

Geography Alive: Stage 2 (Topic 2: The Earth's Environment)

Lesson 4: Investigating waste breakdown times		
<p>Content focus: In this lesson, students have the opportunity to focus on the breakdown rate of the wastes (litter) collected during fieldwork. In doing so, students collect and classify waste and determine the rate at which item breaks down. They also have the opportunity to present their findings in a graphic and pictorial form.</p>		<p>Resources:</p> <ul style="list-style-type: none"> • Teacher Resource Sheet 1: Waste Decomposition Times • PowerPoint 1: Waste Breakdown Rates • Pens, pencils and paper • Camera or camera-equipped smartphone • Litter collection clawed stick • Litter collection buckets • Gloves (optional) and containers for sorting wastes
<p>Key inquiry questions:</p> <ul style="list-style-type: none"> • What is waste and why its important that we minimise it? • What is the breakdown time of commonly discarded waste items? • What are the implications of this knowledge for our consumption behaviour? 	<p>Outcomes: <i>A student:</i></p> <ul style="list-style-type: none"> • appreciate the breakdown rate of selected waste materials and the implications of this knowledge for the way we consume • collect and classify data in the field • presents the findings of their research in a graphic and pictorial form. 	<p>Lesson sequence:</p> <ul style="list-style-type: none"> • Step 1: The focus of this lesson is the collection and sorting of litter into different categories according to the length of time it takes to break down. To familiarise students with the concept of break down time show them Slides 2–3 of PowerPoint 1. Supporting information is provided on Teacher Resource Sheet 1. Go through the tables and highlight the breakdown times of specific waste items. • Step 2: Select a site from which to collect litter. This could be the school playground or a local park. Using a litter collection clawed stick and buckets, students collect any litter they can find within the selected site. • Step 3: Students (wearing gloves) sort the waste into the breakdown rate categories listed below. The sorted waste can be placed in labelled containers, one for each category. <ul style="list-style-type: none"> – Less than 12 months – 12 months to 5 years – 5 to 20 years – 20 to 50 years – 50 to 100 years – 100 to 500 years – Forever • Step 4: Ask students to count the number of waste items in each category (and, if practicable, weigh the waste). Students graph the data and present their findings as a pictorial display. Annotated photographs can be used to elaborate on the findings of the investigation. <p>Follow-up activities</p> <ul style="list-style-type: none"> • Ask students to accompany their parent/s or caregiver/s to a local supermarket while they buy groceries. Students look for the ways they could minimise packaging when selecting food and household goods. At the end of the exercise, students reflect on how much packaging waste can be avoided— for example, by selecting loose fruits and vegetables rather than those supplied in plastic bags and containers. • Writing task – Students finish at least one of these incomplete sentences: <ul style="list-style-type: none"> – Fast-food outlets can reduce waste by ... – Disposable coffee cups are ... – Sending less waste to landfill is important because ...