

CHAPTER 5: Save Energy, Save Water

Aim

The aim of this chapter is to raise awareness about the use of water at home and in school and to introduce the concept that wasting water is wasting energy. It challenges children to consider how they use water and encourages them to consider ways in which water can be saved.

Overview of Chapter

This chapter opens with a discussion on the uses of water. The second lesson promotes discussion about saving water and children are encouraged to make suggestions as to how Guzzler can save water.

The children are also encouraged to design posters about saving water in the school. This activity can be used as part of a whole school energy conservation plan, such as SEAI's Energy in Education Programme www.energyineducation.ie and An Taisce's Green-Schools Programme.

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:

- Estimating and measuring
- Observing
- Predicting
- Analysing (Sorting and classifying)

Primary Science Curriculum link

Strand unit: Caring for my locality and area

Lesson 1 – Water water everywhere

Lesson link

Before beginning this lesson you might like to introduce the Water Cycle. See the activity from the book **The Energy File: The water cycle** (page 36).

Review: Energy Saving actions by reading **Guzzler's Big Book** with your class

Resources

A selection of plastic bottles: 330ml (small); 1L (medium) and 2L (large), measuring jug, a large basin and sink

Activity type: Discussion

Hold a whole class discussion on how we use water in our lives every day. Record children's responses. For each use given by children discuss whether the water used is hot or cold. Ask the children to think about how energy is used to heat water and how energy might be used to treat and transport cold water to our taps.

Questions to promote discussion

- 1 Before you came to school today did you use any water? Give an example of how you used water.
- 2 Can you think of other times when you use water at home?
- 3 Have you used water in school today? When?
- 4 Can you think of other times we use water in school?
- 5 When do we use hot or cold water?
- 6 How do we use energy to get hot water?
- 7 How is energy used to get cold water into our homes?

Activity type: Predict and observe

Show the children the three different sized bottles (330ml - small, 1L - medium and 2L - large). In front of the class fill each bottle with water using a measuring jug. Different children could fill each bottle.

Leave the three full bottles in a position where all the children can see them. Ask the children to predict how many of these bottles of water they think it will take to do different daily routines. Record their responses on the IWB and compare the actual amounts (given below) with children's predictions.

Questions to promote discussion

- 1 How many small bottles of water do you think it takes to brush your teeth?
(between 1 and 4 litres or 3 to 12 small bottles)
- 2 How many large bottles of water do you think it takes to use the dish washer?
(20 litres or 10 large bottles)

- 3 How many large bottles of water do you think it takes to have a bath? (*up to 80 litres or 40 large bottles*)
- 4 Are you surprised about the amount of water we use for each of these activities?
- 5 How could we use less water when brushing our teeth/ washing dishes/ washing ourselves?
- 6 Can you think of other ways we could save energy?

Ask the children to suggest ways to use the water in the bottles after finishing the activity to demonstrate that you are not wasting water eg. water a plant or water the school garden.

Extension

Resources

Activity from the book **Guzzler Investigates Energy: Saving energy in the kitchen** (page 24)

Activity from the book **The Energy File: How to build a water wheel** (page 10)

Lesson 2 – Help Guzzler save water

Resources

Review: Energy Saving actions by reading **Guzzlers Big Book** with your class.

IWB 14 / PowerPoint 14: Guzzler and water

Activity type: Discussion

Discuss the different scenarios in **IWB 14 / PowerPoint 14** on how Guzzler could save water.

Scenario 1: Brushing his teeth – with the water running

Scenario 2: Watering flowers – leaving the hose on

Scenario 3: Using the dishwasher – he puts in his favourite cup on its own for 90 minutes because it's his favourite cup!

Scenario 4: Getting out of the bath

Questions to promote discussion

- 1 When you are brushing your teeth do you leave the water on?
- 2 In the kitchen; do your Mum or Dad put on the dishwasher when it's not full?
- 3 Does your Mum or Dad put on the washing machine with one jumper in it?
- 4 How do you or your Mum/Dad water the plants and flowers at home? Do you use a hose or a watering can?
- 5 Do you ever help to wash the car? Do you use the hose? Do you use a bucket?

After introducing water use at home discuss with the children how water is used in school. The children could make a whole class poster on ways to save water in the school. They could also make little posters to be placed at different positions in the school to remind children to save water as part of the **Energy in Education Programme**. Go to the website for factsheets and videos on saving water in schools.

Extension

Resources

Activities from the book **Guzzler Investigates Energy: A visit to a smart planet (page 18)**, **Composting (page 20)** and **Paper recycling (page 21)**.

Activity from the book **The Energy File: Test your energy IQ (page 42)**.

