Hot and cold
Use the Sun

12

time
55 minutes.

learning outcomes
To:
- know that the Sun gives heat
- be able to extract information from spoken text

end product
- experiment to show that the Sun gives heat
- coloured picture from the worksheet

materials needed
- 2 identical small bowls
- 2 ice cubes
- name cards for all the children
- sheet of blue A3 paper
- sheet of red A3 paper
- sheet of white A3 paper
- colouring pencils

Tip.
You need a sunny day for this lesson.

Preparation
For the activity **The Sun gives heat** you will need two ice cubes.
On the sheet of white A3 paper draw a table with two columns.
At the head of one column draw a sun and at the top of the other a shadow.
Have the name cards of the children ready to stick on the table.
For the activity **When is it hot?** hang the sheet of blue paper on one side of the classroom and the sheet of red paper on the opposite side.

The Sun 10 min.
Ask the children what the Sun looks like. When can you see the Sun, and when can't you see it? Discuss why the Sun is so important for everyone in the world. Encourage the children to raise their hands if they agree with the following statements:
- The Sun is very big (yes).
- You can nearly touch the Sun (no).
- The Sun gives light (yes).
- The Sun only shines in this country (no).
- The Sun gives off heat (yes).

Discuss the last statement further. How do the children know that the Sun gives off heat? When do they notice that? Encourage them to talk about this.

The children investigate whether it is warmer in the sun than in the shade.

The Sun gives off heat 30 min.

Show the two identical bowls. Put an ice cube in each bowl.
Explain that you are going to put one bowl in the Sun and the other in the shade.

Ask the children which ice cube they think will melt more quickly.
Take the children's name cards and stick them on the sheet of paper in the column matching their prediction.

Encourage the children to watch the ice cubes in both bowls. What can they see? Which ice cube is melting more quickly? Encourage the children to colour in that ice cube on the worksheet. Then take the children outside to the playground. Find a shady area and a sunny area. Ask the children to take turns standing in each area. Can they feel the difference in temperature?

After returning to the classroom, discuss the children's predictions.
Which ice cube melted more quickly? Why was that? Can they explain this using their experiment in the playground? Encourage a couple of children to say what they have learned. Have any children ever experienced their ice-cream melting in the Sun? Come to the conclusion that the Sun gives off heat as well as light. It is the heat of the Sun that makes the ice cube in the sunny spot melt faster than the ice cube in the shade. Explain that it would be very very cold on Earth if there wasn't any Sun. So cold, that no-one would be able to live there.

When is it hot? 15 min.

Point out the sheets of blue and red paper to the children. Explain that the area where the red paper is hanging is the 'hot corner' and the area where the blue paper is the 'cold corner'. Explain that you are going to tell them some short stories. They have to decide if each story is about a hot situation or a cold one. Then they have to run to the hot corner or the cold corner.
Encourage the children in the blue corner to act as though they are feeling cold, by shivering and rubbing their arms. In the red corner they pretend that they are hot, puffing, and panting for example. After each story ask a number of children why they chose the red or the blue corner.

- It is February. A group of children has gathered together outside. They are all pulling sledges. I want to run out and join in, but first I have to put on my thick coat and gloves.
- Hooray, we're going to the beach! Mum and Dad have prepared everything: towels, sun-cream and sandwiches for a picnic. We are going to spend all day on the beach, playing in the sea and sand.
- I'm sitting in the garden. There is a paddling pool with water so we can cool off now and again. A parasol makes a shady area to sit. We need it on a day like this!
- Mum has made a cup of hot chocolate. And she's turned up the central heating. That helps a bit, but I still need to wear a warm jumper.