Science Project Overview Year 1 Materials

<table>
<tr>
<td>Subject Knowledge (PoS)
Substantive Knowledge

• Objects can be made from everyday materials. (Yr1).
• Wood, plastic, glass, metal, water, and rock are used to make objects. (Yr1)
• Wood, plastic, glass, metal, water, and rock have physical properties. (Yr1)
• Physical properties of everyday materials can be sorted or grouped by texture, appearance, their uses, size and flexibility (. Yr1).</td>
<td colspan="2">Working Scientifically (PoS+Overview)
Disciplinary Knowledge
• Be curious and ask questions
• Using different types of scientific enquiry to grouping and classifying things
• Observing closely, using simple equipment
• Performing simple tests
• Identifying and classifying
• Using their observations and ideas to suggest answers to questions
• Begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.</td>
<td>Resources
Plastic, wood, metal, glass, water, rock
Sorting hoops</td>
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<td>Previous learning:
From Development Matters Reception
Recognise some similarities and differences between life in this country and life in other countries.
Explore the natural world around them.
Describe what they see, hear and feel whilst outside.
Recognise some environments that are different from the one in which they live.
Understand the effect of changing seasons on the natural world around them.</td>
<td>Preparing for:
• 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)
• Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Y3 - Rocks) • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. (Y3 - Forces and magnets)
• Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity</td>
<td colspan="2">Bespoke to our school:
Children have limited vocabulary
and this unit gives us an opportunity to
to build on tier two and three words.</td>
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	(electrical and thermal), and response to magnets. (Y5 - Properties and changes of materials) • Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. (Y5 - Properties and changes of materials)	
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		
Misconceptions: • only fabrics are materials • only building materials are materials • only writing materials are materials • the word 'rock' describes an object rather than a material • 'solid' is another word for hard.		

Cross Curricular Links:

Texts
The 3 little pigs
The Great Paper Caper
Who sank the boat
Not a stick
Somebody swallowed Stanley
Extra yarn
The adventures of the plastic bottle
Maths:
Measurement:
Solve practical problems for length and height; mass/weight; capacity and volume
Use measuring skills to record lengths and heights; mass/weight; capacity and volume;
Use appropriate language to sequence events in a chronological order

Explorify links:
Bonkers Bubbles
Liquid densities
Burly bridges
Functional footwear
Protective measures
Unusual houses
Wonderful wheels
Maritime medley
Synthetic selection
Which is the bendiest?
Unusual plant pots
What if every material was rigid, or stretchy, or transparent?
What if your school banned paper?

Possible careers/jobs:
Materials scientist (researches structures and properties of materials)
Builder (builds structures)

Architect (designs buildings)
Mechanical engineer (designs, analyses and manufactures mechanical systems)