

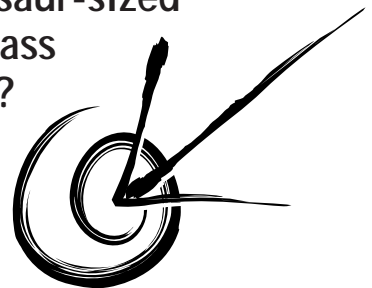


My Environmental Footprint

Lesson aims

What impact do you have on the earth?
 Have you got a friendly flea or a dumping dinosaur-sized footprint? What can you do as an individual, class or school to reduce your environmental impact?

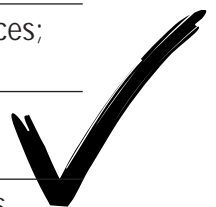
Students will learn about the concept of their environmental footprint. They will learn how to measure and reduce their environmental footprint.

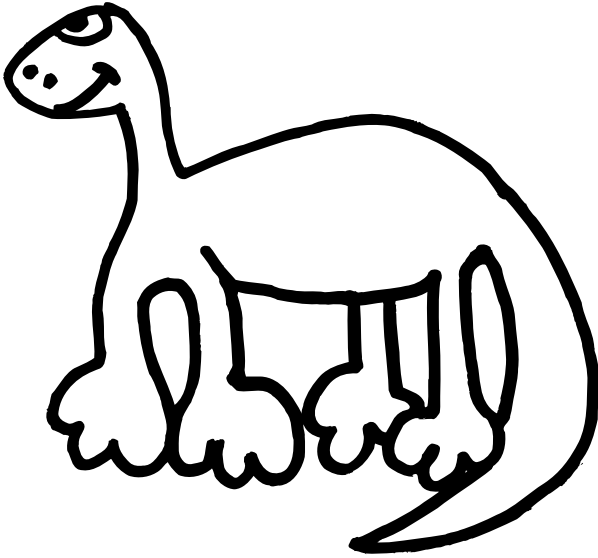


Learning outcomes

As outlined in the National Profiles:

Studies of Society and Environment	Place and Space	Features of places; People and places; Care of places
	Resources	Use of resources; Management and enterprise
	Natural and Social Systems	Natural systems; Economic systems
Science	Life and Living	Living together; Structure and function; Biodiversity, change and continuity





Background information

With a world population of 6.1 billion people and rising, we need to be concerned about the Earth's ability to provide us all with the things we need to live, and to absorb all the waste we produce.

Your environmental footprint is a measure of your personal impact on the environment. It can be defined as the amount of the earth's surface it takes to provide everything each person uses – food, water, energy, clothes, roads, buildings etc. The larger the footprint, the more resources needed to support that lifestyle.

The ecological footprints of most developed countries require more land than is available. People in Australia have a footprint of 9.4 hectares (about the size of 14 average sports fields) and we need to reduce our footprint to 2.2 hectares.

If everyone on Earth lived like the average Australian, we would need at least four Earths to provide all the materials and energy we currently use and the waste we produce.



Sources & further information

Best Foot Forward developed this ecological footprint calculator. To estimate your footprint, students select those options that most closely reflect their lifestyle.

www.bestfootforward.com/

Calculate Your Ecological Footprint. Students answer 13 simple questions to assess their use of nature.

www.lead.org/leadnet/footprint/

Eco Voyageurs: Students can fill out a range of questions to calculate their Ecological Footprint.

www.ecovoyageurs.com/

EPA Victoria: Provides information on what an eco-footprint is and has developed an online household and school calculator.

www.epa.vic.gov.au/eco-footprint/

My Footprint: This Ecological Footprint Quiz estimates how much productive land and water you need to support what you use and what you discard.

www.myfootprint.org

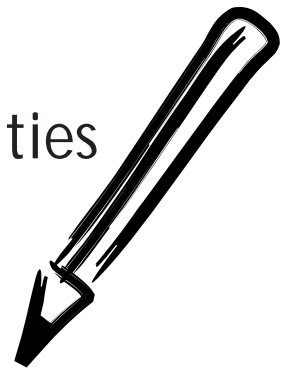
Classroom activities

1. Classroom Design

Prepare the classroom design for a series of environmental education lessons.

Some ideas are listed below:

- Generate interest in the environment by asking students to go through magazines and newspapers cutting out pictures and articles on the environment. Display these around the room.



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- Develop an area in the classroom devoted to the theme of the environment. The area could have photographs, books, and videos about the environment for students to look through. You could also decorate the area of the room as a seascape which needs to be protected from pollution.
- Brainstorm a series of questions about the environment and hang them up around the room. Questions could include: Is the water polluted? Do we have too much rubbish? Are you a litterbug?
- Develop a list of words associated with the environment and display them in the room.

2. Environmental Footprint Introduction

- Introduce the students to the term 'environmental footprint'. Explain to them what the term means and that Australia, as a country, has a very large footprint.
- Draw up a very large footprint with the title 'Areas that make up your footprint'. As a class brainstorm, what activities contribute to our environmental footprint? You may want to divide the footprint up into three main areas:

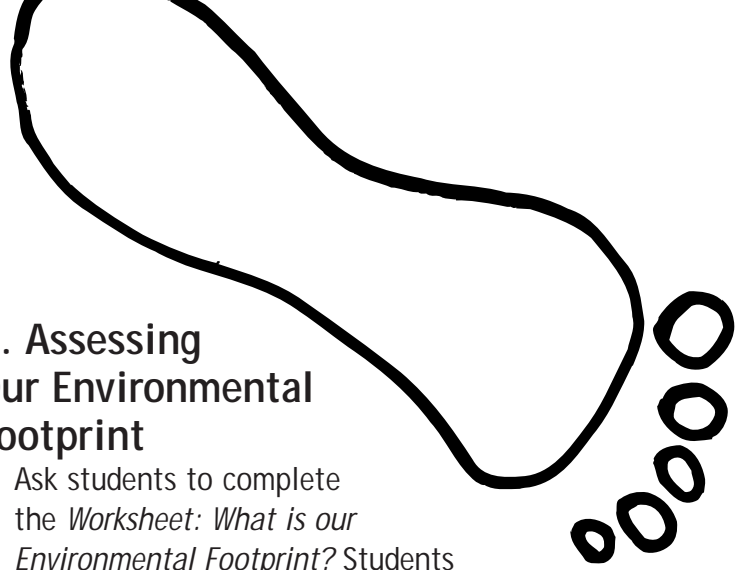
Energy - using electrical or other powered devices including microwaves, lights, hair dryers, heaters, air-conditioners, travelling in a car, tractor, bus or train, lawn mowers, televisions, computers, radios, and refrigerators.

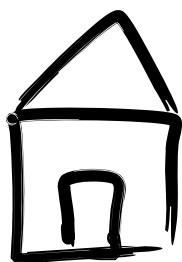
Water - using water for drinking, growing food, cleaning. It could be cleaning your hands, teeth or flushing the toilet. Water is also used in washing machines and dishwashers, and to water the garden and sporting fields.

Waste - what you use and no longer need. This could be bottles, newspaper, packaging, old clothes and leftover food.

3. Assessing Our Environmental Footprint

- Ask students to complete the *Worksheet: What is our Environmental Footprint?* Students will be able to gain ideas from the large footprint that the class produced when making their own footprint. When the students have completed the worksheet hang them around the classroom.
- Ask the students to complete the *Worksheet: Measure Your Impact*. Lower primary students may need some assistance to complete the worksheet (from a parent) or you could record the class footprint as a group and choose ten activities that the majority of students undertook during one day (24 hours).
- A good time for each student to start recording their resource usage may be some time during the morning so that they become familiar with recording activities. You will need to remind them after recess and lunch to record what waste was generated from their lunch and how much water they used. During other class activities the teacher should remind them when using electrical devices such as computers. Students will take home their recording sheet to continue to write down what activities they undertake and what resources they use.
- Each student then rates each of their activities and associated resources out of three in terms of their environmental impact. Once students have finished rating each activity's impact, they should add up their total score to assess what size their footprint was for that particular day.





Extension / Home-based activities

Lower Primary

Treading Lightly

Once students have calculated their footprint get them to pick one thing they can do to shrink their own Environmental Footprint. Answers may be recorded in a variety of ways including drawing a picture or cartoon. Display these suggestions around the classroom.

Middle Primary

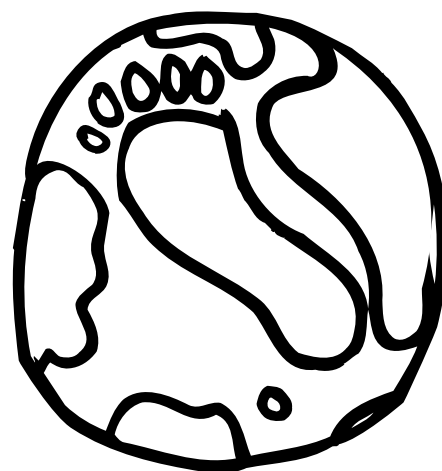
Rubbish Weight

Students can use their school bags to collect all the rubbish (clean and properly sealed) they use during the day and carry it around on their back for a set period of time i.e. morning tea. Encourage the students to discuss how much they use and how it could be reduced.

What is our School Footprint?

Use the Victorian EPA website to calculate your school's footprint. It can be downloaded from the website:

www.epa.vic.gov.au/eco-footprint/



Upper Primary

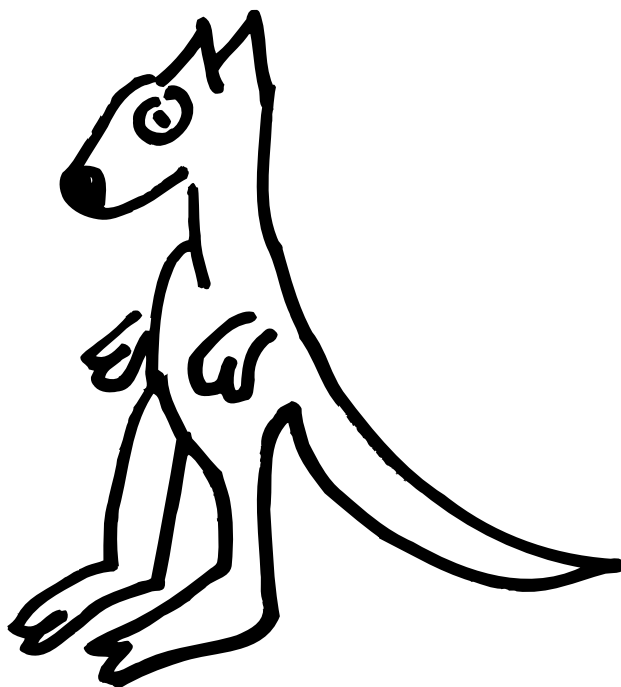
Into the Future

Ask students to imagine what the world would be like if we continue to use more resources than we have. Students can write a story of living in the next century – the year 3000. Have we managed to reduce the amount of resources we use?

Homeprint

Students can calculate the Environmental Footprint of their home, recording how much water, energy and waste they use/produce in a day. A household calculator can be downloaded from the website:

www.epa.vic.gov.au/eco-footprint/



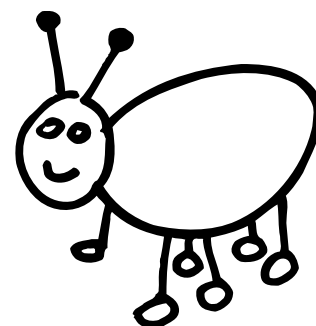
My Environmental Footprint

Worksheet:

What is our Environmental Footprint?

What does the term Environmental Footprint mean? Write a definition in the box below:

Draw an outline of your footprint below. You then need to cut out pictures from magazines and newspapers or draw what things you think make up your footprint.



Worksheet: Measure Your Impact

Instructions

1. You need to write down 10 activities and record what resources are used. Activities may cover catching a bus, brushing teeth, getting dressed, eating lunch, and playing sport to name a few.
2. You also need to record what resources were used to undertake the activity. The resources include water, energy or waste produced.
3. You then need to estimate how much of the resource you used and write down the number 1, 2 or 3 in the usage boxes. Use the following guide:

Length of Activity	Usage	Score
Less than 10 minutes	Low	1
11 minutes – 1 hour	Medium	2
Over 1 hour	High	3

For example if you only had the television on for 30 minutes the resource used would be medium however if you had the television on for 3 hours it would be high. We have included an example below to get you started!

Activity	Resources	Usage		
		Low	Medium	High
Brush my teeth	Water	1		
Subtotals (add up each column and write the subtotals in the boxes)				
Total Score (add all of the subtotals)				

How Do You Rate?
 10-15 Friendly Flea 16-20 Careful Kangaroo 21-30 Dumping Dinosaur
How could you improve your score?
 Jot down some ideas on the *Worksheet: How could you improve your score?*

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Worksheet: How could you improve your score?

What changes could you make to your daily activities at school and in the home to improve your score? Use the table below to write down ways of using less energy, using less water and making less waste.

Use Less Energy	Use Less Water	Make Less Waste
Turn off the light when there is no one in the classroom or bedroom	Don't leave the water running when brushing my teeth	Put my rubbish in the recycling bins