Materials

Lesson plan and teacher's notes · Grade 1 Science · 1 period of 40 minutes

School	(write school name)	**Teacher**	(write name)
Date	(date)	**Class**	Grade 1
Subject	Science	**Enrolment**	Boys ___ Girls ___ Total ___
Time	40 minutes	**Topic**	Materials

Learners find, sort and name materials around the school, tell natural materials from materials made by people, use touch to identify materials in a mystery bag, and use materials to make art and build structures. The lesson is hands-on and starts with a safe walk.

Specific outcomes

By the end of the lesson, learners should be able to:

1. Name at least five materials found around the school
2. Sort materials as hard or soft, smooth or rough
3. Say whether a material is natural or made by people
4. Identify a material by touch and describe how it feels
5. Say what materials are used for building, tools, clothing and toys

Prior knowledge

- Learners know the words hard, soft, smooth and rough
- Learners can name things around them such as cup, chair and toy
- Learners can sort things into two groups

Teaching and learning materials

- Chalk and board
- Wood, fabric, metal, glass (only safe pieces), plastic, paper, water
- A cotton ball, a metal spoon, a wooden toy, a plastic cup and a small bag
- Paper, glue, clay, sand, blocks, straws and tape for art and building
- Pictures or a story of the Three Little Pigs

References

Ministry of Education (CDC) Grade 1 Science syllabus and module; 25Schools learners' note: Materials.

Lesson development

Stage and time	Teacher activities	Learner activities
Introduction and safety 6 min	Say that materials are all around us and we can see, touch, smell and feel them. Tell learners which objects are safe and which can cause harm, such as broken glass or sharp metal. Explain the walk rules.	Listen, repeat the safety rules and name materials they see in the class.
Material scavenger hunt 10 min	Take learners on a short walk around the school. Ask each pair to collect items such as leaves, stones or sticks. Keep them away from dangerous things.	Collect safe items in pairs.
Sort and group 10 min	Back in class ask learners to sort the items by smooth, rough, hard or soft. Ask: Which materials are natural. Which are made by people. Why. In what other ways do materials differ. Use set language: the set of materials that are natural.	Sort the items, say why and use the words natural and made by people.
Mystery bag 6 min	Put a cotton ball, a metal spoon, a wooden toy and a plastic cup in a bag. Let a learner close their eyes, feel one object, describe how it feels and guess the material.	Feel, describe and guess the material.
Uses of materials 6 min	Show materials for art and building. Ask learners to create a piece of art or a small structure using different materials. Ask them to say which piece is most creative and why. Tell the story of the Three Little Pigs and ask what each house is made of.	Make art or a structure, explain it and name the materials.
Conclusion 2 min	Ask learners to draw and colour a material they explored and explain it. Summarise and give the homework.	Draw a material and say what it is and what it is used for.

Teacher's content notes

Read these before the lesson. They are what you need to know, not what to copy onto the board.

Materials

Materials are what things are made of. Examples are wood, fabric, metal, glass, plastic, paper and water. Learners explore them with sight, touch, smell and feel, but safety comes first.

Sorting

Learners group materials by smooth, rough, hard or soft, and by natural or made by people. Use set language, for example the set of materials that are hard.

Uses of materials

Materials are used for building, making tools, making clothing and making toys. The Three Little Pigs story, with straw, sticks and bricks, helps learners talk about materials and their uses.

Precaution

Guide learners on objects that are safe and those that can cause harm. Watch learners on the walk and keep them away from broken glass, sharp metal and other dangers.

Questions to ask during the lesson

Question	Expected answer
A boy opens his school bag and takes out a wooden ruler, a plastic bottle and a cloth bag. His teacher asks about the materials. (a) What is the ruler made of. (b) Name something that is made by people. (c) Which one is natural.	(a) Wood. (b) The plastic bottle or the cloth bag. (c) Wood.
In the mystery bag a girl feels something hard, cold and smooth with a long handle. She guesses it is a spoon. (a) What material could it be made of. (b) Name two words that describe how it felt. (c) Is the spoon natural or made by people.	(a) Metal. (b) Hard and smooth. (c) Made by people.
The class builds a model house for the story of the Three Little Pigs. One group uses straw, one uses sticks and one uses bricks. (a) Name the three materials. (b) Which group uses the hardest material. (c) What do people use these materials for.	(a) Straw, sticks and bricks. (b) The group using bricks. (c) Building.

Worked examples for the board

Sorting materials

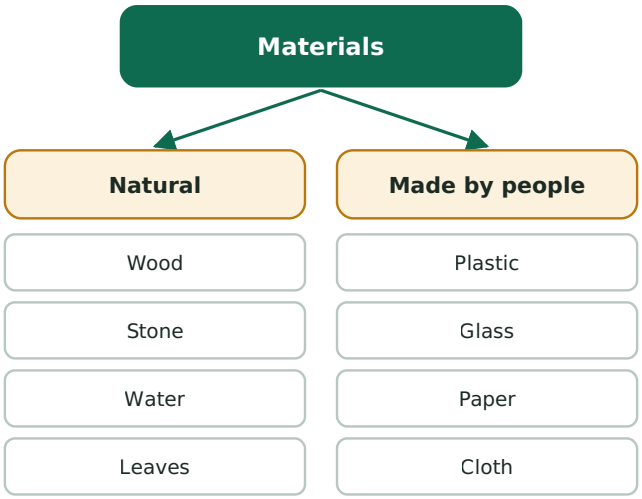
Step 1: Take a cotton ball, a stone and a plastic cup. Step 2: Touch each one. The cotton ball is soft. The stone is hard and rough. The plastic cup is hard and smooth. Step 3: Make two groups, soft and hard. Step 4: Say which are natural: the stone. Which are made by people: the cup.

Mystery bag

Step 1: Put four objects in a bag. Step 2: A learner closes their eyes and takes one object. Step 3: The learner says how it feels, for example soft. Step 4: The learner guesses the material and the class checks.

Board plan

Write the title. Draw two columns, NATURAL and MADE BY PEOPLE, and write examples from the learners. Underneath write the words hard, soft, smooth and rough with an example for each.



The finished board: two groups of materials

Mistakes to expect

Learners often think	Put it right
A material is the same as an object.	A cup is an object. Plastic is the material it is made of. Ask: What is it made of.
All hard things are rough.	Let learners feel a smooth metal spoon and a rough stone. Both are hard but feel different.
All materials are natural.	Sort a plastic cup and a stone and ask which one comes from nature.

Differentiation

Learners who struggle

Use only four materials at first: cloth, wood, metal and plastic. Let learners touch each one and say how it feels before sorting. Give learners the sentence: This is ... It is made of ...

Learners who finish early

Ask learners to find five things at home and write what each is made of. Ask them to say which material would be best for a house, a spoon, a shirt and a toy and why.

Hearing or visual impairment

For learners with a visual impairment, the mystery bag and sorting by touch suit them well. Name each object aloud as they hold it. For learners with a hearing impairment, face them, use real objects and pictures, and write the key words on the board.

No projector, no printing

Use things from the yard: sticks, stones, leaves, a bottle top, a plastic bag, cloth scraps and clay. Use a cloth bag or a sack for the mystery game. Use a story told aloud if there is no picture.

If time is short

Keep the sorting, the natural and made by people words and the mystery bag. Move the art and building to the next lesson.

Evaluation

Question or task	A correct answer shows
A boy finds a stone, a plastic bottle, a leaf and a piece of cloth near the road. His teacher asks him to put them into two groups, natural and made by people. (a) Which two are natural. (b) Which two are made by people. (c) Which is the softest.	(a) The stone and the leaf. (b) The plastic bottle and the cloth. (c) The cloth or the leaf. Learners use the two group names correctly.
At home a girl sees a wooden stool, a metal pot, a plastic bucket and a cotton shirt. Her grandmother asks what each is made of and what it is used for. (a) What is the stool made of. (b) What is the shirt used for. (c) Name one material used to make a tool.	(a) Wood. (b) Clothing. (c) Metal.

Homework

At home you find a cup, a broom and a shirt. (a) Say what each one is made of. (b) Say which one is soft. (c) Say one that comes from nature.

Extra practice with answers

Question	Answer
1. A girl collects a leaf, a stick, a plastic spoon and a metal key near her home. (a) Which two are natural. (b) Which two are made by people. (c) Which is the hardest.	(a) The leaf and the stick. (b) The plastic spoon and the metal key. (c) The metal key.
2. A mother makes a dress from cloth for her daughter and a toy car from wood for her son. (a) What material is the dress made of. (b) What material is the toy made of. (c) Which one is used as clothing.	(a) Cloth. (b) Wood. (c) The dress.
3. At school a teacher shows a pot made of metal, a bucket made of plastic and a pot made of clay. Learners say what is the same and what is different. (a) Which two are hard. (b) Which one is natural. (c) Which one do you think a farmer uses as a tool.	(a) All three are hard. (b) The clay. (c) The metal pot or other metal tool.
4. Two boys build with blocks and sticks. One says his tower is more creative. The teacher asks them to explain. (a) What materials did they use. (b) Why is it a good idea to explain. (c) Name one more material they could use.	(a) Blocks and sticks. (b) So everybody understands why they made it. (c) Straw, clay or paper.

Answers to the learners' check-yourself questions

1. Name three materials.
   Any three of: wood, cloth, metal, glass, plastic, paper, water.
2. Is a stone a natural material or made by people.
   Natural.
3. Is a plastic cup soft or hard.
   Hard.
4. What do we use cloth for.
   Clothes.
5. Your teacher puts a cotton ball, a metal spoon and a wooden toy in a bag. You close your eyes and feel one thing. It is soft and light. (a) Which material is it. (b) Is it hard or soft. (c) Name one hard material in the bag.
   (a) The cotton ball. (b) Soft. (c) The metal spoon or the wooden toy.
6. At the market a girl sees a plastic basin, a wooden spoon and a clay pot. Her mother asks her to say which are made by people and which come from nature. (a) What is the wooden spoon made from. (b) Name one thing made by people from the list. (c) Name a natural material.
   (a) Wood. (b) The plastic basin. (c) Wood or clay.

Teacher's reflection

What went well:

What I will change next time:

Learners who need follow-up: