, or change the direction of an object's motion. • Air, magnetic and gravitational are all examples of force.	• TBC w/ Lisa
Disciplinary knowledae	• Explore collections of materials with similar and/different properties • Children learn new vocabulary to describe different material • Children explore forces, for example rolling balls in different directions, jumping, playing with magnets.	• Children explore how things work • Explore changing states of matter • Learn new vocabulary • Use talk to work out problems and organise thinking. • Explain how things work and why they might happen • Talk about the differences between materials and changes they notice. • Explore and talk about different forces they feel.	• TBC w/ Lisa

Key Drivers

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

- Exposure to diversity will boost creativity, innovation, decision-making, and problem-solving skills.
- A great way to improve the thinking capacity of children is to introduce them to viewpoints that are different from the ones they are exposed to.
- Children listen to the varying viewpoints of their peers with respect and embrace the background of their peers.

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

- Children are surrounded by many different materials in their learning environment. They are encouraged to respect and appreciate the learning stimuli they have been provided with.

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

- It is emphasised that creativity is considered as a scientific attitude since through creativity; scientists can come up with different experiments which lead to significant innovations and findings around forces and materials.
- Rather than focusing on memorising facts, children are engaged in application in which they apply content knowledge to real-world situations, for example chooingn the best material to create.

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

- Learning becomes more effective when children explore.
- Children who are engaged in application of real-world situation requires them to be risk-takers who are both courageous and creative in their approaches.

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