Weather and Climate Change

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

School	(write school name)	**Teacher**	(write name)
Date	(date)	**Class**	Grade 1
Subject	Science	**Enrolment**	Boys ___ Girls ___ Total ___
Time	80 minutes	**Topic**	Weather and Climate Change

Learners observe and record the weather, compare hot, wet and cold times of the year, choose clothes and protective measures for the weather, see how floods and droughts affect people, and plant and care for trees. The weather calendar continues for a week, so the lesson runs over two periods.

Specific outcomes

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

1. Say what the weather is today and draw its symbol
2. Record the weather for a week and say how it changed
3. Name times of the year that are mostly hot, wet or cold and one activity for each
4. Choose clothes that match the weather and say why
5. Say what floods and droughts do and name one way to help, such as planting and caring for trees

Prior knowledge

- Learners know the words sun, rain, wind, hot and cold
- Learners can draw simple pictures
- Learners have seen floods or dry spells in their village

Teaching and learning materials

- Chalk and board
- Weather symbol stickers or cut-outs (sun, cloud, rain, wind)
- A class weather calendar on manila paper or a chart
- Clothing items: hat, jacket, raincoat, sandals, boots, umbrella
- A plastic box, soil, small toy houses and water; seedlings and a hoe or digging stick

References

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

Lesson development

Stage and time	Teacher activities	Learner activities
Introduction: look outside 8 min	Ask: Have you looked outside today. What did you see. Take learners out to see the sky. Back in class agree on the weather and choose a symbol. Stick it on the class weather calendar.	Observe the weather, say what it is and choose its symbol.
Weather calendar and report 14 min	Explain that the class will watch the weather each day for a week. Ask learners to take turns as weather reporters who tell the class the weather and predict tomorrow. At the end of the week ask: Whose prediction was close. Discuss which times of the year are mostly hot, wet or cold.	Record the weather, give a short report and make a prediction.
Weather and activities 14 min	Ask what activities take place in hot, wet and cold times of the year. Let learners stick activity pictures next to the right time. Ask how each time is the same and different, and how it affects our lives.	Match activities to the times of year and say how they are alike and different.
Dress for the weather 14 min	Show hat, jacket, raincoat, sandals, boots and umbrella. Name a weather. Let a learner choose the clothes and explain why. Ask: A radio says there will be heavy floods, thunder storms with lightning, or very hot days. What would you advise your family to do.	Choose clothes for the weather and give advice for bad weather.
Floods, droughts and trees 22 min	Tell a short story of a village with a long drought or a flood and ask: What happened. How did it affect people. What can we do. Show a flood in a box: soil and small houses in a plastic box, then pour water slowly. Then plant a tree with the class: dig, plant, water and put mulch around it. Assign roles for watering and weeding. Ask why it is important to have vegetation around us.	Answer the story questions, watch the flood in a box and plant and care for a tree.
Conclusion 8 min	Summarise: weather changes, we dress for it, and floods and droughts can hurt us. We help by planting and caring for trees. Give the homework to ask at home whether there were floods or droughts last year and the year before.	Repeat the summary and listen to the homework.

Teacher's content notes

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

Weather patterns

Weather is what the sky and air are like today. Learners observe it, choose symbols (sun, cloud, rain, wind) and record it on a class weather calendar. They talk about which times of the year are mostly hot, wet or cold.

Comparing weather conditions

Learners say what activities go with hot, wet and cold times of the year, how the times are alike and different, and how each affects life.

Effects of climate change

Climate change brings floods, droughts, high temperatures, storms and bush fires. Use stories, pictures or a flood in a box to show their effects on homes, crops and people.

Adapting and greening

People adapt by wearing suitable clothes and taking protective measures when warned of floods, lightning or great heat. Greening, planting trees and not cutting them, helps. Care means watering, adding mulch and keeping the tree from damage.

Questions to ask during the lesson

Question	Expected answer
On Monday morning the sun is shining and the day is very hot. At break time learners want to play football on the field. (a) What is the weather. (b) What can they wear on their heads. (c) What can they carry to drink.	(a) Sunny and hot. (b) A hat. (c) Water.
A mother hears on the radio that there will be thunder storms with lightning in the next few days. Her children are worried. (a) What is the weather going to be like. (b) What protective measure can the family take. (c) What can children do to be safe.	(a) Storms with thunder and lightning. (b) Stay inside a safe building. (c) Listen to the grown-ups and stay indoors.
A school wants to help the environment. The learners dig holes and plant ten seedlings near the school fence. (a) What are they doing to the land. (b) Name two things they must do for the seedlings. (c) Why is it important to have trees around us.	(a) Greening. (b) Water them and put mulch around them. (c) Trees give shade and a home for insects and animals.

Worked examples for the board

Choosing clothes for the weather

Step 1: Look outside and say the weather: it is raining. Step 2: Look at the clothes: hat, jacket, raincoat, sandals, boots. Step 3: Choose the raincoat and boots. Step 4: Explain: they keep the rain off me and keep my feet dry.

Flood in a box

Step 1: Put soil in a plastic box and place small toy houses on it. Step 2: Slowly pour water in. Step 3: Watch the water rise around the houses. Step 4: Discuss what real floods do to buildings and crops.

Board plan

Write the title. Draw the four weather symbols with their names. Add a table of weather and clothes. At the side write floods, droughts, hot days and the ways we help: plant trees, do not cut trees.

Weather	What we can wear
Sunny and hot	Hat and light clothes
Rainy	Raincoat or umbrella and boots
Cold	Jacket
Windy	Jacket or warm clothes

The finished board: weather and what we wear

Mistakes to expect

Learners often think	Put it right
Weather is the same every day.	Use the weather calendar. After a week learners see the weather change and can say how it changed.
Floods and droughts only happen far away.	Ask whether learners had floods or droughts last year or the year before. Make it homework so they ask at home.
Planting a tree is enough, we do not need to care for it.	Show the care steps: watering, mulch and keeping it from damage, with learners taking turns.

Differentiation

Learners who struggle

Use real objects, such as real clothes, and let learners hold and match them. Ask learners to point to the weather symbol before they say the weather word. Keep the weather calendar simple with only four symbols.

Learners who finish early

Ask learners to draw themselves dressed for a windy day, a sunny day and a rainy day. Ask them to adopt a tree, give it a name and measure its height and width each week.

Hearing or visual impairment

For learners with a visual impairment, let them touch each clothing item and use a tactile weather chart with different shapes. Describe the weather with words such as warm sun and wind on the face. For learners with a hearing impairment, face them, use pictures and symbols, and show each weather outside.

No projector, no printing

Draw weather symbols with chalk or on old paper. Use real clothes from home and a plastic basin or a box for the flood demonstration. Use a tree already growing near the school if there are no seedlings.

If time is short

Keep the weather observation and the dress for the weather activity. Move the weather report and the tree planting to the next period, and give the question about floods and droughts as homework.

Evaluation

Question or task	A correct answer shows
A boy wakes up and sees dark clouds and heavy rain outside. He has to walk to school. His mother holds out a hat, a raincoat and a pair of boots. (a) What is the weather. (b) Which two things should he wear. (c) Why is the hat less useful today.	(a) Rainy. (b) The raincoat and boots. (c) A hat gives shade but does not keep out the rain well.
A village has no rain for three months. The river is dry and the maize is dying. A girl sees the drought and asks what to do. (a) What is this weather problem called. (b) Name one way it hurts people. (c) Name one thing the village can plant to help its surroundings.	(a) A drought. (b) Crops die and people have no water. (c) Trees or grass.

Homework

At home you ask your parents about the weather in past years. (a) Ask whether there was a flood or a drought last year. (b) Ask how they knew. (c) Tell the class one thing your family did about it.

Extra practice with answers

Question	Answer
1. For a week a class records the weather. On Monday it is sunny, on Tuesday it is cloudy, on Wednesday it rains, on Thursday it is windy and on Friday it is sunny. (a) How many sunny days are there. (b) Which day was rainy. (c) Which weather did they see only once besides rain.	(a) Two. (b) Wednesday. (c) Cloudy or windy.
2. A girl is going to a village on a cold morning. She has a jacket, sandals and a sun hat. (a) What is the weather. (b) What should she wear. (c) What should she leave at home.	(a) Cold. (b) The jacket. (c) The sun hat and sandals, unless her feet are cold.
3. A teacher tells a story of a village with floods. Houses and maize fields are covered with water. (a) What happened. (b) How did it affect people. (c) What can they do to prepare.	(a) A flood covered the land. (b) Houses and crops were damaged. (c) Listen to warnings and protect the home.

4. Each group of learners adopts a tree at school and gives it a name. They measure how tall it grows every week. (a) What do they do for the tree. (b) What do they measure. (c) Name one animal or insect that may need the tree.

(a) They care for it. (b) Height and width. (c) Insects or birds.

Answers to the learners' check-yourself questions

1. Name three kinds of weather.
   Any three of: sunny, cloudy, rainy, windy, hot, cold.
2. What can you wear on a rainy day.
   A raincoat or an umbrella, and boots.
3. What is a flood.
   Too much water that covers the land and houses.
4. Name one thing we can do to help when the weather changes too much.
   Plant trees, care for them, or not cut down trees.
5. It is a very hot day in the village. Your little brother wants to play outside in the sun with no hat. (a) What kind of weather is it. (b) What can he wear to protect himself. (c) What would you tell him.
   (a) Hot and sunny. (b) A hat and light clothes. (c) Wear a hat when you play in the sun.
6. A radio says there will be heavy floods in your area in the coming months. Your mother asks what the family should do. (a) What will happen to the land. (b) Give one thing you can tell your family. (c) Why can floods hurt farmers.
   (a) Water will cover it. (b) Listen to the warning and get ready to protect the family. (c) They damage buildings and crops.

Teacher's reflection

What went well:

What I will change next time:

Learners who need follow-up: