

# TEACHERS NOTES

Second Level Teaching Resource



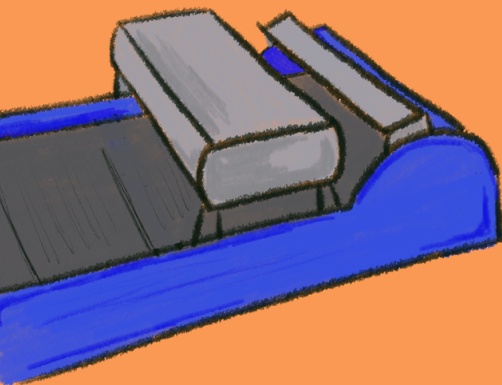
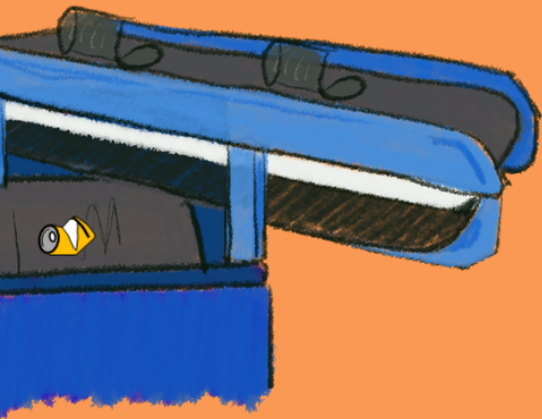
# INTRODUCTION

You are teaching a generation of young people who will have a huge impact on our environmental future. Lessons about recycling, sustainability, and eco-friendly practices are incredibly important. To help bring these important topics to your classroom, we have put together this easy to use resource which introduces the topics of recycling and sustainability and goes on to reinforce key messages and encourages young people to really think about the impact they could have by making a few small changes.

Levenseat's School resource embraces the clear values, purpose and principles set out by 'A curriculum for Excellence' and the emphasis on the coherent education from ages 3-18.

These relevant recycling and resource awareness activities for children and young people, therefore, aim to lay the foundations for future learning as they progress through the education system and provide an enjoyable and educational experience for children that will:

- Provide young people with key waste reduction and recycling messages and create a positive image of the waste management sector.
- Offer real- life context for learning.
- Allow for opportunities to develop skills for learning and skills for life, in order to live a more sustainable life.
- Develop young children's literacy, numeracy and health and wellbeing, whilst allowing them to learn about recycling, sustainability, and eco-friendly practices.
- Support children in developing the four capacities: confident individuals, responsible citizens, effective contributors, and successful learners.
- Ensure cross-curricular links are made on the general themes of waste management, recycling, caring for the environment and renewable energy.

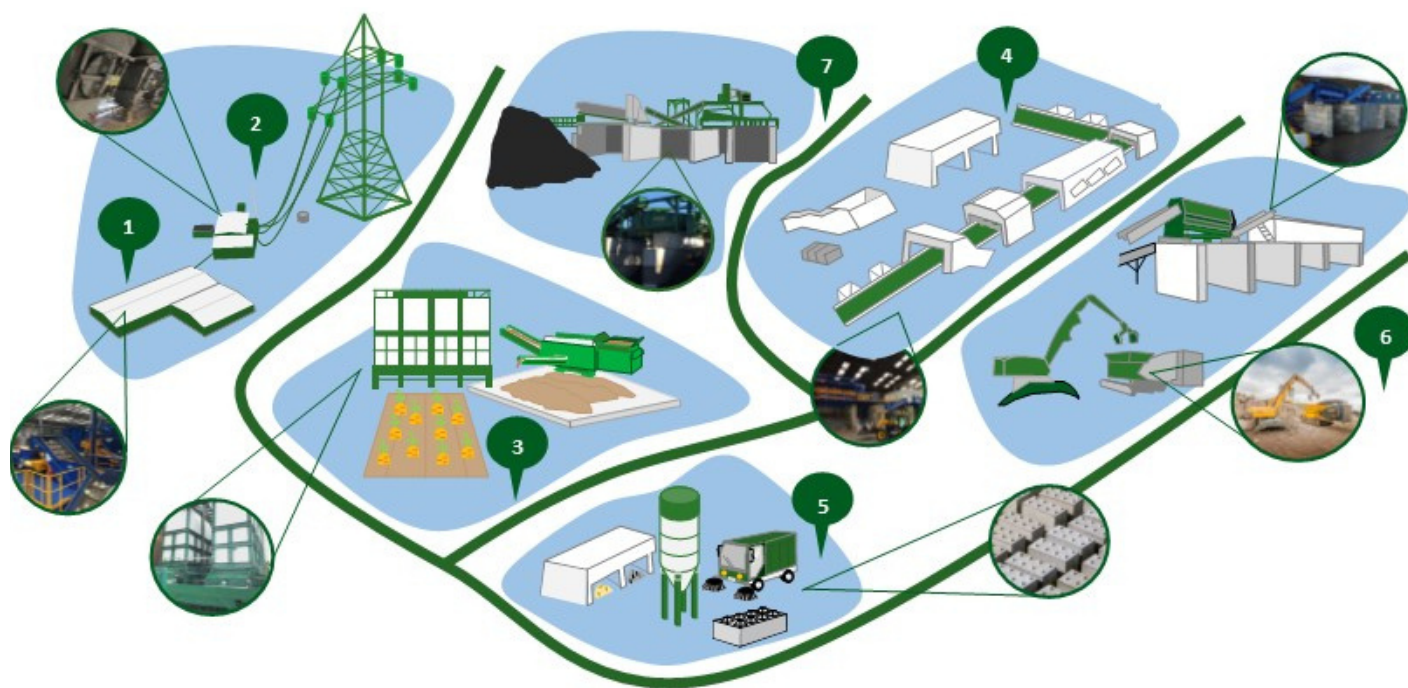


# LEVENSEAT

Levenseat has been a key player in the Scottish waste and resource management sector for over 35 years. We are an industry leader in the field of converting wastes into resources, leading the way to a more sustainable Scotland. Set to manage 750,000 tonnes of recyclates and resources per year, we are committed to developing new solutions to recover the best resources and provide customers with environmental and economic solutions.

We also play a key role in educating communities, businesses, and councils on the value of resources and the part they can play to reduce waste and embrace the principles of a circular economy.

Levenseat process 4 waste streams for Scottish Borders, Residual waste (black bag waste) street cleansing material, commercial and industrial waste, and bulky household waste ( i.e. mattresses and couches, etc) we are pleased to be working with you to help bring the world of resource recovery and recycling to the classroom.



1. Materials Recycling & Fuel Preparation
2. Power Plant
3. Organics Recycling
4. Container Materials Recycling Facility
5. Concrete production
6. Materials Processing
7. Minerals Recovery Plant

# LEARNING INTENTIONS

Learning aims:

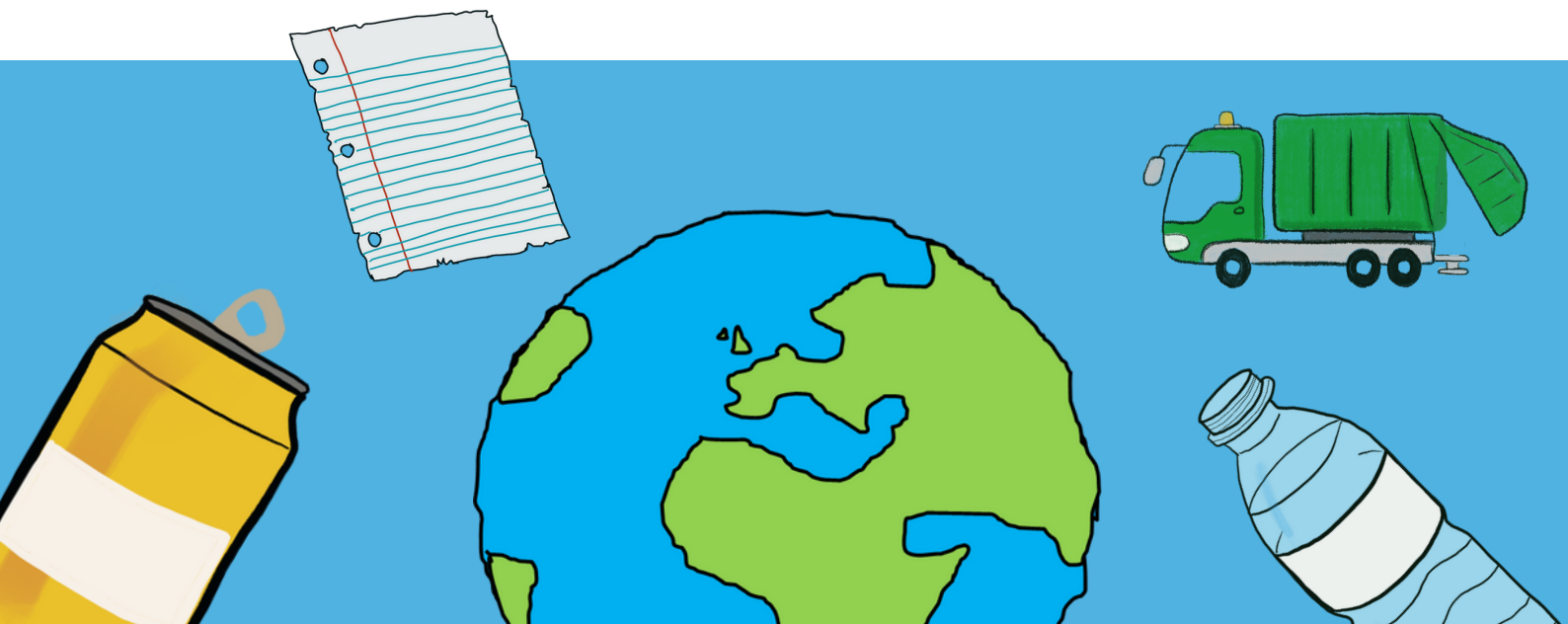
- To understand the key stages of recovering materials from waste after it is put in the bin - the journey of waste
- To understand that Scottish Borders, residual waste, does not go to landfill and is used for energy recovery
- To understand why recycling is important
- To understand contamination and how this has an impact on recycling rates.

Success criteria:

- I can explain what recycling is and why it is important
- I can identify materials that can be recycled and can not be recycled and suggest ways to improve
- I can take active steps to reduce waste & litter in my school and community by sharing what I have learnt

The resource can also address certain topical subjects such as fly tipping and lithium batteries, this can be worked on once the core programme is complete.

A general theme that will run through the full school's resource will be the topic of careers in waste management and the important role the industry plays.





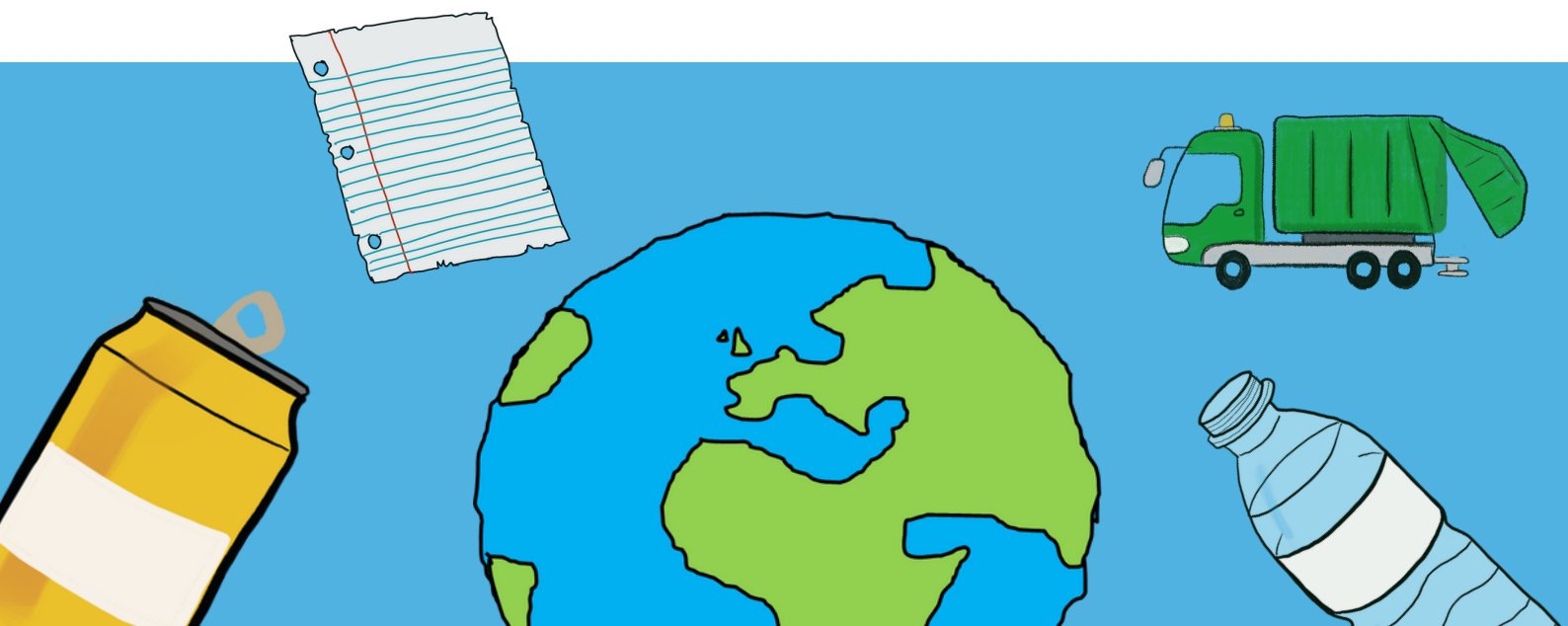
# HOW TO USE THIS RESOURCE

This resource is a teaching aid and the lessons are flexible in the way they can be used with different classes/groups. You may wish to focus on a particular section of the resources more than others, as required.

It would be useful if a talking/listening activity took place before you start this resource, in order to gauge the children's prior knowledge, and after the lessons have been delivered, in order to gauge learning impact. A sheet has been included in this pack; however, you may have your may wish to use your preferred recording system instead.

## Differentiation

Some aspects of this resource may be challenging for some children. By working in pairs and groups, learners can support each other through the activity, as well as gaining the benefits of a range of children's knowledge.



# LESSONS

## INTRODUCTION



Lesson one is designed to introduce children to the topic of recycling and starts off by asking the questions:

- What is rubbish?
- Where does it come from?
- What is recycling?

Discuss these questions as a class and then click on to reveal the answers provided.



The presentation then moves on to a picture of a house and then a visual representation of the general waste bin, the food waste caddy, and the recycling bin.

Can the children think of items from each room that can and cannot be recycled?

Are the children able to identify the correct bin? for the items they identify?



You can choose to let children play 'the which bin does it go in', interactive [here](#), or make it an active activity by choosing a corner of the room for each bin and ask the children to walk to the corner they would choose.

Alternatively, you can keep this activity to the end to reinforce the message of using the right bin.



# LESSONS

## WHO?

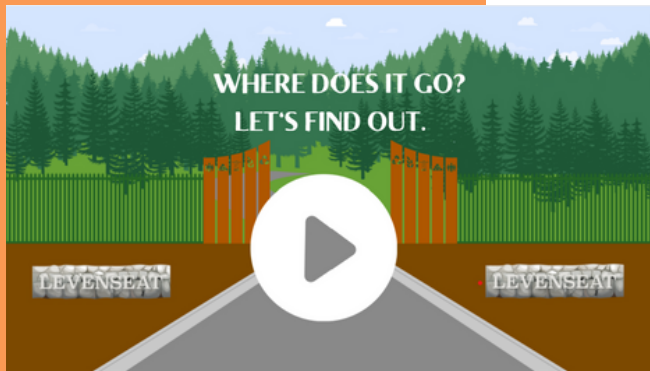


The presentation then moves on to introduce a yellow bin lorry and provides an opportunity to start a discussion on people who help us.

Ask children if they know who picks up their waste?

Do they know what happens to it once it has been picked up?

## THE JOUREY



The next slide contains a link to the main lesson which is in video format, you can also find this video [here](#) if you would like to use it outwith this presentation.

The video is just under 7 minutes long and can be divided into two sections:

- 1: how we recover materials from waste
- 2: how we make energy from non-recyclable waste.

You may choose to watch the full video in one sitting or divide pause at section two. (please let us know, in your feedback, if you would have preferred this to be two separate videos.

The first part of the video explains each section of our recovery plant in a simple way, the children then watch a live video of their waste being sorted, followed by an explanation of the energy recovery process.

The video ends by asking three questions, which are explored below.

## KEY PARTS

- A Trommel acts like a sieve to separate waste into size categories
- 
- Manual sorting cabin, known as a control cabin to remove anything that could be harmful to the plant, such as oversized items of lithium batteries.
- Overband magnet to recover metals
- Eddy current to capture aluminium
- Optical sorters to identify plastics
- Shredders to prepare non-recyclable waste into a fuel

# LESSONS

## WHY?



This question is designed to get children to think about why people don't recycle.

Levenseat are able to recover valuable resources from waste that householders have decided aren't recyclable (i.e they were put in the general waste bin).

Explore this subject by also asking the children why they think people don't recycle? after some discussion click on to the next slides to reveal the following statements.

- 70% of the material in your grey general waste bin could have been recycled.
- Almost a quarter of the average family's rubbish is metal, paper, plastic, and glass that can all be recycled.
- Almost 50% is food waste, that could be recycled into energy or compost.

## ENERGY FROM WASTE



Ask the children if they were surprised to find out their waste is used to help power Scotland.

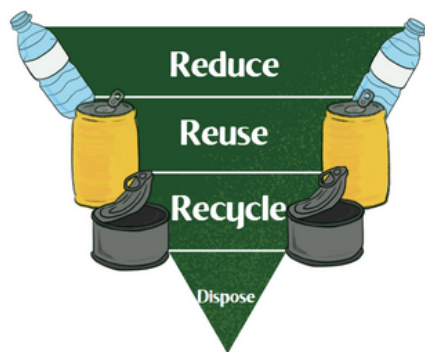
Are they proud to be part of a landfill-free area?

Levenseat's energy from waste power plant is unique, most energy from waste plants don't have a materials recycling facility at the start. This means that valuable resources could be lost forever just because people choose the wrong bin.



# LESSONS

## REDUCE REUSE RECYCLE



Ask the children:

What they can do to help?

Introduce the concept of reduce, reuse recycle, some children may already be aware of this concept.

Explain that this is the waste hierarchy meaning it is the order in which we should do things to try and help the environment.

- We should reduce what we buy and use
- We should reuse what we can
- We should recycle all material that can be recycled
- If we can't reduce, reuse and recycle, only then should we dispose of the item.

Ask the children to think about how they can reduce, reuse, recycle.

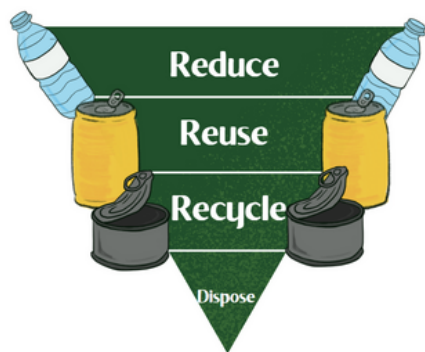
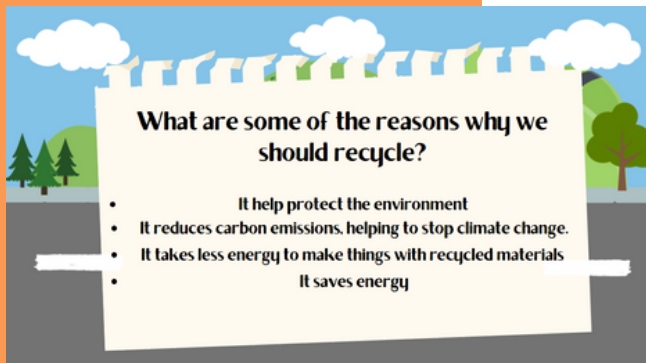
## KEY PARTS

1. The non-recyclable waste is shredded (cut into small pieces) and mixed to the right formula
2. We use waste as a fuel, just like coal or oil. the fuel is heated and makes gas
3. Gas is burned to boil water and make steam just like on a hob with a pot of water.
4. The steam turns the turbine and generates electricity for the grid.
5. The Levenseat facility produces enough electricity to power 25, 000 homes.



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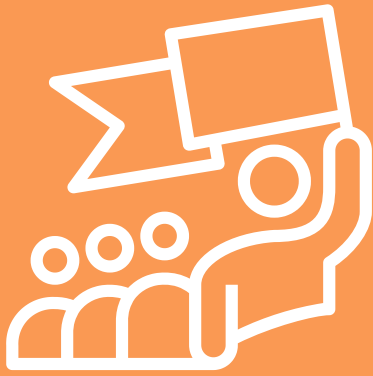
Ask the children:

Why they think we should recycle:

- It helps protect the environment
- It reduces carbon emissions, helping to stop climate change.
- It takes less energy to make things with recycled materials
- It saves energy

Ask the children to think about how they can reduce, reuse, recycle.





# CHALLENGE

Now that the children have learned about the importance of recycling, can they share this message and encourage others to recycle?

We have created a number of challenges for you to choose from. Please note this is an optional lesson. You may want to set your own challenge. Or maybe the children have an idea.

## ZERO WASTE CLASSROOM CHALLENGE

### AUDIT/ MINIMISE WASTE



Watch the audit challenge video and begin the challenge by downloading the zero waste classroom worksheet.

## CREATE A CAMPAIGN CHALLENGE

Was there an area that the children were particularly passionate about when learning about the important topics in this resource? Such as reducing waste, recycling more, zero landfill or litter and waste?

Choose a topic related to waste and design a campaign as a class to encourage others to think about your topic and change their behavior.

Be creative, and encourage the children to think about the resources they are using.

# CHALLENGE

## COMMUNITY EVENT CHALLENGE

What better way to make a difference than by organising a community event to spread the word on recycling and reducing waste. The event could be:

- A litter picking day
- swap shop event
- school assembly on reducing waste

## PEER EDUCATION CHALLENGE

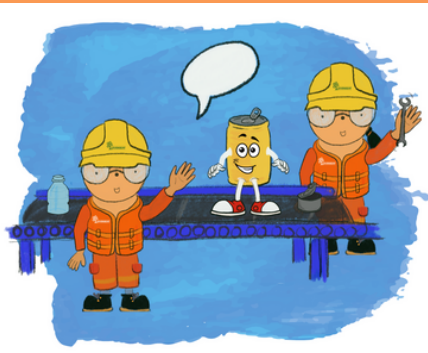
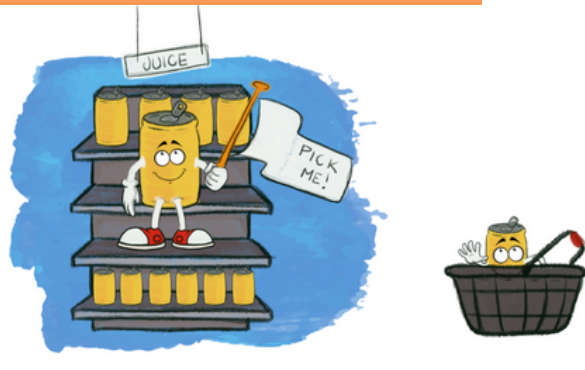
One of the best ways to learn is by teaching others. As part of the early level resource, children are introduced to a character called Ali, Ali is an aluminium can who is put in the wrong bin, luckily he ends up at Levensseat where he is able to be recovered to be recycled.

The book takes the children on the journey of waste and covers the main section of a materials recycling facility and energy from waste, just as the first and second do. We have provided an illustrated version of the book where we have removed the words.

Children could create their own story using the picture book. Depending on their age children may be confident enough to read their story to a group of children from a younger class, or a peer from their class.

you may want to consider reducing the number of pages in the book or splitting the class in half with one looking at recovery and the other energy.

Perhaps the children would like to look at a different character, such as a plastic bottle.





# INTERACTIVES

As a fun way of reinforcing the children's learning, we have created a few interactive resources. We intend to create more, let us know if there is anything, in particular, you would like.

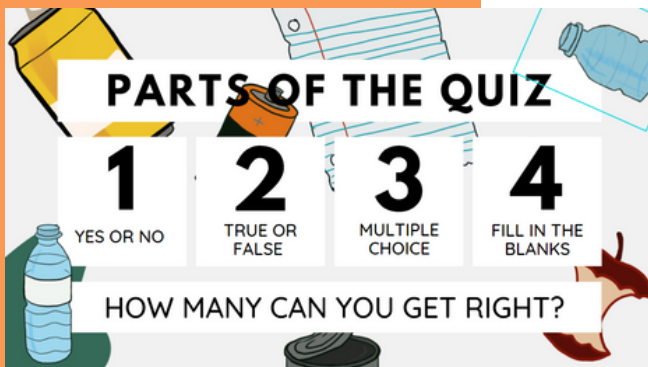
## WHICH BIN DOES IT GO IN?



Can the children choose the right bin for their waste and recycling? Click [here](#)

Take part individually, in a group, or as a class.

## END OF TOPIC QUIZ



Can the children complete the quiz and provide the correct answer to the questions. Click [here](#)

We have also provided this quiz as a [PowerPoint](#) presentation in case you would prefer.

Take part individually, in a group, or as a class.



# A BIT OF FUN

## UPCYCLE

In the spirit of reducing waste, we have created a few fun upcycling activities. All instructions are given

Have you ever considered using your 'waste' to make reusable school resources? we have suggested some suggestions here to some of the most problematic waste streams.



# ADDITIONAL INFORMATION

01

Our web address is [levenseat.co.uk/community/learn-with-levenseat/](https://levenseat.co.uk/community/learn-with-levenseat/)

02

Send in examples of your work, we'd love to feature you on our website

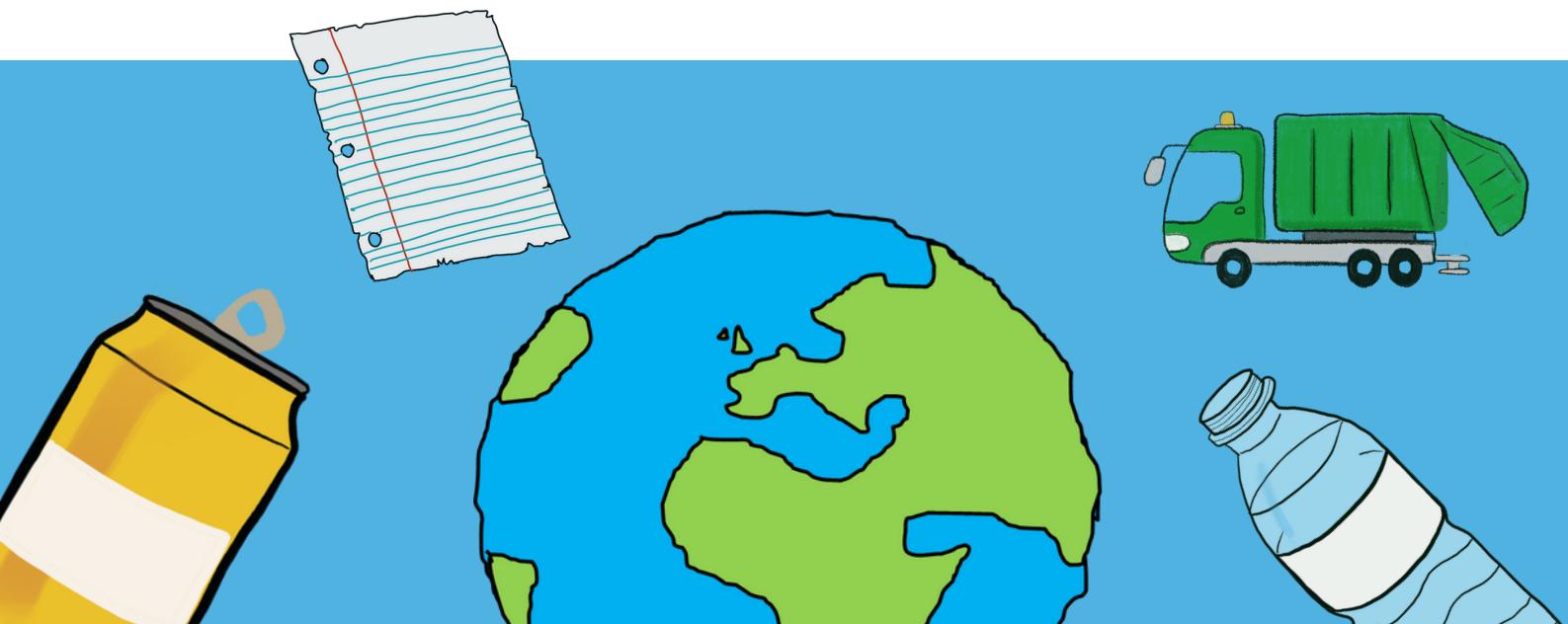
03

We really need your feedback to make this work

## WHAT I HAVE LEARNED

We really would love to hear from you, has the resource made a difference? is there anything you would change? can you think of anything we have missed?

We hope you enjoyed using this pack, recycling really is a fun topic and it's something we all have to do so why not learn more. More topics will be added including what we recycle your street sweepings and large household items.



# Up-cycle a T-shirt

1

Cut the arms off the t-shirt as shown. Cut a semi-circle at the neck to make the handles.



2

Cut slits up the bottom of the t-shirt



Tie the fabric strips in double knots. This will bring the two sides together.

3



4

For a neater look turn the t-shirt inside out before you tie the knots, and then turn it the right way in once finished.



## RESOURCES

1X Old t-shirt  
1X Pair of scissors



# Up-cycle a bottle top

1

A re-usable sticker. Stick a sticker to the top of the bottle top and you have a re-usable long lasting sticker token.



2



Number sequence: 1. With a black marker write the numbers 1-10 on 10 separate bottle tops  
2. use an old cardboard box and cut as many rectangles as you need. 3. Mark the cardboard sheet as shown in the picture.



3

Use bottle tops as alphabet blocks



4

Use bottle tops as reward tokens, different colours can mean different things, who will get the golden token?



## RESOURCES

- old bottle caps
- used cardboard
- stickers
- marker pen
- old glass jar