Y2 – Materials – How are materials chosen in design? Lesson 2

Lesson	2 of 5

Learning objective

I can distinguish between an object and the material it is made from.
I can identify and describe properties of materials and sort them into groups.

National Curriculum links

NC KS1:
Children will:

- 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:

- use their observations and ideas to suggest answers to questions

Key lesson question	What are materials?

Resources

- lesson presentation (PPT)
- practical activity ideas
- sorting hoops and labels
- feely bag with a variety of objects made from different materials
- classroom objects to sort

Teaching input

- **Scientific enquiry types and skills** – Review the 'scientific enquiry' and 'working scientifically' skills the children will use in this lesson.
- **How are materials chosen in design?** – The slide shows the lesson questions the children will answer in this unit. The current lesson's question is highlighted on the slide.
- **Key vocabulary for this lesson** – Go through the key vocabulary for this lesson and their definitions. Have any of the children heard these words before? Did they already know their meanings?
- **Identifying and classifying** – Introduce Harriet. Read what she says about the scientific enquiry type, 'Identifying & classifying'.
- **True or false activity** – Read the three statements on the board. Children discuss with their learning partner if they are true or false. Take feedback from the class before revealing the answers on the following slide.
- **Properties** – Share the meaning of 'properties' and how they are used to describe materials. Review the describing words on the slide and check that children understand the meaning of each word.
- **Class activity** – Have a bag prepared with various objects made from different materials. Model the activity; pull an object out of the bag, say the object name, the material it is made from and describe its properties. Ensure that the children are able to distinguish between the object name and the material it is made from. Encourage them to use a variety of words to describe the material's properties (use the word bank on the slide).
- **Let's watch** – Use the 'new word alert!' to introduce the words 'suitable' and 'unsuitable'. Watch the video to find out more about why objects are made from certain materials.
- **Materials** – Use these four slides to identify objects, materials and their properties. Discuss which materials are suitable and which materials are unsuitable for certain objects depending on their properties. Share the new word alerts and clarify their meanings.
- **Matching activity** – Revisit the new vocabulary by asking the children to match the definition to the word. Take feedback from the class before the answers are revealed on the following slide.
- **Activity** – Children sort materials found around the classroom into groups according to their properties. The activity on the slide asks children to label sorting hoops with the new vocabulary learnt in the lesson. They identify the material an object is made from and label the object. They then sort the object according to its property. Photos can be taken as a way of recording learning.
- **Let's discuss** – Children share their findings as a group to the rest of the class. There are question prompts. Encourage use of the sentence starters to help them.
- **Challenge** – Share Attia's opinion. Do the children think that wood is a suitable material to make a pair of trousers? They should discuss whether they agree using the sentence starter. Take feedback from the class before revealing the answer on the following slide.

Main activity

Children sort materials found around the classroom into groups according to their properties. The activity on the slide asks children to label sorting hoops with the new vocabulary learnt in the lesson. They identify the material an object is made from and add a label. They then sort the object according to its property. Photos can be taken as a way of recording learning. Adaptive teaching: Children could extend the number of sorting hoops by adding other properties e.g. rough, smooth, absorbent.

Challenge

Is wood a good material to make trousers from? Children discuss and then provide an answer using the sentence starter for support.

Cumulative quiz questions

4. Is glass transparent or opaque?
5. Why is rubber a suitable material to make wellington boots from?
6. Is a rubber band rigid or flexible?

Self-assessment

- I can distinguish between an object and the material it is made from.
- I can identify and describe properties of materials and sort them into groups.

Key vocabulary

hard – something that keeps its shape and is not easy to press or bend
soft – something that is easy to press, bend or change shape
stretchy – something that can be pulled to make longer then goes back to its original shape
rough – something that feels bumpy and uneven when you touch it
smooth – something that feels flat and even when you touch it