SS John Fisher & Thomas More Catholic Primary School

A Voluntary Academy

"Journeying together with Jesus Christ, we learn to love and love to learn."

Medium Term Planning
Creative Learning Journey

Subject: **Science**	Topic: **Everyday Materials**	Differentiation
NC Links: **Year 1 Everyday Materials** • Distinguish between an object and the material from which it is made. • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. • Describe the simple physical properties of a variety of everyday materials. • Compare and group together a variety of everyday materials on the basis of their simple physical properties. **Year 2 Everyday Materials** • 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.		
Lesson 1: **I can name everyday materials and explain why they are used.** Working Scientifically objectives: Year 1 – ask simple questions; identify and classify everyday materials	Have pictures of materials for children to discuss; metal, wood, plastic, glass, brick, rock, paper, water, fabric and cardboard. Can they name them? Explain to children that everything in our world is made out of different kinds of materials. Discuss how we can tell what material things are made from (look, sound, feel, texture). Why are objects are made out of particular materials? Why are windows made out of glass for example? Watch the interactive video: https://www.youtube.com/watch?v=XnkQcP-RHCw	**SEN/LA:** Children to name each material and write a simple sentence explaining why it is used e.g. wood is hard so we use it to make tables. Metal is strong so we use it to make cars. **MA/HA:** Children write a more detailed explanation about why materials are used e.g. wood is used to make pencils because it is hard but

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Year 2 – ask more complex questions; look at different points of view; observe, identify, classify, compare and describe.	Have a quick discussion of the uses of different materials and their properties. For example, metal can be used for coins, cans, cars. Why is it good for these things?	also light. We can't use wood to make cars because it would rot. **Year 2 challenge**: Display questions asking children about various objects e.g. Which material would be best for making a table? Why? What could we use to make a plate or a mug? Children explain why each material is suitable for the task.
Lesson 2: **I can talk about materials that objects are made from.** Working Scientifically objectives: Year 1 – identify and ask simple questions about which material an object is made from; use observations and ideas to name the material an object is made from.	Starter activity: Find objects in the classroom which are made out of more than one material and identify what they are (e.g. pencil sharpener – plastic and metal) Recap what we learnt yesterday about the properties of materials and why materials are used for certain things. **What are materials used for?** Discuss what some of the materials may be used for before watching the video (uses of everyday materials): https://www.bbc.co.uk/bitesize/clips/ztjc87h Talk about the suitability of materials and discuss as a class. Refer to properties of materials and ensure children can discuss what an object is and what it is made of.	**SEN/LA:** Children match the objects to the correct material. **MA/HA:** Children list objects that are made from each material. **Year 2 challenge:** Children identify objects made out of more than one material and explain why they are made out of these particular materials.

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Year 2 – ask more complex questions; look at different points of view; observe, identify, classify and describe; sorting, grouping and classifying; researching.		
Lesson 3: **I can compare and group materials based on their properties.** Working Scientifically objectives: Year 1 – ask simple questions; identify and classify everyday materials Year 2 – ask more complex questions; look at different points of view; observe, identify, classify, compare and describe; grouping, sorting and classifying; pattern seeking.	**MTYT** – Hard/soft; shiny/dull; rough/smooth; bendy/rigid; waterproof/not waterproof, stretchy/stiff, transparent/opaque etc. Go through keywords and explain what they mean. Can children think of other properties? Remind children that a property of a material tells us something about it e.g. paper is bendy. Have a range of objects made from different materials and ask children to describe what they look/feel like. What words would they use to describe each object/material? Children to examine the properties of each material and sort them using a Venn diagram. To challenge children, provide them with the key question cards and allow them to create their own classification key e.g. is it hard or soft? Is it opaque or transparent?	**SEN/LA:** Children to use a Venn diagram to sort materials. **MA/HA**: Children to use a more complex classification key with yes and no answers (e.g. Is it stretchy? Is it transparent? Can it float?) Take photos of children sorting the materials and create Pic Collage for books. **Year 2 challenge**: Give children 4 images of materials: wood, metal, glass, fabric. Get them to come up with their own questions and create a classification key e.g. Is it smooth? Is it hard? Is it bendy? Is it waterproof?

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Lesson 4: **I can identify and classify natural and man-made materials.** Working Scientifically objectives: Year 1 – ask simple questions about the suitability of materials for their purposes; use observations and ideas to suggest answers Year 2 – ask more complex questions; look at different points of view; observe, identify, classify, compare and describe; grouping, sorting and classifying.	Starter Question: How can we tell if a material is natural or man-made? Some materials are natural such as wood and rock as they are found in the world around us and that others are man-made such as plastic and glass. TTYP – Which materials are natural? Which materials are man-made? Look around the classroom and see which materials have been used. Are there more man-made materials than natural ones? Why is this the case? What about if we go outside? Task 1: Display pictures of each material and get the children to sort them under the titles 'natural' or 'man-made.' Task 2: With their partner, children choose one natural and one man-made material and explain how they know it fits into that category. Teacher to model first e.g. I know wood is a natural material because it comes from trees. I know glass is a man-made material because they make it in a factory using sand and a mixture of chemicals.	**SEN/LA:** Children sort natural and man-made materials. **MA/HA**: Children identify natural and man-made materials and explain how they know (see examples given in whole-class Task 2). **Year 2 challenge**: Think of objects made from both natural and man-made materials e.g. a natural wooden chair with man-made fabric on top, a wooden pencil with man-made paint coated on it.
Lesson 5: **I can investigate how the shape of objects can change when they are squashed, bent, twisted and stretched.**	Before the lesson, ensure the following items are placed in the middle of each group of children: playdough, paper, plastic straw, plastic bag, pencil, sponge, elastic band, coin, piece of fabric (enough for each table to share). Prompt children to think and talk about how the shape of objects made from some materials can be changed. Can they tell the difference between solid and non-solid?	All children to make predictions first based on their prior knowledge. **Mixed ability groups**: Children investigate the changes in different objects when they are squashed, bent, twisted and stretched by performing

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Working Scientifically objectives: Year 1 – observe closely whether objects can be squashed, bent, twisted and/or stretched; make predictions based on prior knowledge; perform simple tests; gather and record data to help in answering questions; ask simple questions about the change in objects. Year 2 - ask more complex questions; make refined observations through the use of equipment; perform simple tests with increasing independence; gather and record data accurately to answer questions confidently; talk about what they found out, how they found it out and suggest simple changes to the observation.	Discuss in pairs/small groups: How can we change the shape of objects made from some materials? Can you think of an example of when you have changed the shape of something? What was it and how did you change it? Which materials do you think would be easy/more difficult to change the shape of? Why? Children have the opportunity to explore objects on their tables. Discuss in groups how they could change the shape of them. Encourage children to manipulate the objects on the tables by squashing, bending, twisting and stretching them. What do you think will happen if you try to bend or stretch a coin/pencil? What do you think will happen if you try to twist or squash a sponge? Record findings in terms of how they can change the shape for each object.	simple tests and recording their findings on the template provided. Children to describe what they found out and how they found it out, using their findings to draw a simple conclusion. **Year 2 challenge:** Children to explain why they think some materials can be changed in this way and others cannot (e.g. the elastic band can be stretchy so that you can wrap it around things of different sizes).

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Lesson 6: **I can explain why it is important to recycle everyday materials.** Working Scientifically objectives for Year 1 & 2. -ask more complex questions and give reasons why it is important to recycle; use observations and ideas to suggest answers.	Starter question: What is recycling? Children to discuss what recycling means to them. Discuss materials that can be recycled such as paper, plastic, cardboard, glass, metal, clothes etc. Talk about how children recycle at home. What do they do? Which materials go in each bin and what colour are they? Then refer to what recycling we do at school. Why is it important to recycle? Explain that we will be writing a fact file about recycling using the following headings: What is recycling? Which materials can be recycled at home? Why do we recycle? How is plastic recycled? Discuss questions as a class and write key words on the board to refer to later on.	**SEN/LA:** Writing a simple fact file using the headings provided. **MA/HA**: Writing a fact file straight into their books, using their own question sub-headings. **Year 2 challenge:** Children make a poster to display around school which encourages people to recycle.
Applied Write opportunities: Children to apply knowledge learnt in previous lessons to write about the recycling process and explain why it is important. They will have had the opportunity to explore materials that can be recycled in lesson 6.		

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Key Vocabulary:

Tier 2 – group, identify, classify, discuss, change, reuse, reduce

Tier 3 - materials, metal, wood, plastic, glass, brick, rock, paper, water, fabric, cardboard, squashing, bending, twisting, stretching, hard, soft, rough, dark, smooth, broken, breakable, opaque, transparent, absorbent, stiff, brittle, dull, rigid, elastic, waterproof, not waterproof, cold, shiny, coloured, recycling, recycle, melted, raw materials, pellets.