

# CHAPTER 4: Energy Science

## Aim

The aim of this chapter is to examine temperature. It considers heat as a form of energy and provides children with the opportunity to learn about temperature as a measure of heat using a thermometer.

## Overview of Chapter

The children discuss the use of thermometers and in pairs carefully examine thermometers. They learn about how to use a thermometer to record the temperature. The extension activity considers how people kept food cool in the past.

## Working Scientifically Skills

While engaging with the different activities in this chapter the children are provided with opportunities to apply and develop the following working scientifically skills:

- Observing
- Predicting
- Investigating
- Estimating and measuring
- Recording and communicating
- Analysing (Sorting and classifying)

## Primary Science Curriculum link

Strand unit: Heat; properties and characteristics of materials; materials and change

## Lesson 1 – Discussing temperature

### Resources

IWB 7 / PowerPoint 7: Guzzler on the beach

IWB 8 / PowerPoint 8: Guzzler in the snow

IWB 9 / PowerPoint 9: The thermometer

Large classroom thermometer

### Activity type: Discussion

Use **IWB 7 and 8** to introduce the idea of temperature.

If you do not have access to an IWB, use **PowerPoints 7 and 8** to introduce the idea of temperature.

#### Questions to promote discussion (Guzzler on the beach)

- 1 Where is Guzzler?
- 2 How do you think he feels?
- 3 What is he wearing? Why do you think he is wearing these clothes?

#### Questions to promote discussion (Guzzler in the snow)

- 1 Where is Guzzler?
- 2 How do you think he feels?
- 3 What is he wearing? Why do you think he is wearing these clothes?
- 4 What is the difference between the two places?
- 5 How do we know one is hot and the other is cold?
- 6 Can anyone think of an instrument or a tool that we use to tell us what the temperature is? *Prompt: a thermometer*

### Activity type: Observation

In this part of the lesson, the children observe a thermometer.

Show the children a large thermometer and allow them time to observe it.

They discuss their observations of the thermometer with the aid of **IWB 9 / PowerPoint 9**.

#### Questions to promote discussion

- 1 Do you know what this is called?
- 2 What colour is the thermometer?
- 3 What is written on it?
- 4 What can you see inside it?
- 5 What colour is the material?
- 6 What else can you say about the thermometer?

### Activity type: Discussion

Discuss the uses of thermometers with the children

#### Questions to promote discussion

- 1 Do you know what a thermometer is used for?
- 2 Do you have a thermometer at home? Where?
- 3 Has your Mum or Dad ever used a thermometer when you were sick? What did they do?
- 4 Look at the thermometer. What colour is the liquid inside it? What do you think would happen if we put the thermometer in a cold place? How could we find out?
- 5 What do you think would happen if we put the thermometer in a hot place? How could we find out?

## Lesson 2 – Recording temperature

### Resources

2 large thermometers

IWB 10 / PowerPoint 10 / PCM 3: Recording temperature

### Activity type: Measure and record

**Teacher note:** Explain to the children that the thermometer is used to measure how hot something is. The hotter something is (the higher the temperature) the higher the liquid inside the thermometer moves up. The colder something is (the lower the temperature) the lower the liquid inside the thermometer falls down.

Place a large thermometer in a safe position in the classroom and another in a safe position outside the classroom. Over a week, take a daily reading of both thermometers at the same time of day. Record both temperatures on **IWB 10 / PowerPoint 10 / PCM 3**.

Each day discuss the temperatures that are recorded.

#### Questions to promote discussion

- 1 What temperature was it inside / outside today?
- 2 Was it hotter inside or outside?
- 3 How do we know?
- 4 What day was it coldest outside / inside? How do we know?
- 5 What day was it hottest inside / outside? How do we know?
- 6 If we did this investigation at different times of the year do you think we would get different results?
- 7 Do you think it would be hotter / colder outside / inside in winter, spring / summer, autumn?

## Extension

### Resources:

Activity from the book **Guzzler Investigates Energy: Insulation** (page 22).

