



Holly Park Learning Organiser

Year 2 - Science

Everyday Materials



Prior Knowledge:

Distinguish between an object and the material from which it is made.

Identify and name a variety of everyday materials

Describe the simple physical properties of a variety of everyday materials.

Essential Knowledge:

- Objects can be made from different materials. • Some materials are natural, such as sand, wood and wool. • Some are human-made such as plastic and cardboard. • Some materials are recyclable and can be used again.
- Paper and cardboard are made from wood. • Wood, paper and cardboard come from trees. • There are different strengths of wood, paper and cardboard. • Wood, paper and cardboard can be recycled and used again.
- Rock is a natural material. • Bricks are a human-made material. • Rock and brick can be used to build houses, buildings and walls.
 - Glass is hard and brittle. • Plastic can be flexible or hard. • Some plastic can be recycled. • All glass is recyclable.

Key Questions:

- • What are natural materials/ human-made materials? • What does "recyclable" mean? •
- What is paper and cardboard made from? • What words could you use to describe wood? • What words could you use to describe paper? • What words could you use to describe cardboard? • Can you change the shape of paper, cardboard and wood? How?
- What are rocks? • What are bricks? • Are rocks a natural or human-made material? • Are bricks a natural or human-made material? • Why would builders choose to build a house with bricks?
- What words could you use to describe glass/plastic? • What are the similarities/differences between plastic and glass?
- What objects can be made from metal? • Are all metals rigid? Why do you think this? • Are all metals silver in colour? How many metallic objects can you find that are not silver? • Why is metal a suitable material for
- What are natural fabrics? • How many natural fabrics can you name? • What are human-made fabrics? • How many human-made fabrics can you name?
- • What material is this object made from? • What is this object? • What other material can this object be made from? • Where have you seen this material before? • What is similar about these materials?
- What is the texture of this material? • Does the material bend? • Does the material squash? • Does the material twist? • Does the material stretch? • Can the material change shape? • Can the material change back to its original shape? • How

National Curriculum Objectives:

- To 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.

Key Vocabulary

material	what an object is made from
natural material	a material that comes from animals, plants or the Earth
human-made material	a material made by people
recycle	to change rubbish into a material that can be used again
Smooth	an even surface
rough	an uneven surface
flexible	can change shape easily
rigid	cannot change shape easily
rock	a natural material found on or underneath the Earth's surface
brick	a human-made building material
brittle	easily broken
flexible	can change shape easily
transparent	materials you can see through
translucent	materials that you cannot see clearly through
opaque	materials you cannot see through
Bend	to force something to curve
Squash	to crush or squeeze something
twist	to bend or curl something out of shape

Working Scientifically:

- Identifying and classifying.
- Performing simple tests.
- Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them
- Asking simple questions and recognising that they can be answered in different ways.
- Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them

SEND Core Knowledge:

- To identify objects that are made from natural, humanmade and recyclable materials. They should be encouraged to sort and group the same materials in more than one way.
- Children perform simple tests on each material to learn more about their structure and properties.

Common Misconceptions:

- Children may think that the term “material” is only used for objects inside the classroom such as toys or equipment. Allow children to identify materials outside in their local area to address this misconception. • Children may think that all materials are human-made. Show examples of common natural materials such as wood, wool and sand.
- Children may think that all paper has the same thickness and texture. Provide a wide range of different paper and card for children to test, such as tracing paper, sugar paper and cardboard. • Children may think that all wooden objects are heavy.
- Children may think that all rocks are heavy. • Children may think that all rocks are hard and cannot be broken easily. • Children may think that rocks and stones are different materials. Explain to children that stone is a word used to describe smaller rocks.
- Children may think that glass and plastic are the same material as they have a lot of similar properties. • Children may think all plastic is hard.
- Children may think that all solid materials are hard. • Children may think that all solid materials are heavy. • Children may think that no solid materials will change shape if a force acts on them. • Children may think that if a solid material changes shape, it cannot change back to its original shape.

Cross Curricular Links

Texts

Three Little Pigs (Lesley Sims)

Possible Practical Activities:



Explore Materials

Carry out a material hunt outside. What materials can children identify? Repeat the material hunt in the classroom. How are they similar to or different from the materials outside? • Allow children to sort and group materials based on different categories.. • Play games with children such as “Guess the material” to challenge their thinking.

Wood, paper, cardboard

Children carry out simple tests on wood, paper and cardboard to learn more about their physical properties. They should try to change the shape of the materials by folding, squashing and tearing. Encourage children to think of their own categories for testing.

Brick and rock

Children carry out a walk in their local area to observe, draw and label buildings or structures made from brick or stone.



Glass and plastic

Ask children to perform tests on glass and plastic to further understand their properties. Encourage them to suggest and choose some of their own categories for testing, for example: • Can it change shape? • Can it bend, fold or twist? • Does all plastic float? • Does all glass sink? • Is all glass/plastic transparent? Children should then think about the suitability of the materials for different uses.



Metal

Allow children to observe a range of metallic objects. Ask them to sort and group the objects in different ways. Encourage them to group the objects in more than one way. Play games when sorting the objects such as “Odd one out”. Ask questions to develop their thinking. For example, “Would foil be the best material for a key?” • Children explore their classroom, school and outside area to find where metal is used. They record their findings using labelled drawings. Encourage children to use key vocabulary to describe the metal objects they identify.

Test Materials

• Ask children to test materials to see if they change shape through bending, squashing, twisting and stretching. They should name the materials and sort them into different groups based on whether they think they would bend, squash, twist or stretch. Discuss any examples that could fit into more than one group. Children should record their findings in a simple results table.



Waterproof material

• Children learn how to use a pipette to drop water onto a piece of material to prepare them for the investigation step. Allow children to practice taking a set amount of water into the pipette and slowly releasing it.