

School Food Waste Reduction Pack

Teacher Pack



1. Introducing Food Waste

Key Learning Points

- Understand what food waste is as well as how to identify it.
- Acknowledge how food waste is disposed of.
- Appreciate how food waste can become normalised.
- Contemplate how food waste can be avoided.

Starter Task

Provide the definition of food waste, **‘any food that has not been consumed and is therefore discarded’**. The following examples of food waste can help cement learners’ understanding:

Overconsumption

Buying too many food products, leaving them to go bad before consumption can take place.

Unsuitable Storage

Incorrect temperature of space holding food unable to keep food preserved and goes off/expires faster.

Background Info

More than 900 million tonnes of food waste is accumulated each year, with around 17% of food available to consumers being discarded before it can be eaten. **(According to: Food Waste: Amount thrown away totals 900 million tonnes - BBC News).**

Moreover, 60% of food waste is created in the home. This shows that the food waste problem does not exist solely within the production chain, but also in the home and individuals can make a difference in reducing a large proportion of food waste.

Expiry Dates

Consumers may misinterpret best by dates as expiration dates - food can often outlive these dates and it is important to check food closely before throwing it away.

Supermarket Perfect

Some supermarket chains may decline vegetables/fruit items that are oddly shaped, and these items are then wasted.



Discussion

Now you’ve provided an overview of the problem, it is time to encourage your group to begin to think of a solution! This section can be made into an activity, or just a discussion. Start by asking the following questions, (there are some further points below each question to further encourage discussion if needed).

What can we do to join the fight against food waste?

- Some supermarkets sell ‘wonky’ produce, where misshaped food items are sold for a reduced price - it may look different but still tastes the same!

How can we change our shopping habits to reduce food waste?

- Buy one get one free - is it saving money if you’re not planning on using it?
- Buy loose - this allows shoppers to pick the exact amount they need.
- Check before you shop - take a note of what you **don’t** need to buy before heading to the shops, this can help avoid buying duplicates and a product expiring before you get around to using it!

Other Options

Freeze Leftovers

Once cooked, freezing meals can make them last longer, and ensures food isn't wasted!

Donate Surplus

If you've over bought food items, why not give away any unneeded items to a local food bank.

Effective Food Waste Management	Ineffective Food Waste Management
Individuals make the most of their food, wasting only unavoidable food waste and eating what they can.	Food is sold to customers on a mass scale, with promotions such as 'buy one get one free' which can result in supermarkets or individuals over purchasing goods which are later wasted.
Ensuring a closed-loop cycle on food waste. A super effective system will utilise a closed-loop cycle at all stages, with farmers, retailers and households using what they can, and turning any waste into a resource, through acts such as composting.	Food is seen as a renewable commodity, that can simply be bought again and again, as individuals don't appreciate the amount of work and associated carbon cost that goes into producing individual items such as one carton of milk.



Activity

Ask students to present their own food waste posters, encouraging people to stop wasting food in their home. Perhaps ask them to include up-to-date and relevant statistics to help inform communities of the scale of the issue. Allow pupils to present their ideas to each other – remembering and making point of the fact that open conversation around this topic can create more learning experiences and knowledge, increasing awareness.

Here are some questions to help them consider where to get started on their posters:

- Think about the food at your home, do you or your household waste food?
Is it just bits like egg shells, or are whole meals being chucked away?
- Now scale this up and encourage students to think about the global picture, this isn't just a problem in the UK!
- Do you know of any countries or places that have good food waste management in place?

After completing Section 1, check your groups' learning with the activity pack's Food Waste Sorter Activity.

2. Food Waste & Sustainability

Key Learning Points

To encourage conversations and students

- to share their opinions on food waste.
- Provide the students with the opportunity to articulate their ideas in a formal setting as well as an informal debating format

Ask pupils to consider the sustainability triangle

Sustainability features a combination and balance between economic, environmental, and social growth. It can be argued that progressing sustainably can only be possible with efficient waste management.

- Why may this be the case?
- Weigh up the role of supermarkets in the waste crisis.

Can they do more to help combat food waste? If so, what options could they take to reduce food waste?



Starter Task

Students are now aware of food waste and the management it requires to decrease the amount we waste. Allow them to consider the multitude of impacts that surround food waste, which of these impacts are linked across social, economic, environmental factors? Do some facts belong to more than one category?

Learning Ideas

Food waste is all around us. Next time you sit to eat a meal, consider the waste of food items. Reflect on how this may be improved to reduce waste. Make a list of the methods and adopt them next time you prepare a meal, or help someone else. Ways to reduce waste on a personal scale could include; using precise measurements of food products for the desired meal, saving any leftovers in a reusable tub to use for another meal, and preventing waste being produced in the first place.



Impact of Food Waste

Social	Economic	Environmental
It is important to recognise that food waste in developed countries may be considerably higher than developing countries. As such, it is crucial to acknowledge that if we reduce food waste then food insecurity in the developing world may be reduced. Food waste highlights the differences between developing and developed countries, however some members of society in both still do not have access to nutritious food regularly.	Advertising and supermarket chains can be accused of giving precedence to excess food waste purchasing, leading to increased food waste. This leaves people with less money and ultimately can manifest as poverty. Efficient food waste management systems are complex and thus require business structures that are strong to deal with potential issues. It is important to look at how many jobs could be created through implementing efficient waste management strategies.	If food waste is not disposed of in the correct manner, it decomposes anaerobically, thus releasing methane into the atmosphere, which contributes to climate change. A vast amount of resources are required to make food (e.g., water and energy). When this food is not consumed it is wasteful of resources that maybe finite, or non-renewable. Decomposing food can lead to leaching of toxic liquids into soil. Contamination can have disastrous impacts on wildlife and water sources.

The Ugly Food Complex

Consumers often prefer what would be a stereotypical shape and colour for an item of fruit. Those items that fall outside of this stereotype are often wasted through not being purchased at supermarkets, leading to waste. Farmers may even reconsider selling this fruit in their supply chain as consumers may actively not choose them. By providing education to consumers that these fruits are the same, apart from the way the look, may decrease food waste on a large scale. This can have a dramatic impact on the food waste dilemma across the world.

Creative Learning Opportunity

Ask pupils to each represent a different stage of the food chain (i.e. farmer, retailer, consumer) in a role-playing scenario. Each student must understand where food waste is accounted for in their part of the food supply chain. When waste is identified, consider the impacts at each stage of the journey. Complete the exercise by allowing them all to collaborate on how to reduce food waste where waste is identified at each stage. This collaborative task can be finished by adding emphasis on the importance of working together to tackle important issues that impact the planet we share together. If students can create interesting solutions, propose they think deeper about the costs of implementing their system. Introducing them to the idea of economics and the role it plays in reducing food waste on a massive scale.

Creative Learning Support

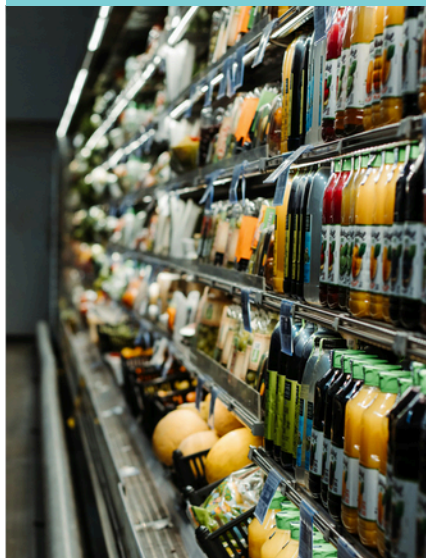
If students are struggling to grasp the concept, or failing to provide any novel ideas, you can provide them with the following prompts to promote thinking:

- **Farmers:** Your crops are about to be sold to a supermarket, but fail to meet the cosmetic standards required for sale. What do you do? Open up thinking about educating supermarkets on 'ugly fruit' and whether they can be sold at reduced prices as they are still the same product they requested!
- **Retailers:** Your supermarket doesn't have enough stock room for the supply you've had delivered. What do you do? Consider thinking about strategic planning, and increasing inventory space to avoid dilemma. Greater communication between retailers and farmers would reduce the likelihood of this mistake happening in the future, and supermarkets can communicate offers to their shoppers to sell any food near the sell-by dates to make room for new produce.
- **Consumers:** How can consumers be convinced that 'ugly fruit' is still edible? Spark thinking about whether there needs to be a shift in mentality around food waste and planning meals, if so can this happen at home or will there need to be influence from the farmers and retailers?

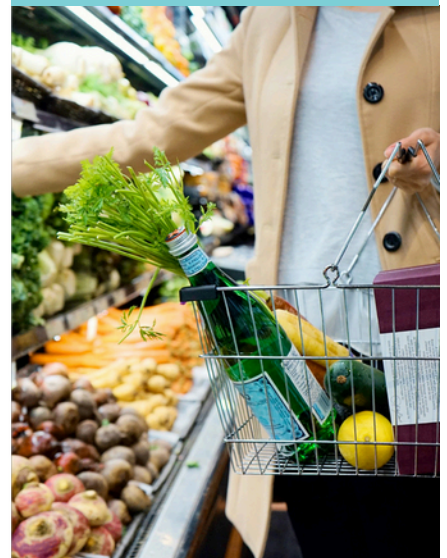
Farmer



Retailer



Consumer



After completing Section 2, check your groups' learning with the activity pack's Food Waste Match.

3. Case Study - Foodbanks

Key Learning Points

- To learn about a scheme that is actively combating food waste.
- Be knowledgeable about the current waste issue in the UK.



Based in Merseyside, Knowsley Foodbank has been effective at diverting 500 tonnes of food that is destined to be wasted onto the plates of community members who need this food support. In 2023 Knowsley Food Bank provided 63,733 meals for the Liverpool City Region. Last year alone, approximately 236,443 people were fed through Knowsley Foodbank - a testament to our ability to create meaningful change in communities across the Liverpool City Region.

We collect food through partnerships with supermarkets and redistribute it using our vans and Knowsley Foodbank warehouse to community centres and food pantries across the region. When food we receive is past the point of consumption (e.g., mouldy leading to inedible status) we have partnered with Re-Food, a recycling initiative that diverts food waste from energy from waste facilities and instead treats in using Anaerobic Digestion (AD) process to produce biofuel - proving that when food is unsuitable for distribution it will still benefit the environment rather than be totally wasted.

Moreover, our operational capacity expanded last year to accommodate growing referral numbers and increasing food donations. In addition, we have excellent links with local schools, providing free school breakfasts and fresh fruit snacks for 250 children at St Swithin's School every week - changing the destiny of this food from the bin to plates across the region.



We Need Your Support

We rely on the support of our local community for food donations, volunteering and finances. Can you help us stop UK hunger?

Our foodbank opened in 2011 and relies on your goodwill and support. Please help us to feed those in need.

Our experienced team of employees and volunteers boast decades of collective experience in food waste management and waste stream diversions. Last year our inclusive environment led to volunteers giving hours of their time for our cause. This is once again testament to the work environment and selfless activity Knowsley Foodbank champions through its outreach in communities across the Liverpool City Region.

For independent reading, a copy of this case study can be found in the activity pack.

4. Activity: Audit Your Food Waste

Key Learning Points

- Engage with the learning material and ask questions when appropriate.
- Reflect on learnings so far.

Ask pupils to consider the different types of waste produced

Earlier content defined food waste as either avoidable (i.e. uneaten leftovers) and unavoidable (i.e. apple core), ask students to identify whether the food wasted was avoidable by marking an 'A' by these items on their worksheet, unavoidable items can be marked with a 'U'. If some of your students don't have any food waste, or produce very little, ask them to note down any waste they throw away. This can include food packaging, such as crisp packets, and juice boxes.

Starter Task

Students have been provided with theoretical and practical understandings of food waste and it's wider impacts, now ask students to consider their impact on the global problem. For one week, have students track their food waste. For ease, this can be done just looking at their lunches and snacks consumed during the school day.

Learning Ideas

At the end of the week, have your students analyse their results, and create an action plan to make some sustainable changes. If one student often throws away sandwich bags, could they consider using a reusable box to pack their sandwiches in? If another student throws away an apple every day, could they instead leave the apple at home, and pick a fruit that they'd prefer to eat? One student may throw away sandwich crusts daily as they don't like this part - they could instead be added to a compost heap!

Food Waste Tracker

Use the boxes below to keep track of any food waste, or packaging you throw away from your school lunch and snacks! An example has been provided.

Example	Monday	Tuesday	Wednesday	Thursday	Friday
1x apple core 1x empty crisp packet 1x sandwich crust					

Provide your group with the worksheet from the activity pack so they can keep track of their food waste!

Food Waste Match

Can you match the correct food waste words to their definitions below?
You can cut out the terms and definitions, or simply draw a line to match the term to the definition.

Anaerobic Digestion

Climate Change

Compost

Finite Resources

Food Waste

Food Waste Management

Food Bank

Mass Consumption

Food that is intended for human consumption that does not get eaten. This can occur anywhere throughout the supply chain from farmers, retailers to households.

How humans deal with food waste, this can be inefficient or highly efficient, depending on the system used.

A long term shift in global or regional climate patterns.

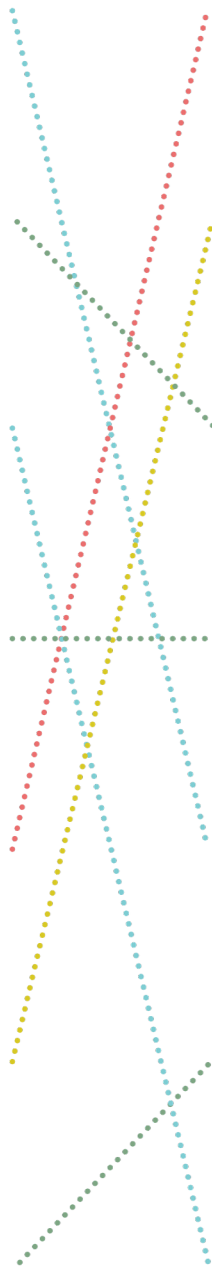
A resource that is concentrated, or formed at a rate very much slower than its rate of consumption, and so for practical resources is non-renewable.

A chemical process in which organic matter is broken down by micro-organisms in the absence of oxygen, which results in the generation of carbon dioxide (Co2) and methane (CH4).

A community organisation that can help individuals who cannot afford necessary food items.

Decaying plant material that is added to soil to improve its quality.

Large purchase of items, goods or services by a large number of customers.



Food Waste Sorter

Identify whether the type of food waste each item listed below is edible or inedible food waste, mark which ones are also compostable - you may have two boxes ticked for some items. An example has been done for you.

Food Waste Item	Edible	Inedible	Compostable
Apple Core		X	X
Milk that has a bad smell		X	
Lettuce that is wilted and discoloured		X	X
Yoghurt that has gone past its best before date but smells fine.	X		
Styrofoam tray from packaging		X	
Bread that looks fine, but is past its best before date	X		
Banana peel		X	X
Leftover cooked rice	X		
Eggshells		X	X
Aluminium foil		X	

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How humans deal with food waste, this can be inefficient or highly efficient, depending on the system used.

Compost

A long term shift in global or regional climate patterns.

Finite Resources

A resource that is concentrated, or formed at a rate very much slower than its rate of consumption, and so for practical resources is non-renewable.

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A chemical process in which organic matter is broken down by micro-organisms in the absence of oxygen, which results in the generation of carbon dioxide (Co2) and methane (CH4).

Food Waste Management

A community organisation that can help individuals who cannot afford necessary food items.

Food Bank

Decaying plant material that is added to soil to improve its quality.

Mass Consumption

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Learning Checkpoint

Now that we've completed this session on food waste it's time to test your knowledge at our learning checkpoint! If you're stuck, feel free to refer to any notes you've taken during the lessons.

1. What is food waste?

2. Does food waste have any negative impacts? (Answer this question by approaching it via social, economic and environmental effects i.e. people, money and wildlife respectively).

3. How can you spot food waste?

4. Who creates food waste?

5. How can retailers (i.e. supermarkets) prevent more food waste from being created?

6. What is the Ugly Fruit Complex?

7. How is this important for further learning about preventing food waste?

8. How can communities inspire food waste reduction at home?

9. What role do consumers play in reducing food waste?

10. Can consumer behaviour change the amount of food waste being created, if so how?

11. Describe an effective food waste strategy, and an ineffective food waste strategy.
