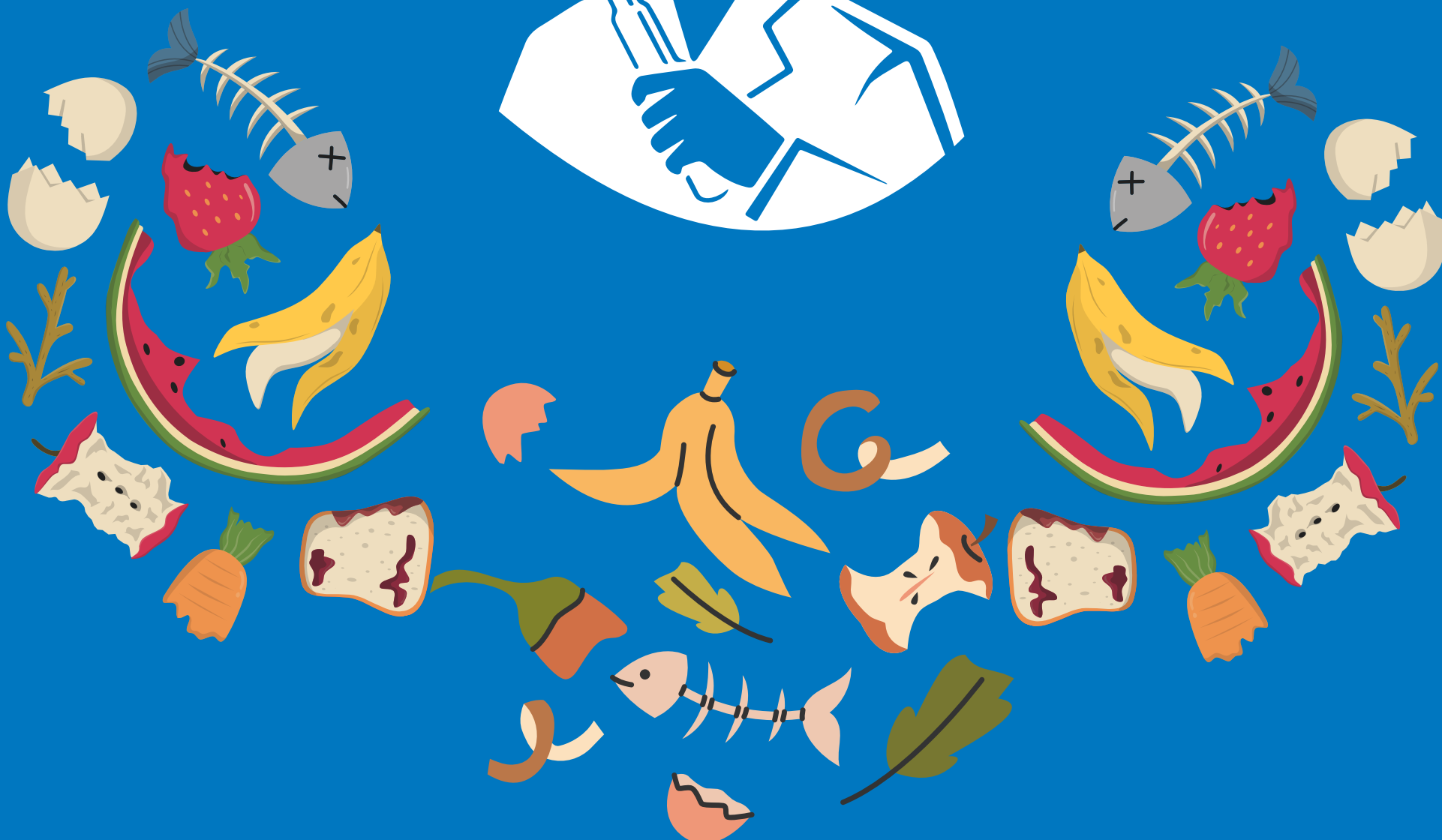
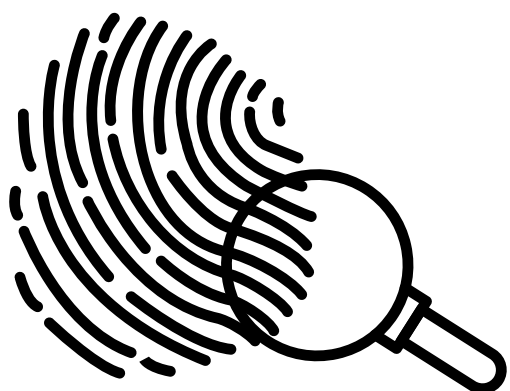


Food Waste Detectives



Welcome Food Waste Detectives!

Think you can crack the case? Every day, food gets thrown away in schools, but why? Your mission is to become a Food Waste Detective and investigate!

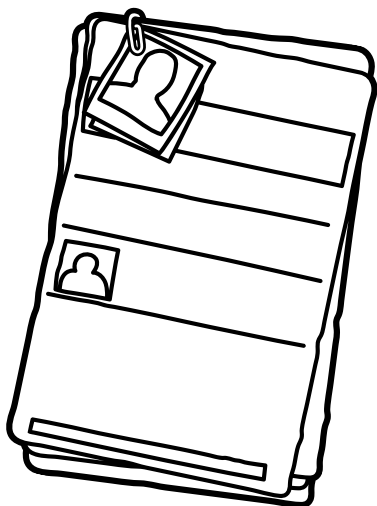


Gather the clues
Spot the problems
Share your ideas
Find clever solutions

This project returns schools to the Litter and Waste theme through a hands on 1 year project. This Teacher Pack contains five modules to work through with your class. We recommend completing the modules within one school term, in relatively quick succession, so that students can build on their learning from one module to the next.

5 Design Thinking Modules

Printable Worksheets



**community based
solutions to reduce
food waste**



Food Waste Detectives

Module 1

Introduction:

Estimated Time: 1 hour

Students investigate where everyday foods come from and how they travel to Ireland. This highlights the journey food makes before reaching our lunchboxes. Through research and creative storytelling, students build understanding for food and begin to understand the hidden stories behind what we eat.

Key aims:

- Students develop an understanding of food origins, transport methods and the concept of food miles.
- Through research and imaginative storytelling, students consider the people, places and processes involved in producing and transporting food.

Materials Needed:

Food Cards (see print out available)

Homework Sheet (see print out available)

Story Board Sheet/ Creative Writing Sheet (see print out available)

Food Waste Detectives

Main Activity

- To begin, print out the images of food on the following pages, cut out each of the images.
- Each student selects a card featuring a different food item. The selection should include foods that are grown locally in Ireland as well as foods imported from different climates around the world.
- Begin with a class discussion to ensure students are familiar with the food they have chosen. Invite students to share a favourite meal containing that food or a memory of eating it.
- Explain that students will become Food Detectives by investigating the journey of their chosen food.
- As homework, students take their food card home and complete research on: Where the food originates, How it travels to Ireland (e.g. ship, plane, truck), Interesting facts about the country or region where it is grown.
- Provide each student with a research worksheet to guide their investigation and support note-taking.
- The teacher may decide on an appropriate timeframe for completing the research, ranging from one evening to one week.

Next....

- Once the homework is complete, students use their research to create a piece of imaginative writing from the perspective of their food. They are encouraged to:
 - Give their food a name and personality.
 - Describe the places it has visited and the experiences it had on its journey to Ireland.
 - Explain how it feels about finally arriving in a lunchbox.
- Students may present their work as either a short story or a storyboard, depending on their preferred way of communicating their ideas.
- Invite students to share their stories with the class, celebrating the unique journeys and perspectives of each food item while reinforcing the idea that every piece of food has a story before it reaches our plate.



RICE



CHOCOLATE



BANANA



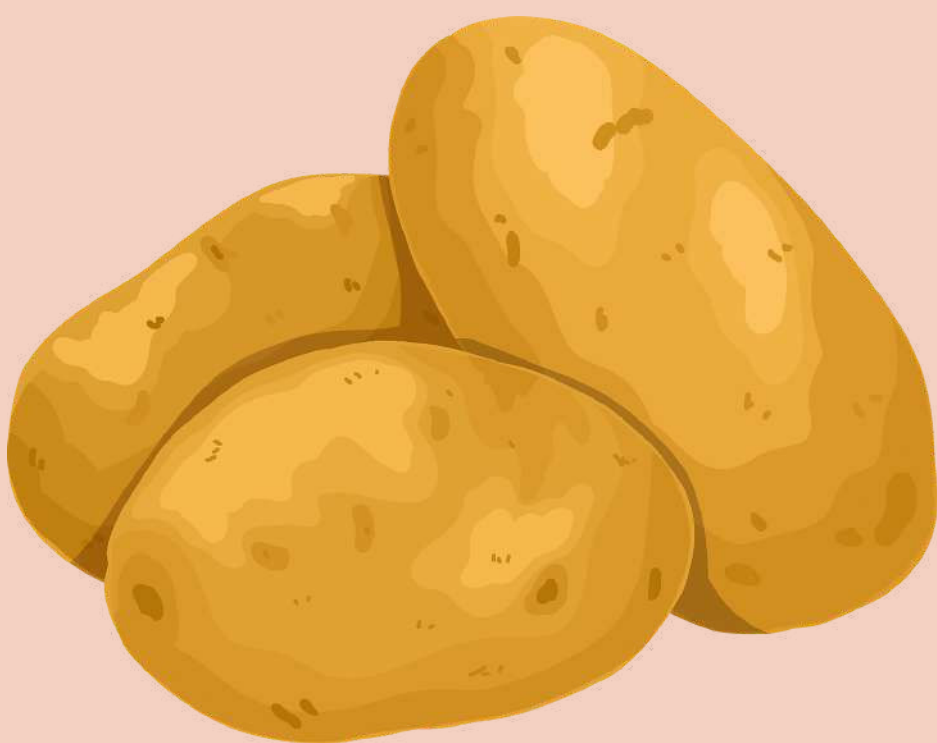
VANILLA



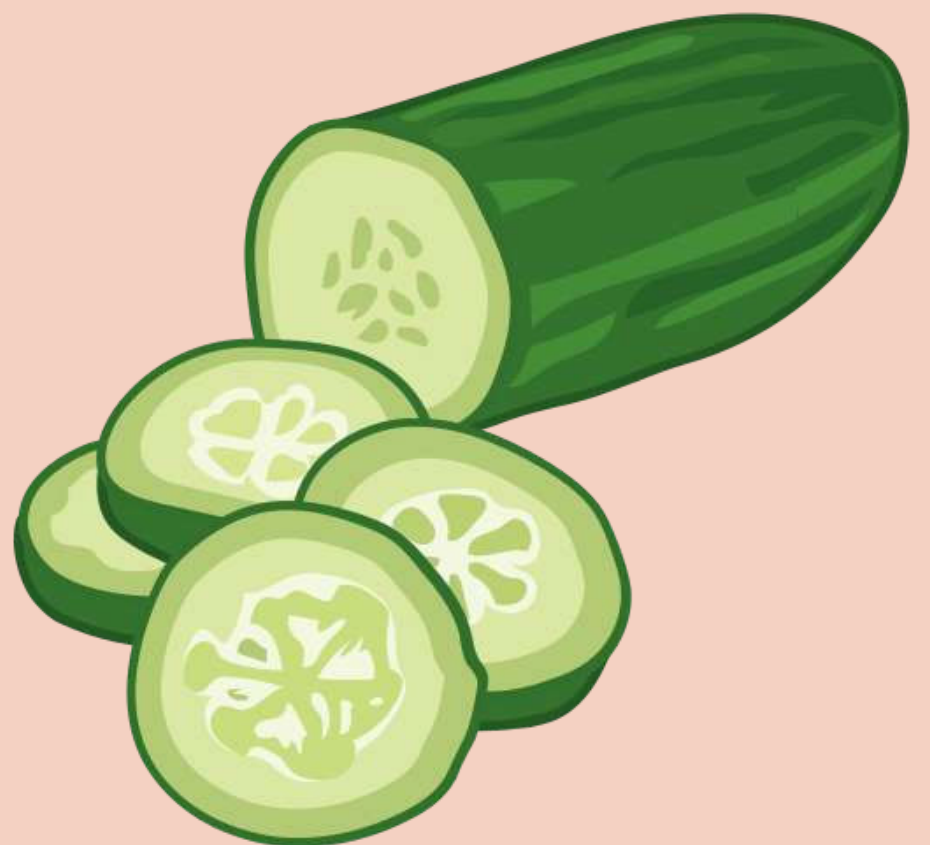
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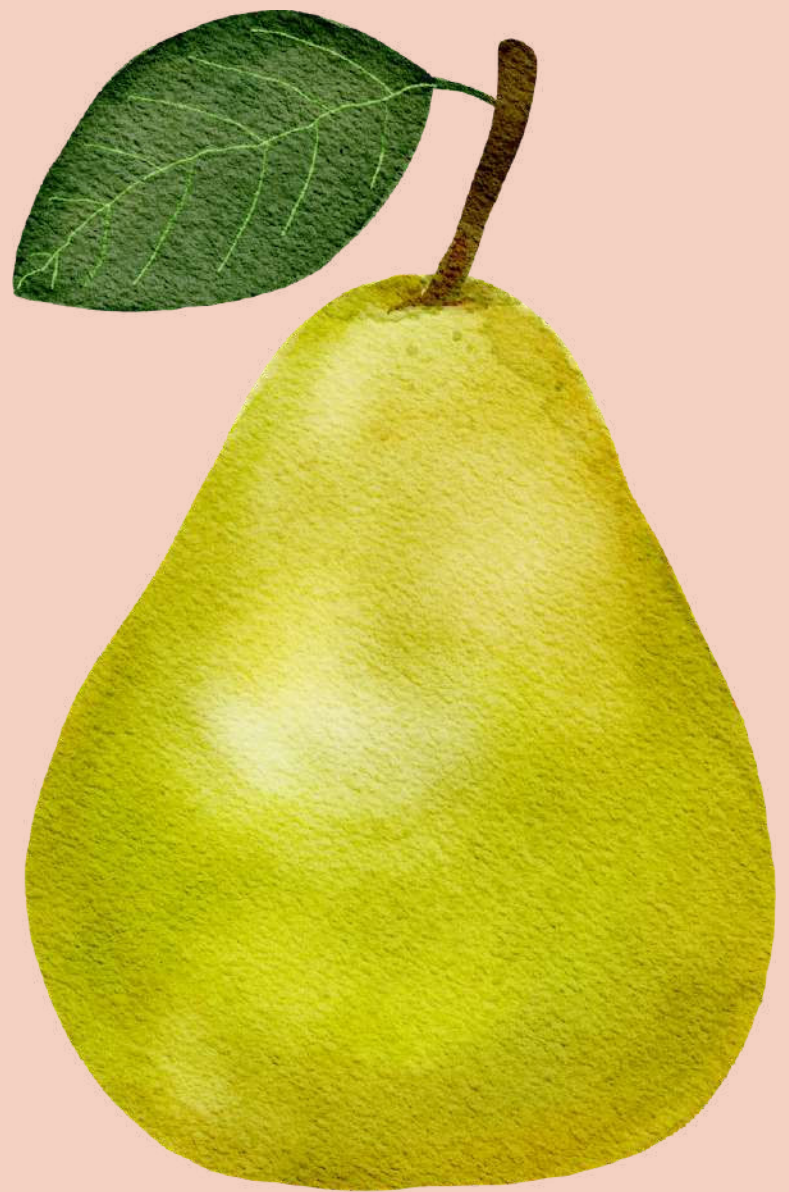
POTATOES



CUCUMBER



MANGO



PEAR



BROCCOLI



CORN

Food Waste Detectives Homework Sheet



Name: _____

Food Type: _____

Where did your food come from?

What mode of transportation got it here? E.g Plane, Boat...

What kind of weather does this food need to grow?

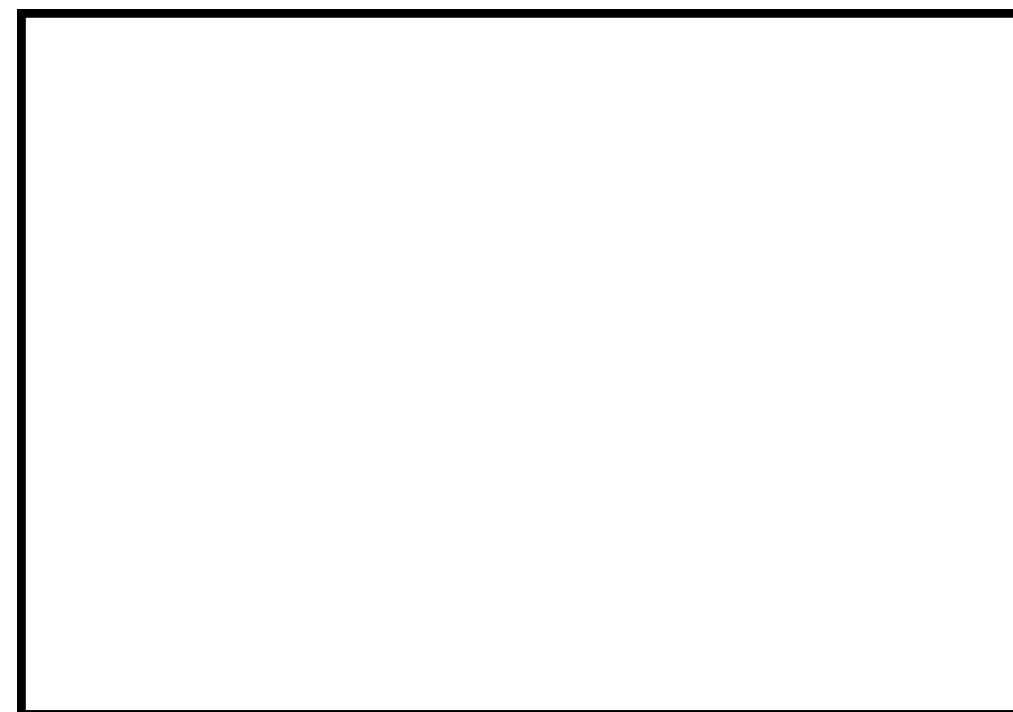
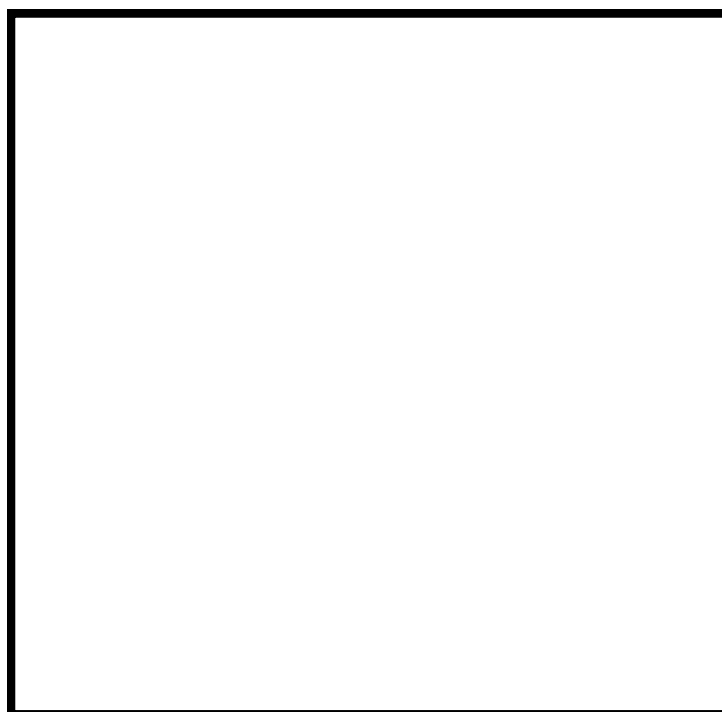
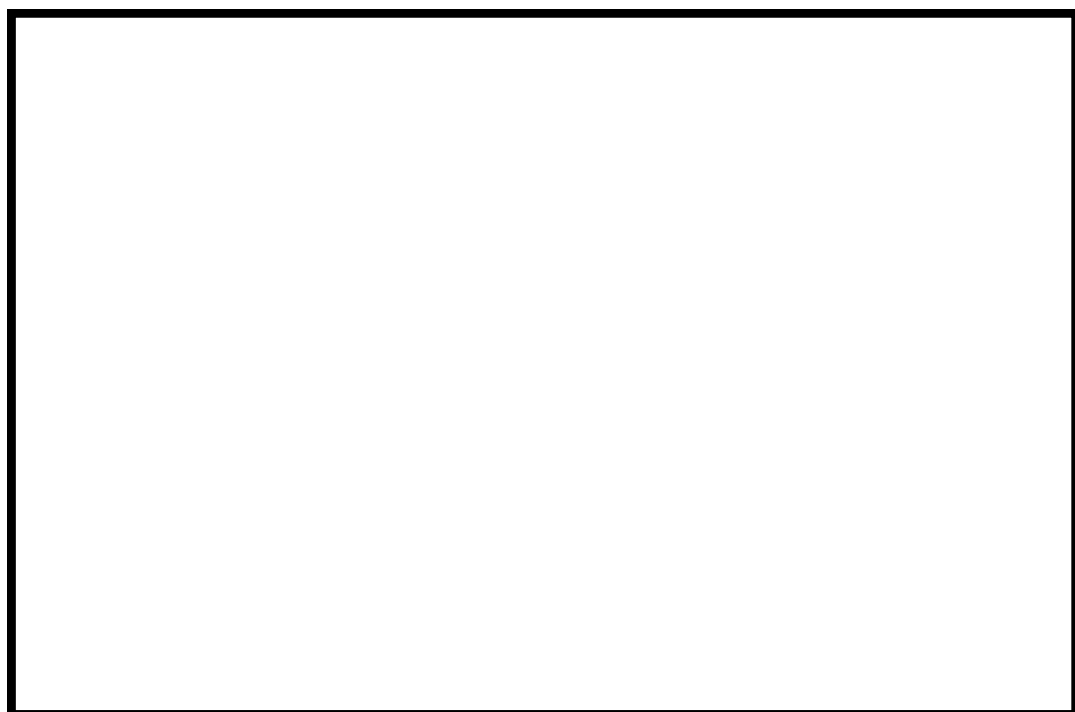
List 3 interesting facts about the country it's from.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Food Travel Story Board

In the boxes below, draw the journey your food took to get to your lunch box. Use your homework sheet for inspiration.



Food Waste Detectives

Module 2

Introduction:

Estimated Time: 45 mins

Students explore the concept of food miles by investigating the distance food travels to reach Ireland and consider the environmental impact of transporting food around the world.

Through a hands-on activity, students visualise these journeys and identify patterns that will help them think critically about the choices we make as consumers.

Key aims:

- To understand the concept of food miles and how food travels from its place of origin to Ireland.
- To begin thinking critically about the environmental impact of transporting food and the choices we make as consumers.

Materials Needed:

Food Cards
Access to WiFi

Food Waste Detectives

Main Activity

- Invite students to revisit the research they completed on their chosen food item during the previous lesson.
- Using a world map and a food miles calculator, as a class estimate the distance their food has travelled to reach Ireland.
- To make these distances meaningful, transform the kilometres into a physical scale. Select a scale appropriate for the available space, for example:
 - 1 metre = 100 kilometres
 - 1 large step = 250 kilometres
- The class should stand on one starting point. This represents Ireland. Each child steps forward, taking as many steps necessary to represent their food's journey. This creates a "living map" of food miles.
- Once all students are in position, encourage the class to observe the completed map and compare the distances travelled by different foods.
- Facilitate a whole-class discussion using prompts such as:

Which food travelled the furthest?

Which food travelled the shortest distance?

Were there any surprises?

Which countries appeared most often?

What patterns can we identify?

Why do you think some foods travel much further than others?

Are there foods we could choose that travel shorter distances?

Conclude the lesson by discussing how understanding food miles can help us make more informed and sustainable food choices while recognising that some foods cannot be grown locally due to differences in climate.

Food Waste Detectives

Module 3

Introduction:

Estimated Time: 1 hour

Students investigate why food is wasted, consider the people and environments affected, and begin to imagine how waste could be reduced. By acting as Food Waste Detectives, students gather evidence that will inform the solutions they design in later lessons.

Key aims:

- To investigate the causes of food waste through observation and evidence gathering.
- To identify opportunities for reducing food waste that can inspire creative solutions.

Materials Needed:

Food Waste Detective Notebook (see print out available)

Food Waste Detectives

Main Activity

- Time to call on our Food Detectives!
- Choose a normal school day and investigate how much of your lunch is wasted in a day. List all the lunch and snack food items and any packaging in the Food Waste Detective Notebook. Students should make note of what is in their lunch box, has been eaten or was put in the bin at different stages of the day.
- Older year groups are welcome to do a food waste audit by weighing the contents of the food bin. Students can note this in their food waste detective notebooks. This first audit acts as a baseline for your classes food waste.
- Students fill out the reflection questions on the Food Waste Detective Notebook.
- Remember, there are no right or wrong answers. Students job is to collect evidence like a real detective. The information gathered will help students design ideas to reduce food waste in the next lessons.



Green-Schools

An Taisce

FOOD WASTE DETECTIVE NOTEBOOK

NAME : _____

CLASS : _____

LUNCH WASTE

DATE: _____

Time of day	In Lunch Box	Eaten	Wrappers, leftovers or food in bin
Start of school			
After Little Break			
After Big Break			

DATE: _____

Did you weigh
your classes lunch
waste today? How
much did it weigh?
(Kg)

List the types of
food wasted today

LUNCH WASTE

What food was
thrown away the
most?

Why was this food
wasted?

DATE: _____

What happened to any food that was still in your lunch box at the end of the day?

Did you know how to separate all your waste into the correct bins?

LUNCH WASTE

Are you surprised by today's results?

Module 4

Introduction:

Estimated Time: 1 hr 30 mins

Using the evidence gathered throughout the project, students work in groups to create imaginative ideas that could raise awareness or reduce food waste in their school. Students are encouraged to think creatively and test ideas. Remember that there is no single "right" solution.

Key aims:

- To generate creative solutions that address real food waste challenges within the school community
- To collaborate with others to design and develop a prototype or campaign based on evidence gathered during the project.

Materials Needed:

A-Z Idea Worksheet (see print out available)

Idea Brainwriting Worksheet (see print out available)

Examples of prototyping materials:

Cardboard boxes (cereal boxes, packaging)

Scrap paper and card

Coloured paper

Scissors (child-safe)

Glue sticks and/or tape

Staplers

Markers, pencils, crayons, coloured pencils

Wooden blocks or off-cuts,

Popsicle sticks, pipe cleaners

Corks

Pompoms

Clay or playdough

Food Waste Detectives

Teachers Note Before the Lesson...

Why do a prototype?

Building a prototype allows students to see how their idea works in practice. It often reveals challenges or opportunities for improvement that may not have been obvious during the planning stage. Testing a prototype with others also provides valuable feedback, helping students understand how people interact with their solution and whether it meets users' needs.

At this stage of the design process, ideas are expected to evolve. Students should be encouraged to view prototypes as works in progress that can be refined or adapted based on what they learn through testing. This iterative process helps develop creative thinking, problem-solving skills while reinforcing that successful innovations are rarely perfect on the first attempt.

Food Waste Detectives

Main Activity:

- Review the food waste issues identified during the class audit.
- Explain that Food Detectives don't just solve mysteries, they invent solutions!
- In small groups, students choose one food waste problem to solve, for example:

Too much food in lunchboxes
Fruit being left uneaten
Food being thrown away at school
Families buying too much food
People not understanding where food comes from

- Groups brainstorm ideas and select one solution to develop. To help students brainstorm, groups can use the A-Z Ideas Worksheet and the Idea Brainwriting Worksheet.
- Give students a sheet of paper and ask them to draw their solution first before building anything – this helps them plan.
- Students create a prototype, campaign or model using a variety of materials. Their solution might be an invention, a redesigned system, a poster campaign or another creative idea.
- Teams then build their prototype using whatever materials are available – recycled cardboard, clay, LEGO, paper, fabric. If the solution is a campaign or an app rather than a physical object, they can create a poster, a storyboard, or a simple sketch of how their campaign would work.
- As they work, groups should be able to explain:
What problem are we solving?
How does our solution work?
How will it reduce food waste?

Food Waste Detectives

Follow on Activity:

Each team presents their solution to the class and the Green-Schools Committee. They should explain – what problem they solved, what their solution is and how it works.

- The class gives feedback using two stars and a wish – two things they liked and one thing they would suggest for improvement.
- Children then complete the student reflection survey individually. This takes about five minutes.

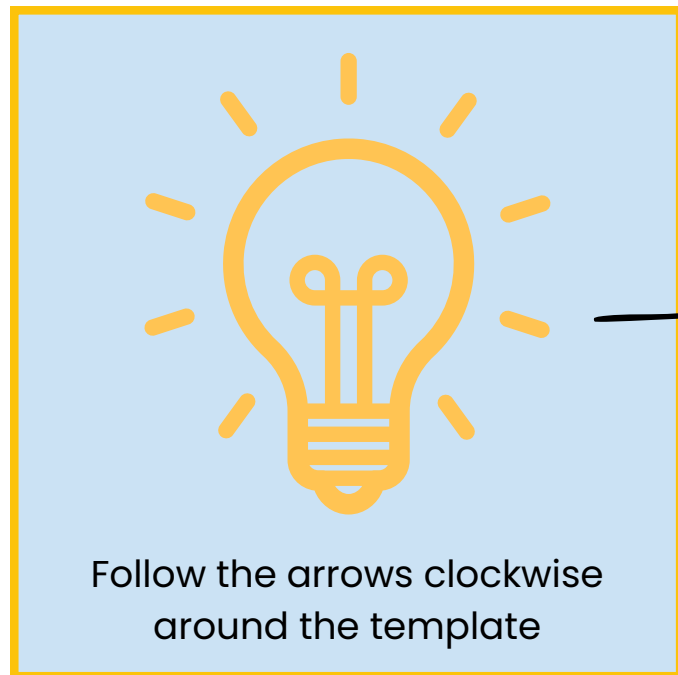
Food Waste Detectives

This exercise will help you to come up with as many different initial ideas for possible solutions to your food waste problem. Work together as a team and write down a solution for each of the letters of the alphabet. Keep your problem in mind! You have 5 minutes to complete it. Ready...Set...Go....

A	B	C
D	E	F
G	H	I
J	K	L
M	N	O
P	Q	R
S	T	U
V	W	X
Y	Z	

Idea Brainwriting

What is the problem your group wants to solve: _____



Write your initial idea

Add something that would make it even better

How would it work?

What does it look like? What colour is it? Does it make a sound? Does it need energy to make it work?

Can you fix that?

Can you see any reasons why it might NOT work?

Give your solution a name:

Module 5

Introduction:

Students are encouraged to consider how their ideas could make a genuine difference in their school or community. Whether they have designed a product, a campaign, a new system, or a simple change in behaviour, this lesson provides an opportunity to take the first steps towards making it happen.

Key aims:

The goal is for students to identify who could help bring their solution to life and to create an action plan. By connecting with members of the school and wider community, students see that meaningful change often happens through collaboration.

Food Waste Detectives

From Prototype to Practice

Time to bring your prototypes to life, see below some tips and ideas to help get your ideas off the ground.

Share your idea with your school

- Present your solution to your class.
- Share it at assembly.
- Present it to your principal or teachers.
- Pitch your idea to the Green-Schools Committee or Student Council.

Work with people in your school

- Ask the caretaker if they could help build or install your idea.
- Speak to the school gardener or grounds staff about composting or planting projects.
- Work with the canteen staff to trial ideas that reduce food waste.

Connect with your community

- Invite parents or grandparents to share tips about using leftovers, composting, or growing food.
- Ask a local Men's Shed group to help build a compost bin, planter, or food-sharing station.
- Contact your local Tidy Towns group for advice or support with environmental projects.
- Connect with a community garden or local environmental organisation for ideas and guidance.

Spread the message

- Create posters or signs around the school.
- Design a food waste awareness campaign.
- Make a short video or presentation.
- Start a "Food Waste Challenge" for classes.
- Check out the Food Waste page on the Green-Schools Website for webinars and quizzes that can be shared across your school

Big changes often start with one small action. Even if your idea isn't finished today, you've taken the first step towards creating a positive change in your school and community