Light

Lesson plan and teacher's notes · Grade 2 Science · 1 period of 40 minutes

School	(write school name)	**Teacher**	(write name)
Date	(date)	**Class**	Grade 2
Subject	Science	**Enrolment**	Boys ___ Girls ___ Total ___
Time	40 minutes	**Topic**	Light

Learners feel and talk about natural sources of light, handle artificial sources safely, sort sources into natural and artificial groups with cards and explain their choices. One period of 40 minutes.

Specific outcomes

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

1. Recognise natural sources of light: sun, moon and stars
2. Recognise artificial sources: candle, torch, lamp and bulb
3. Sort sources of light into natural and artificial groups

Prior knowledge

- Learners know day and night
- Learners know a torch and a lamp
- Learners can sort objects into two groups

Teaching and learning materials

- A torch, a lamp or bulb switched on and off safely
- A candle and matchbox for teacher demonstration only
- Picture or raised-line cards for sun, moon, stars, candle, torch, lamp, bulb
- Rough label for natural light and smooth label for artificial light
- Chalk and board

References

Ministry of Education (CDC) Grade 2 Science syllabus and module; 25Schools learners' note: Light.

Lesson development

Stage and time	Teacher activities	Learner activities
Present: feel and explain 12 min	Let learners feel the warmth of sunlight and talk about the moon and stars at night. Let them touch a lamp switch, a torch and a bulb. Show the candle only yourself. Say: The sun, moon and stars are natural sources of light. A lamp, candle, torch and bulb are artificial sources. Use rough and smooth labels for natural and artificial.	Feel, touch and listen.
Practice: sort the cards 16 min	Give groups a set of cards for the sources of light. Ask them to sort the cards into natural and artificial. Ask: Does this light come from nature. Is this light made by people or machines. Ask them to explain their choices aloud.	Sort cards and explain.
Produce: light chart 8 min	Let learners look around the classroom or home for light sources. Ask them to say: The sun is natural. The lamp is artificial. Make a light chart with two groups. Ask each learner to share one natural source outside and one artificial source used at home.	Look, say and share.
Closure 4 min	Go through the lesson with questions and answers. Ask: What is a natural source of light. Name one. What is an artificial source. Name one.	Answer questions.

Teacher's content notes

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

What light does

Light travels in straight lines, can be reflected like in a mirror, can be blocked like when a door is closed, and moves faster than sound. It helps plants grow and gives warmth to living things.

Natural sources

The sun, moon and stars are natural sources of light. Learners feel the warmth of sunlight and talk about the moon and stars.

Artificial sources

A lamp, candle, torch and bulb are artificial sources. They are made by people. Use the candle and matchbox only for teacher demonstration under strict supervision.

Sorting

Learners sort cards into natural and artificial, explain their choices aloud and make a light chart with two groups.

Questions to ask during the lesson

Question	Expected answer
The teacher holds up a torch and a picture of the sun. She asks the class about both. (a) Which one is natural. (b) Which one is artificial. (c) Which question helps you decide.	(a) The sun. (b) The torch. (c) Does this light come from nature.
A boy looks at the sky at night and sees the moon and many stars. His teacher asks what he sees. (a) Is the moon a natural or artificial source. (b) Name another natural source. (c) Name an artificial source at home.	(a) Natural. (b) The stars or the sun. (c) A lamp, torch or bulb.
A girl puts her hand in the sunshine and feels it warm. Her teacher asks what light does. (a) What does she feel. (b) What else does light help to do. (c) Name another thing light helps plants to do.	(a) Warmth. (b) Help us see. (c) Grow.

Worked examples for the board

Sorting a source

Step 1: Pick up the torch card. Step 2: Ask if the light comes from nature. Step 3: Say no, it is made by people. Step 4: Put it in the artificial group.

Making a light chart

Step 1: Draw two columns. Step 2: Write natural on the left and artificial on the right. Step 3: Place the cards. Step 4: Say one example from each group aloud.

Board plan

Write the title. Make two columns: natural sources and artificial sources. Write sun, moon, stars on the left and candle, torch, lamp, bulb on the right.

Natural sources	Artificial sources
Sun	Candle
Moon	Torch
Stars	Lamp
	Bulb

The finished board

Mistakes to expect

Learners often think	Put it right

A torch gives natural light.	Ask who made the torch. Light made by people or machines is artificial, so the torch is an artificial source.
Fire from a candle is natural because it is a flame.	Ask who made it. A candle is made by people, so it is artificial.
Light only helps us see.	Tell learners that light also helps plants grow and gives warmth to living things.

Differentiation

Learners who struggle

Use only four cards: sun, moon, torch, lamp. Let learners touch each card and say natural or artificial before they sort.

Learners who finish early

Ask learners to find two more artificial sources of light at home and to say what powers each one.

Hearing or visual impairment

The Ministry text for this lesson is written for learners with a visual impairment: use raised-line drawings, tactile cards and braille or rough and smooth labels, and let them feel the warmth of the sun. For learners with a hearing impairment, face them, use pictures and write the words on the board.

No projector, no printing

Use drawings on paper in place of picture cards and a real torch or a cooking fire seen at home as examples. Use the sun in the school yard.

If time is short

Keep the feeling and explaining, the card sorting and the closure questions. Move the light chart to the next lesson.

Evaluation

Question or task	A correct answer shows
The teacher lays out cards of the sun, a candle, the stars and a bulb. She asks each learner to sort them. (a) Which cards are natural sources. (b) Which cards are artificial sources. (c) Explain one choice.	(a) Sun and stars. (b) Candle and bulb. (c) Natural comes from nature, artificial is made by people.
Njavwa is at home at night and sees the moon through the window. She switches on a lamp to read. Her father asks her about the light. (a) Which source is natural. (b) Which source is artificial. (c) Why is the lamp artificial.	(a) The moon. (b) The lamp. (c) It is made by people.

Homework

Kasonde is outside in the evening and sees the moon and stars. Inside the house the family uses a torch and a lamp. His sister asks him to name the sources. (a) Name one natural source. (b) Name one artificial source. (c) Which question helps you decide if a source is natural.

Extra practice with answers

Question	Answer
1. Mwila lists the sun, a bulb, the stars and a lamp on the board. She wants to put them in two groups for the class. (a) Which are natural. (b) Which are artificial. (c) Name one more artificial source.	(a) Sun and stars. (b) Bulb and lamp. (c) Candle or torch.
2. A teacher shows a candle to the class from a safe distance and explains who may touch it. Learners must decide what kind of source it is. (a) Natural or artificial. (b) Who made it. (c) Who may use the matches.	(a) Artificial. (b) People. (c) The teacher only.
3. Chanda walks home in the evening and sees the moon rise. At home she switches on a bulb. Her brother asks which is natural. (a) Which source is natural. (b) Which is artificial. (c) Name one more natural source.	(a) The moon. (b) The bulb. (c) The sun or the stars.
4. A teacher asks learners to find light sources at school. One finds the sun, another finds a torch in the office. They report to the class. (a) Which one is natural. (b) Which one is artificial. (c) How do they know.	(a) The sun. (b) The torch. (c) The sun comes from nature and the torch is made by people.

Answers to the learners' check-yourself questions

1. What is a natural source of light.
   Light that comes from nature.
2. Name one natural source of light.
   The sun, the moon or the stars.
3. What is an artificial source of light.
   Light that is made by people.
4. Name one artificial source of light.
   A candle, a torch, a lamp or a bulb.
5. Bupe wakes up at night and feels the warmth of a lamp on her table. Outside the window she sees the moon and the stars. Her mother asks what she sees. (a) Which one is an artificial source of light. (b) Name one natural source. (c) Why is the lamp artificial.
   (a) The lamp. (b) The moon or the stars. (c) It is made by people.
6. The class sorts cards into two groups. The cards show the sun, a torch, a candle and the stars. The teacher asks them to explain their groups. (a) Which cards go in the natural group. (b) Which cards go in the artificial group. (c) Which question helps you

decide.

(a) The sun and the stars. (b) The torch and the candle. (c) Does this light come from nature.

Teacher's reflection

What went well:

What I will change next time:

Learners who need follow-up: