

**2 lessons**

**50  
minutes**

**Age range**

**7 - 11  
years**







# PLASTIC

## *Changemakers*






**MODULE 2: STUDENT WORKSHEETS**  
**REDUCE, REUSE, RECYCLE**

# Module 2: Vocabulary

Landfill		Residual	
<p>A place where garbage is put and buried between layers of earth.</p> <p><i>e.g.: There are 8 million disposable diapers thrown into landfill every day.</i></p>		<p>Something that is left over once the main part has gone.</p> <p><i>e.g.: Once I have sorted the recycling, the residual waste goes in the general waste bin.</i></p>	
Decompose		Biodegradable	
<p>When an object breaks down into smaller pieces by rotting or decaying.</p> <p><i>e.g.: Bacteria will help my food waste decompose which will help other life grow</i></p>		<p>Objects that have the ability to break down naturally.</p> <p><i>e.g.: An apple core is biodegradable, leaving no pieces behind after some time</i></p>	
Break Down		Compostable	
<p>To stop working or to break into smaller parts.</p> <p><i>e.g.: The computer was broken down into plastic parts and metal parts so it could be recycled.</i></p>		<p>Objects that break down completely and will not harm the environment</p> <p><i>e.g.: Egg shells are compostable so I put them in the compost bin instead of the rubbish</i></p>	

Microplastic		Reduce	
<p>Extremely small pieces of plastic that end up in the environment.</p> <p><i>e.g.: When you use your washing machine, microplastics come off of your clothing.</i></p>		<p>Use less of or make less of something.</p> <p><i>e.g.: I can reduce the amount of plastic packaging I use when I buy loose vegetables.</i></p>	 <p><b>REDUCE</b></p>
Reuse		Recycle	
<p>Use something again, more than once, for its original purpose or a new purpose.</p> <p><i>e.g.: When my t-shirt got a hole in it, I turned it into a rag for cleaning.</i></p>	 <p><b>REUSE</b></p>	<p>To break something down into its original material, to recreate it into something new.</p> <p><i>e.g.: I bought a pen that was made from recycled materials.</i></p>	 <p><b>RECYCLE</b></p>

## Module 2: Vocabulary

Landfill	
	<p>A place where rubbish is left, usually buried between layers of earth.</p> <p><i>e.g.: Plastic bottles, which could be recycled, often end up in landfill.</i></p>
Decompose	
	<p>To rot, decay or break into smaller parts.</p> <p><i>e.g.: Food can be put in a compost bin because it will decompose.</i></p>
Reduce	
 <p>REDUCE</p>	<p>Use less of or make less of something.</p> <p><i>e.g.: I reduced my plastic waste by buying loose vegetables.</i></p>
Reuse	
 <p>REUSE</p>	<p>Use something again, more than once, for its original purpose or a new purpose.</p> <p><i>e.g.: When my t-shirt got a hole in it, I turned it into a cushion.</i></p>
Recycle	
 <p>RECYCLE</p>	<p>To break something down into its original material, to recreate it into something new.</p> <p><i>e.g.: I bought a pen that was made from recycled water bottles.</i></p>



## Module 2: Matching Game Worksheet

Cut out the cards and sort the names, images and time taken to decompose.

<b>Vegetables</b>		<b>50-100 years to decompose</b>
<b>Orange peel</b>		<b>500 years to forever to decompose</b>
<b>Cotton t-shirt</b>		<b>1 million years to decompose</b>
<b>Tin can</b>		<b>6 months to decompose</b>
<b>Plastic bag</b>		<b>5 days - 1 month to decompose</b>
<b>Glass bottle</b>		<b>6 months to decompose</b>

## Teacher Information

Answers:

<b>Vegetables</b>	<b>5 days - 1 month</b>
<b>Orange peel</b>	<b>6 months</b>
<b>Cotton t-shirt</b>	<b>6 months</b>
<b>Tin can</b>	<b>50-100 years</b>
<b>Plastic bag</b>	<b>500 years to forever</b>
<b>Glass bottle</b>	<b>1 million years</b>

How do scientists know this?

They perform a 'respirometry test'. This places the item in a sealed container with soil and microorganisms and then they add oxygen. This shows how much CO<sub>2</sub> is produced and how much an item decomposes over several days, which gives an indication of how long it would take to completely decompose.

Plastic bags are usually made from polyethylene which don't biodegrade but photodegrade when exposed to UV radiation from sunlight. They also break down into microplastics. It makes it harder to complete these types of tests and harder for scientists to be sure how long it takes for the plastic to biodegrade, hence the much wider timescale given.




For more information, visit: <https://www.sciencelearn.org.nz/resources/1543-measuring-biodegradability>



Name : \_\_\_\_\_

Date : \_\_\_\_\_

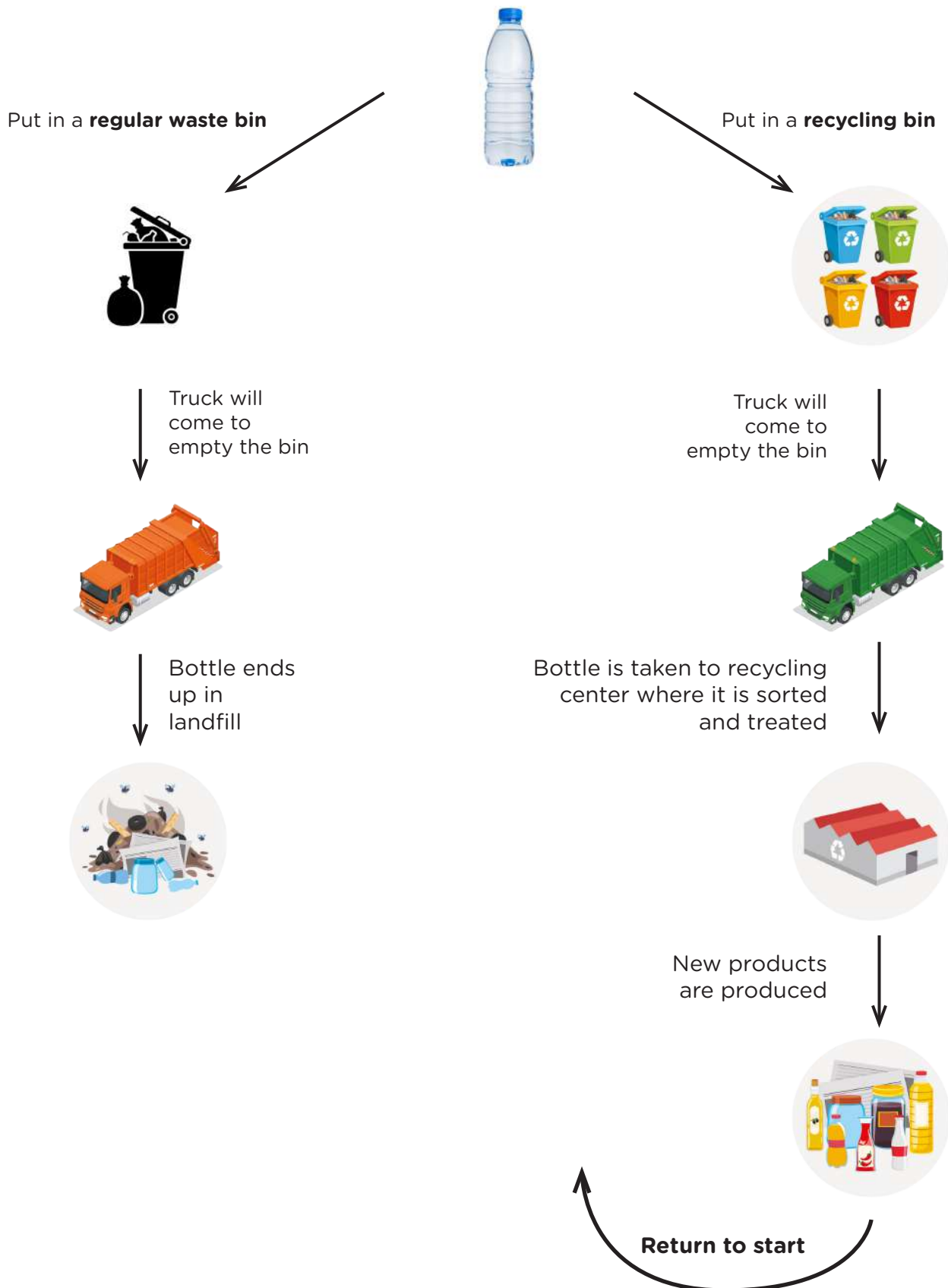
**Module 2:**  
**Reduce, Reuse, Recycle Worksheet**

Reduce	Reuse	Recycle
 <p>Use less of or make less of something.</p> <p><i>e.g.: I reduced my plastic waste by buying loose vegetables.</i></p>	 <p>Use something again, more than once, for its original purpose or a new purpose.</p> <p><i>e.g.: When my t-shirt got a hole in it, I turned it into a cushion.</i></p>	 <p>To break something down into its original material, to recreate it into something new.</p> <p><i>e.g.: I bought a pen that was made from recycled water bottles.</i></p>



## Module 2: What happens when I put a plastic bottle in the bin?

Buy a plastic bottle. drink the contents and then...



## Module 2: Reduce, Reuse, Recycle Worksheet

[illegible]



# My Changemaker Pledge



## Reduce



use something  
less

## Reuse



use something  
again

## Recycle



to recreate a  
material into  
something new

I, \_\_\_\_\_, pledge to \_\_\_\_\_ at \_\_\_\_\_  
(name) (reduce/reuse/recycle) (home/school)

by \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Can you encourage your family to make their own pledges too?

Part of

# PLASTIC

## *Changemakers*

A partnership between:



ZAG

ZAG  
HEROEZ

Mediawan  
KIDS & FAMILY

METHOD  
Mediawan