

Y2/P3 Uses of Materials

Lesson 1

National Curriculum objective

Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses

Working Scientifically

Identifying and classifying

Learning outcome

- Children will have shared which materials they can identify.

Activity: Identifying common materials

- Children work in small groups of no more than four. Give each group samples of wood, metal, hard plastic, glass, brick, rock, paper, cardboard, rubber and different fabrics. Allow them time to explore the different materials.
- *The things in front of you are all examples of different materials. Everything in our world is made out of different kinds of materials.*
- In their groups, children list as many different materials as they can. Share their ideas and make a class list.
- Play a game of 'Altogether, Show Me'. Ask children, on the count of three, to lift up a named material from those in their collection. (Include use of the term 'fabric'.)
- Children go on different hunts in the classroom or the playground, finding objects made entirely out of one material, e.g. rubber (an eraser) or hard plastic (a ruler). They then find objects made out of a combination of more than one material, e.g. plastic and metal (a pencil sharpener) or glass, plastic and metal (a computer). Ask children to name the different materials in the objects made out of more than one material.
- If there are displays of materials in the classroom, allow children to add some of their objects to collections of the same material.

Differentiation

Support

- Restrict the hunts to objects made from only one material.

Extend

- Include different types of wood and/or metal.

Watch out for

- Children often think material refers only to fabric.

Equipment and materials

Material samples including: wood, metal, plastic, glass, brick, rock, paper, cardboard, rubber and different fabrics.

Learning outcome

- Children will have shared what they know about the properties of the materials they have explored.

Activity: Identifying properties of materials

- Add some additional materials to the samples the groups have. This could include different types of wood, metal, card and fabric.
- In their groups, children sort their materials into categories of their choosing. Share the ways each group has classified the materials. Ask children to find as many other ways of sorting the materials into groups as they can.
- Ask questions about the similarities and differences between different materials, e.g. *Which two materials do you think are most similar? Why?*
- Hold up a piece of metal and ask children to observe it closely. Choose children to share their observations about the properties of the metal (e.g. 'shiny', 'cold', 'hard', 'strong', 'flexible', 'silver').
- In pairs, ask children to choose one of the materials you have given them and list as many of its properties as they can. Select pairs to share their lists of properties with the rest of the class, without saying which material it is. Can the other children guess which material it is? Ask them to think first and then lift up the material when they think they have identified it.

Watch out for

- Children sometimes think that if something is flexible it can't be strong.
- Children sometimes mix up 'hard' and 'strong'. *If a material is hard, you can't squash it. If it is strong, it doesn't break easily.*
- Children sometimes mix up 'soft' and 'smooth'. *If a material is soft, you can squash it. If it is smooth, you can run your fingers over it and there are no bumps.*

Equipment and materials

Material samples including different types of wood, different metal, plastic, glass, brick, rock, paper, different thicknesses of cardboard, rubber and different fabrics.