

Food Waste & You

Teacher Resource Book



STOPFoodWaste.ie

An Introduction for Teachers



Lesson Warm Up

1. An Introduction to Food Waste

This provides a basic overview of the problem of food waste.

An Introduction to Food Waste

Food waste takes place at various stages of the supply chain. There is no one reason why it takes place and no one way of preventing it.

Day-to-day, in your life, it might not seem like much but when added up, food waste is a big problem both for your pocket and the planet.

It's important to remember that there's more to food waste than wasted food. When food is wasted, so too are the resources used to produce, transport and supply it. This includes the inputs such as land, water, energy, oil and packaging, as well as the human factors such as labour, and the outputs such as greenhouse gas emissions.

International best practice supports the need to prevent food waste. The Datasave Project recognises reduced food waste as the third greatest opportunity to reverse global warming.

As a starting point, it is a good idea to begin by measuring what we waste. This provides a better understanding of what the issue is and provides the best scope to take actions to make improvement.

"No matter what your situation, there will always be something you can do to reduce waste"

The reasons are different for everyone. Sometimes we buy too much, we prepare too much, plans change, leftovers go off in the fridge, the list goes on. No matter what your situation, there will always be something you can do to reduce waste.

Every time we eat or make a decision around food, we have an opportunity to reduce food waste and make a difference.



2. What do you think? Questionnaire

Begin a classroom discussion based on the 'What do you think?' questions.

Get students thinking about their own understanding of the topic.

What do you think?

Read these questions and answer them as honestly as you can. Food and food waste is different for everyone so there are no right or wrong answers here.

| | | |
|---|--|---|
| Do you ever think about where food comes from? <input type="checkbox"/> Yes <input type="checkbox"/> No | Do you ever think about food waste? <input type="checkbox"/> Yes <input type="checkbox"/> No | Do you ever think about where food goes when it's put in the bin? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Do you throw away food? <input type="checkbox"/> Yes <input type="checkbox"/> No | If you do throw food away, what bin do you put it in? <input type="checkbox"/> Recycle <input type="checkbox"/> Brown <input type="checkbox"/> General <input type="checkbox"/> Compost | Do you know what happens food if it goes to landfill (the dump)? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| If you don't finish a meal, do you usually (A) throw it in the bin (B) save it for later (C) something else? <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C | Do you eat leftovers? <input type="checkbox"/> Yes <input type="checkbox"/> No | Do you think you waste (A) a lot of food, (B) some food or (C) not a lot of food? <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C |
| Would you say you know where foods are best stored in a kitchen? <input type="checkbox"/> Yes <input type="checkbox"/> No | Do you know the difference between 'use by' dates and 'best before' dates? <input type="checkbox"/> Yes <input type="checkbox"/> No | Do you know any way of preserving food at home? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Do you think food waste is a (A) serious problem, (B) not too serious, a problem or (C) not really a problem? <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C | Which one of these do you think contribute most to climate change? A. Emissions from cars B. Cutting down rain forests C. Food waste <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C | Do you think your actions could make a difference to the global food waste issue? <input type="checkbox"/> Yes <input type="checkbox"/> No |

3. Posters or Handouts

'Did you Know?', 'Food Waste and Us' and the '5 R's posters' can be printed as an A4 handout, A3 poster or used as whiteboard projections.

Did you know?

- 50% of salad we buy ends up being wasted
- 10% of all milk, yoghurt and dairy products don't get eaten
- 20% of bread and bakery items go to waste
- 10% of meat and fish ends up uneaten

Food Waste & Us

- In Ireland, over one million tonnes of food is wasted annually.
- A third of this happens in our homes.
- The value of this waste to the average Irish household is between €400 and €1,000 per year.
- This waste has a big impact on our environment, especially its implications for Climate Change.
- Processes associated with the production, transportation, refrigeration, and distribution of food generate harmful greenhouse gases.
- Uneaten food that ends up in landfill also releases greenhouse gases.
- The Environmental Protection Agency (EPA) reports that Ireland is unlikely to meet its target reductions in greenhouse gas emissions by 2020.
- These are legally binding targets agreed with the European Union.
- It is likely that Ireland will face severe fines for failing to meet them.

Remember the five R's for Food Waste

- REFUSE** Say no - only take what you know you can eat
- REDUCE** Buy only what you need and monitor your waste
- REUSE** Ask for a doggy bag and store leftovers to enjoy the following day
- RECYCLE** Turn leftovers into something new
- ROT** Compost your food waste or ensure it goes into a brown bin

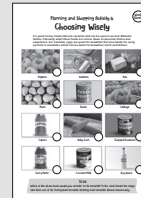
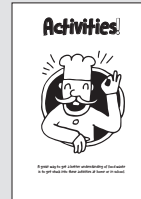
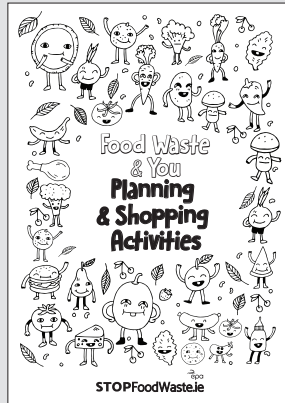
See back page for Key Words Bank

Activities

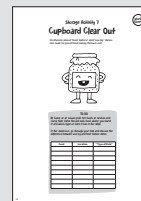
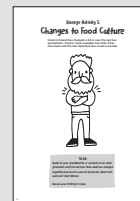
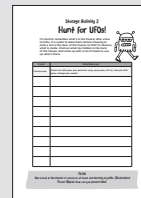
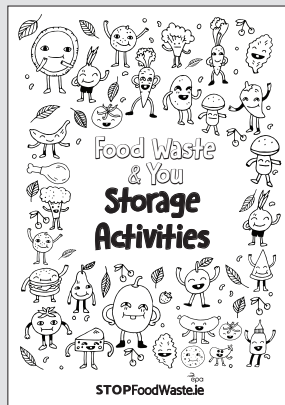
Each download consists of an introductory section and a series of activity sheets designed to help students explore the topic. Work sheets that need to be printed are highlighted by a 'work sheet' icon.



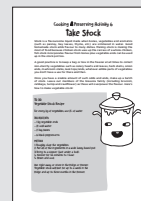
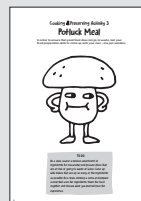
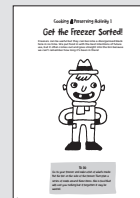
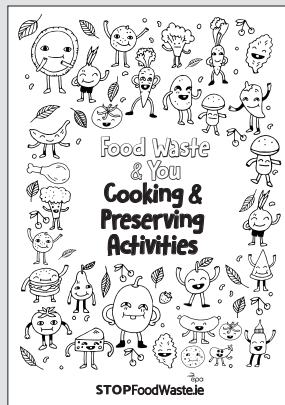
Planning & Shopping



Storage



Cooking & Preserving



What do you think now? How well you have learned something about food waste tell us in your own words a little about what you think.

What are the most interesting things you have learned?

What are the things you learned about that you were most surprised to find out?

What changes are you going to make to help reduce food waste?

Do you think you could convince other people to reduce food waste? If so, what might you say?

At your lessons, what is the greatest opportunity to reduce food waste across the school?

What is a special occasion or event that you are going to help with?

At your lessons, what is the most important thing you have learned about food waste?

Lesson Conclusion

Once the topic of food waste has been covered with students and all the activities have been completed, use the 'What do you think now?' questions to guide a classroom discussion to conclude the lesson.

An Introduction to Food Waste

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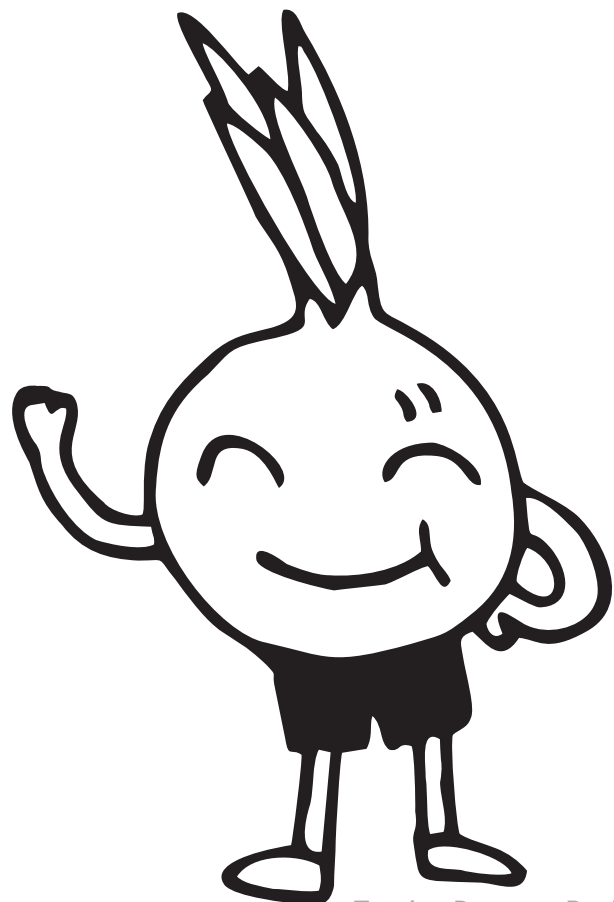
International best practice supports the need to prevent food waste. The Drawdown Project recognises reduced food waste as the third greatest opportunity to reverse global warming. www.drawdown.org

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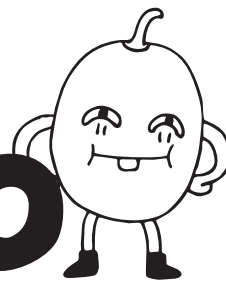
"No matter what your situation, there will always be something you can do to reduce waste"

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Every time we eat or make a decision around food, we have an opportunity to reduce food waste and make a difference.



What do you think?



Read these questions and answer them as honestly as you can. Food and food waste is different for everyone so there are no right or wrong answers here.

Do you ever think about where food comes from?

Yes No

Do you ever think about food waste?

Yes No

Do you ever think about where food goes when it's put in the bin?

Yes No

Do you throw away food?

Yes No

If you do throw food away, what bin do you put it in?

Recycle Brown
 General Compost

Do you know what happens food if it goes to landfill (the dump)?

Yes No

If you don't finish a meal, do you mostly (A) throw it in the bin (B) save it for later (C) something else?

A B C

Do you eat leftovers?

Yes No

Do you think you waste (A) a lot of food, (B) some food or (C) not a lot of food?

A B C

Would you say you know where foods are best stored in a kitchen?

Yes No

Do you know the difference between 'use by' dates and 'best before' dates?

Yes No

Do you know any way of preserving food at home?

Yes No

Do you think food waste is (A) a serious problem, (B) not too serious a problem or (C) not really a problem?

A B C

Which one of these do you think contributes most to climate change? A. Emissions from cars B. Cutting down rain forests C. Food waste

A B C

Do you think your actions could make a difference to the global food waste issue?

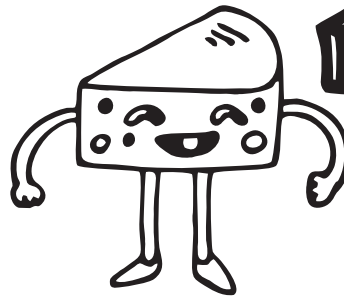
Yes No



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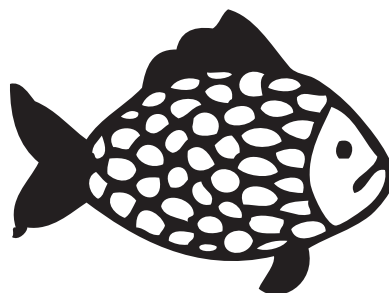
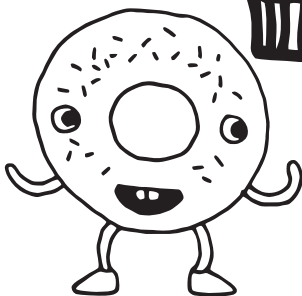
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Food Waste & Us

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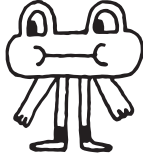
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Remember the five 'R's for Food Waste



REFUSE

Say no - only take what you know you can eat



REDUCE

Buy only what you need and monitor your waste



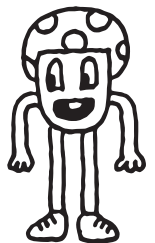
REUSE

Ask for a doggy bag and store leftovers to enjoy the following day



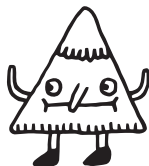
ROT

Compost your food waste or ensure it goes into a brown bin



RECYCLE

Turn leftovers into something new



What do you think now?



Now that you have learned something about food waste tell us in your own words a little about what you think.

What are the most commonly wasted foods in Ireland?

How can people in Ireland ensure that food waste does not end up in landfill where it generates greenhouse gases (GHGs)?

What storage and preservation methods can prolong the shelf life of fresh foods such as apples, bread and lettuce?

Do you think you could convince other people to reduce their food waste? If so, what might you say?

In your opinion, what is the greatest way to solve the issue of food waste across the globe?

Name a current innovation or project that aims to tackle food waste.

In your own words, write down one change that you might make to reduce food waste from now on.

Key Words Bank

Biodiversity

Biodiversity (shorthand for biological diversity) refers to the variety of living things in a given place.

Climate change

The climate can be described as the average weather over a period of time. Climate Change means a significant change in the measures of climate, such as temperature, rainfall, or wind lasting, for an extended period – decades or longer. The Earth's climate has changed many times throughout history but what's different during this period of history is that human activities are contributing to natural climate change through the emission of greenhouse gases.

Compost

A rich, soil-like substance that can be added to a garden to help plants grow. Grass, leaves, paper, and some types of food can naturally decay and turn into compost.

Conserve

To use wisely, avoiding waste.

Consumer

A person who purchases goods and services for personal use.

Decay

To rot, or waste away.

Energy

The power to do work. Producing food requires energy.

Enzyme

Enzymes are protein catalysts that speed up chemical reactions without being destroyed or changed.

Food preservation

Food Preservation involves slowing down or stopping the process of food spoilage.

Food system

A food system includes all the processes that are involved in feeding a population.

Food waste

Food waste refers to food that was created for human consumption that has not ended up eaten by people. Often we forget that even food that's fed to the dog or goes into compost is actually food waste. Food is wasted for many reasons including oversupply due to markets or individual consumer shopping/eating habits.

Fossil fuel

A substance found beneath the Earth's surface that can be used as a source of energy. Petroleum (which is often used to make plastic), natural gas, and coal are fossil fuels.

Greenhouse effect

The greenhouse effect is the natural way that the sun's rays keep the earth warm. The sun is the most important source of energy for the earth. Heat rays from the sun warm the earth's surface. As sunlight enters the earth's atmosphere some of it is reflected back out into space. However, gases in the atmosphere such as carbon dioxide and methane trap most of the sun's rays as they pass through the earth's atmosphere and heat the earth's surface. This is similar to how a greenhouse works by letting in heat from the sun and trapping it.

Greenhouse gases (GHGs)

A Greenhouse Gas is a gas that contributes to the greenhouse effect by absorbing infrared radiation. Carbon dioxide, Methane and chlorofluorocarbons (CFCs) are examples of greenhouse gases.

Landfill

A specially constructed site for the disposal of accepted municipal waste.

Natural resource

Materials in nature, like trees, that are necessary for life. Resources provide ingredients for food, fuel, and goods.

Non-renewable

A natural resource from the Earth that exists in limited supply, like oil, or coals. Once this supply is used up, the resource is gone forever.

Packaging

Wrappers and containers used to protect food or other products from dirt, germs, and damage. Packaging often provides information about the product. Sometimes goods contain more packaging than they need.

Recycle

To make new products from old ones.

Reduce

To use less.

Supply chain

A supply chain is the whole process of making and selling commercial goods, including each stage from the supply of materials and the manufacture of goods to their distribution and sale.



Food Waste
& You
**Planning
& Shopping
Activities**



STOPFoodWaste.ie

Planning & Shopping

When we think of food waste we usually think of the end, when food waste is being disposed of. In fact, many of the reasons behind food waste happen much earlier. By changing small things sooner, we can cut our food waste and save money at the same time. Reducing food waste should start before we even go to the shops!

A meal plan and a shopping list are two of the best tools for reducing food waste.

In today's fast-paced world, making a plan and sticking to it can be difficult.

When making your plan, think about the foods you already have. Prioritise food that needs to be used up soon. Your plan should be based around the foods you eat – the real you, not the ideal version of yourself. Although making a plan does make it easier to eat better, being unrealistic with what foods you will actually eat can lead to even more food waste. Taking the time to plan your meals saves you time, money and stress later in the week.

Buy wonky fruit and veg

Many shops and markets now stock irregularly shaped fruit and vegetables, which are just as good as the standardised versions. Purchasing ugly fruit and vegetables signals to retailers that consumers will accept “imperfect” produce.

Store cupboard essentials

A small stock of store cupboard essentials such as rice, noodles, pasta, tinned tomatoes and seasonings will increase your capacity to use up leftover items.

Be dynamic

Though recipes are useful, remember that there is always room for clever substitution and deviation. When trying a new recipe, consider whether or not it's possible to incorporate additional items into the dish. Otherwise, come up with ways of using up what will be left over of the new ingredients required. Check out the **Fooduko** game for ideas in the resources section of stopfoodwaste.ie.

Shopping list

A shopping list can help us buy only what we need. It can also save time in the supermarket. As items run low, add them to the list. There are plenty of apps which function as smart shopping lists.

Take a 'shelfie'

When in a hurry, it's handy to take a photo of what's inside the fridge to consult when you're at the shops.

Look in the bin

What types of food items do you most frequently throw out? Think about how better planning would help prevent this waste.

The shopping battleground

The best way to prevent wasting food is to avoid buying too much in the first place. Shops have many clever ways of encouraging us to buy more than we've planned such as Buy One Get One Free (BOGOF) offers. Use a basket to shop if possible as when using a large trolley one is more likely to buy more.

Avoid hungry spending

Shopping when you're hungry or thirsty is a sure-fire way to buy more than you need. Have a glass of water and a snack before you go shopping.

Beware of the cost of convenience

Though pre-prepared foods save us time and energy and therefore they are attractive, there is a cost to this convenience. The easiest way to compare costs is to look at the unit price. Often a price per kilogram (kg) is printed on display labels in shops. Convenience foods often come wrapped in more packaging and processed fresh foods go off faster than whole foods.

Online

Online shopping is not available to everyone but for many it provides a convenient way of avoiding distractions and temptations at the shops. It allows for planning and budgeting.

Multi-purpose foods

It's good to buy foods that can be used in several different dishes. This provides flexibility to come up with different meals before fresh produce goes off. Beef mince can be used to make burgers, spaghetti bolognese, chilli con carne, or, for the adventurous, moussaka.

Check the diary

Communication within the household about who's going to do the shopping, who will prepare meals and who will be home to eat each evening can prevent duplication.

Activities!

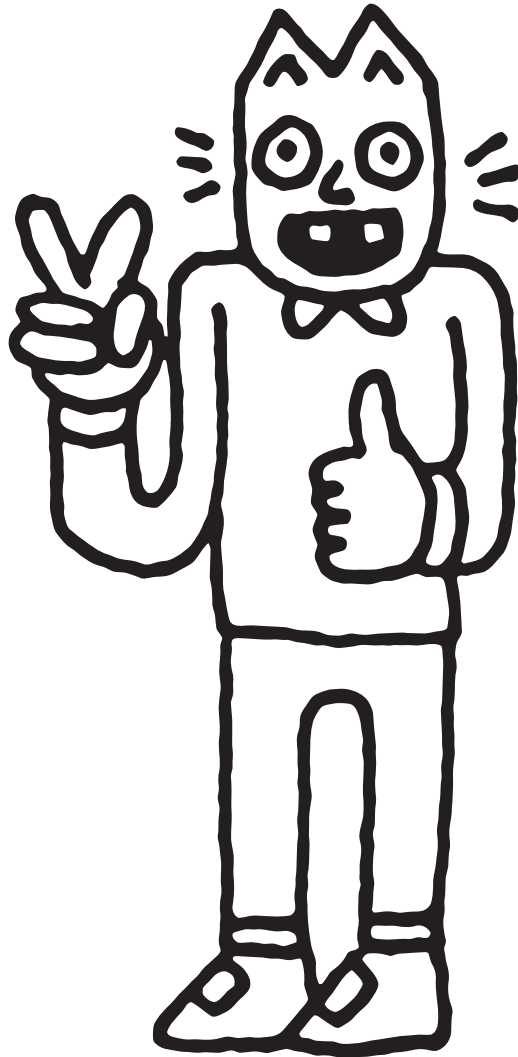


A great way to get a better understanding of food waste is to get stuck into these activities at home or in school.

Planning and Shopping Activity 1

Plantastic!

Planning meals is one of the best ways to reduce your food waste. Knowing what food you have and need stops you over-buying and makes it easier to use up food before it goes bad.



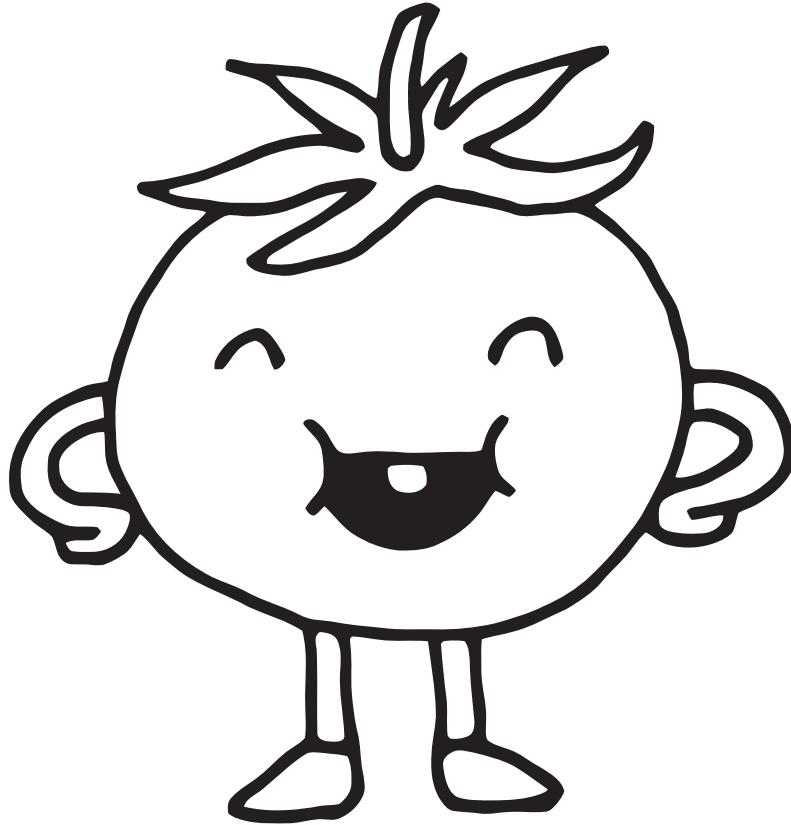
TO DO

Go through the meal plans on the stopfoodwaste.ie website and see what you think. Create your own meal planning sheet for one week.

Planning and Shopping Activity 2

Cost of Convenience?

While convenience food can make life easier this convenience does come at a cost - the question is how much?



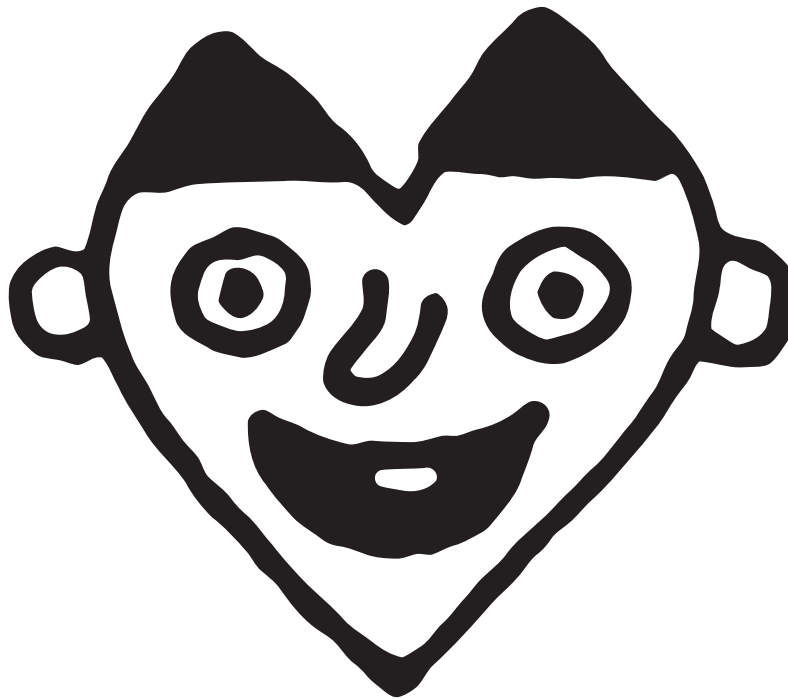
TO DO

All foods are priced based on weight, though we often don't examine these too closely. Pick 5 items and identify the price difference between the bulk/whole item and the convenience version.

Planning and Shopping Activity 3

Loving Lists

Shopping lists are one of the most important weapons in the battle against food waste. Not only do they help reduce food waste, they can save time and money.



TO DO

Most households have a small number of meals they typically eat. Make a list of these meals and a shopping list for each one. You can undertake this task at home or in class groups at school referencing recipes used in class.

Planning and Shopping Activity 4

Get App Happy!

While shopping lists are great, bits of paper do get lost and different people in the house can end up buying the same things. Apps can be the ideal solution for such problems, but only if they work.



TO DO

Find a shopping list app and test it out with someone who takes care of food purchasing in a household. How would you rate the app? Score 1 for poor and 5 for excellent. Compare results among the class rating the following:

| | | | | | |
|------------------------|---|---|---|---|---|
| Convenience: | 1 | 2 | 3 | 4 | 5 |
| Design: | 1 | 2 | 3 | 4 | 5 |
| Functionality: | 1 | 2 | 3 | 4 | 5 |
| Food waste prevention: | 1 | 2 | 3 | 4 | 5 |
| Graphics/appearance: | 1 | 2 | 3 | 4 | 5 |

Planning and Shopping Activity 5

Choosing the Right Deal!

When shopping, we have to ask ourselves what is a good deal? Why buy the big/cheap bag of apples when you don't need them all. Remember, not every deal is a good deal if food gets wasted.

4 packs of
fresh herbs
only €1

3 bags of
lettuce for the
price of 2

50% extra free
bag of frozen
peas

Large bag of
potatoes
half price

6 bulbs of
garlic only
50c

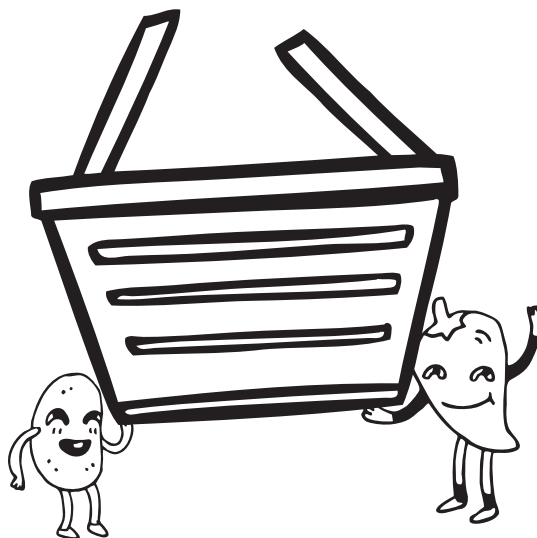
2 tubs of sour
cream
half price

Value bag of
carrots &
parsnips €2

2 blocks of
cheese for just
€4

2 mince meat
for price of 1

4 packs of
burger buns for
the price of 2



TO DO: Pick 5 deals to go in the basket. Discuss your reasons for selecting these deals over the others.

Planning and Shopping Activity 6

Choosing Wisely

It's good to buy foods that are versatile and can be used in several different dishes. Choosing what these foods are comes down to personal choice and experience. For example, eggs are great for breakfast but also handy for using up food in omelettes which can be eaten for breakfast, lunch and dinner!



Peppers



Sardines



Tofu



Pears



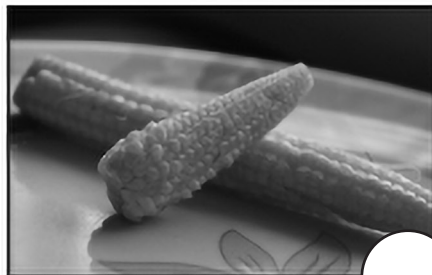
Beans



Cabbage



Capers



Baby Corn



Chopped Tomatoes



Curry Paste



Coconut Milk



Soy Sauce

TO DO

Which of the above foods would you consider to be versatile? In the circle beside the image, rate them out of 10. 1 being least versatile, 10 being most versatile. Discuss reasons why.



Food Waste
& You
**Storage
Activities**

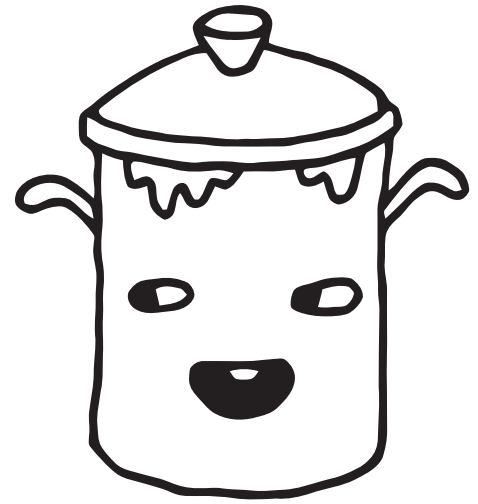


STOPFoodWaste.ie

Food Storage

Storing food properly is one of the most important steps to reducing your food waste. Simple habits such as unwrapping fresh foods when you are stowing the grocery shopping can prolong the life of food.

Importantly, correct storage also plays a vital role in maintaining the nutritional value of food and ensures it will be safe for consumption.



'Use by' dates

'Use by' dates refer to food safety. Food can be eaten up to the end of this date but not after.

'Best before' dates

'Best before' dates refer to food quality. Food will be safe to eat after the 'best before' date, but it may not be at its best.

Enzyme action

The main causes of food spoilage are enzyme action, loss of moisture and microorganisms such as moulds and bacteria. Time, temperature, humidity and light are the main factors to consider when storing food.

Store fruits separately

Some fruits, like apples, pears and bananas give off ethylene gas which speeds up the ripening of fruits nearby. Unless you actually want to ripen other fruit, store these fruits separately.

Storing tomatoes

Store tomatoes in the open air, not in the fridge: the flavour and texture of the tomato deteriorate at temperatures below 15°C.

F.I.F.O. (First In First Out)

When you're unpacking the shopping, put the new items to the back and move the older ones forward so they're eaten first.

Fridge temperature

Fridge temperature should be between 1-4 Degrees Celsius.

Storing leftovers

Leftovers should be kept covered in the fridge and used within 2-3 days.

Storing bread

Bread should not be kept in the fridge.

The fridge door

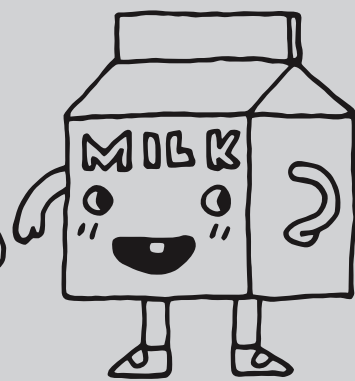
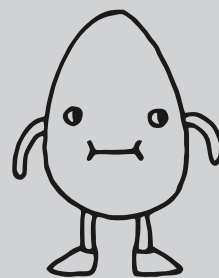
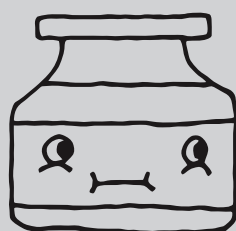
The temperature in fridge door racks can vary a lot each time the door is opened. It is a good place for eggs, condiments, jam and fruit juice.

Befriend the freezer

Freezers should always be kept at -18°C or less. For frozen items, use labels or keep a log of what's in the freezer on a whiteboard on the door. Masking tape is handy for making labels as it peels off without leaving a mark.

Fridge clearout

A regular fridge and freezer clear out is a good way to manage food storage. Using up what's in the fridge/freezer could save time and money.



Activities!








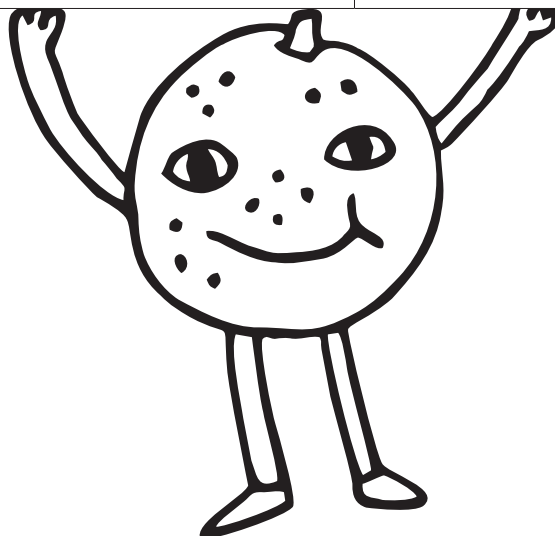
A great way to get a better understanding of food waste is to get stuck into these activities at home or in school.

Storage Activity 1

Make the Most of Food

There are many reasons why we waste food, but there also many ways to avoid wasting it. For example, keep bananas at room temperature, without a plastic bag, until they are ripe. Like apples and pears, bananas produce ethylene gas which causes other fruits to ripen faster. Unless you actually want to ripen other fruit, store bananas separately.

| Food | Reasons it may go to waste | Ways to use up |
|---|----------------------------|----------------|
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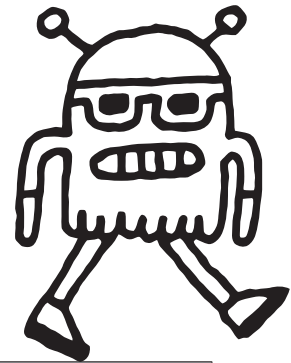
TO DO

The most commonly wasted foods are fruit, vegetables, and bread. Discuss the possible reasons why the above items might go to waste and all of the potential ways in which this could be prevented.

Storage Activity 2

Hunt for UFOs!

It's hard to remember what's in the freezer after a few months. It is useful to label items before freezing or stick a list to the door of the freezer so that it's obvious what is inside. Find out what lies hidden in the back of the freezer and come up with a list of meals to use up what's there.



| Food | Potential uses |
|-------------|--|
| Frozen peas | Fried rice with peas, pea and mint soup, pea purée, stir fry, ham pie with peas, cottage pie, risotto. |
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TO DO

Take a look at the freezer in school or at home and identify any UFOs – **Unidentified Frozen Objects**. How can you prevent UFOs?

Storage Activity 3

The Big Salad Debate

There are a few methods for storing lettuce/salad leaves. Find out which one works best.



TO DO

At home or in the classroom, store a head of lettuce in three different ways and observe which one stays the freshest over time. Keep a daily log tracking the gradual deterioration of the lettuce.

Storage methods could include:

Roots immersed in water at room temperature

Roots immersed in water kept in the fridge

Lettuce stored in the crisper of the fridge

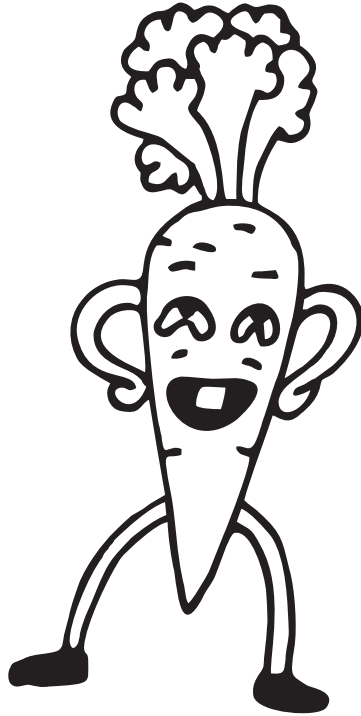
Lettuce stored in a dark cupboard

Lettuce stored on the window sill

Storage Activity 4

The Big Peel Off!

When peeling vegetables such as carrots for a recipe that you are making in school, weigh the item before peeling. Then keep the peelings separate and weigh them also. Finally weigh the peeled vegetables. See if using different peeling techniques makes a difference.



TO DO

Compare how much peelings you and your classmates end up with. Work out what percentage of the vegetable is lost in peelings.

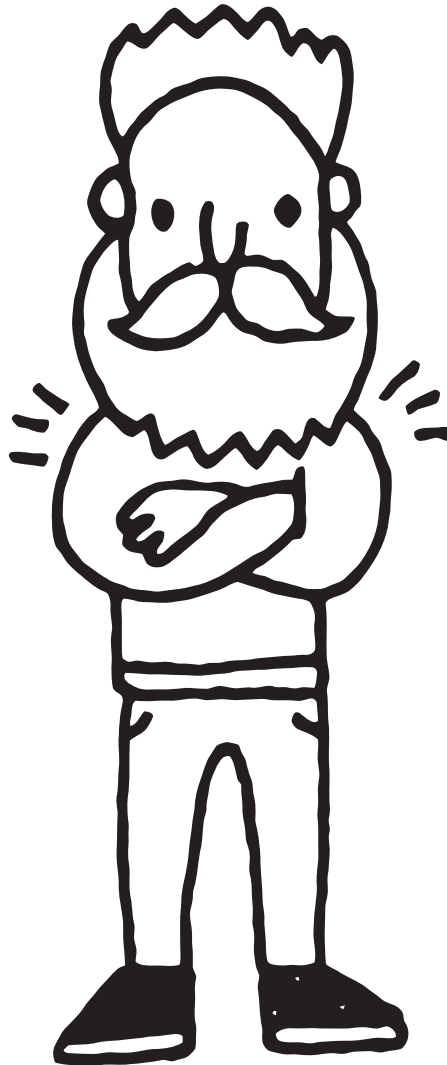
- Weight of vegetable before peeling
- Weight of peelings
- Weight of vegetable without peelings
- Percentage of the vegetable that is lost through peeling

Can you reduce the amount of peelings going to waste? Discuss whether or not vegetables need to be peeled, and the potential uses for peelings.

Storage Activity 5

Changes to Food Culture

Food in Ireland has changed a lot over the last few generations. Changes to the availability of food has impacted how much is wasted.



TO DO

Speak to your grandparents or someone of an older generation and find out from them what has changed regarding how food is sourced, produced, stored and used over their lifetime.

Discuss your findings in class.

Storage Activity 6

The Moving Debate

At this stage students should have a critical understanding of the social and environmental issues of food waste both on a local and global scale.

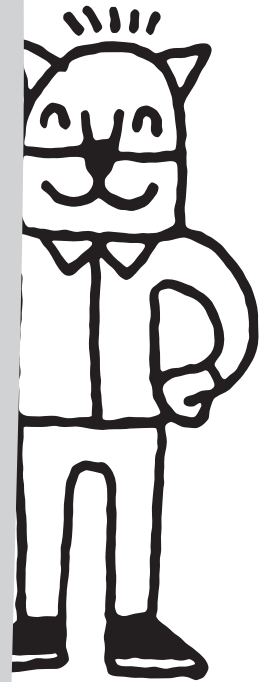
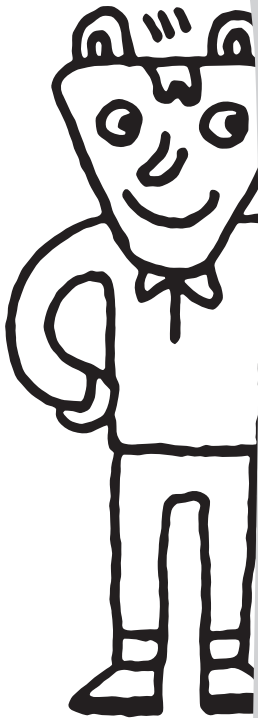
A Moving Debate is an activity that encourages students to think about all sides of an argument, considering various aspects of an issue both positive and negative.

How to perform a moving debate;

- Place two signs AGREE/DISAGREE on opposite sides of the room
- Teacher reads out a statement and asks students if they agree or disagree
- Strongly agree - students stand at far end of agree side of the room
- Strongly disagree - students stand at far end of disagree side of the room
- Indifferent - around the middle of the room
- Ask students to share reasons for their position and to express their opinions

Statements to choose from;

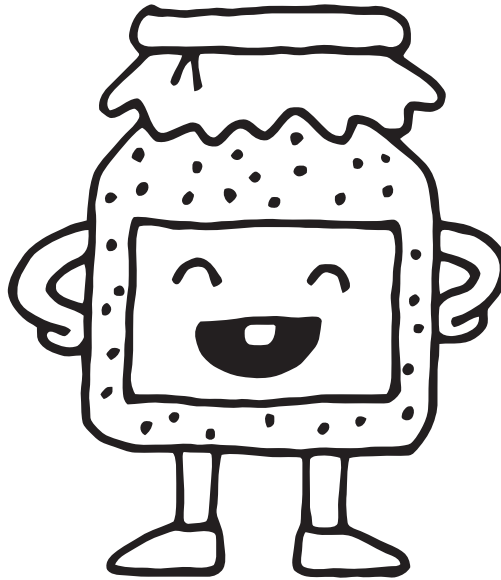
1. 'Food waste is the responsibility of the supermarket, not the consumer.'
2. 'We shouldn't feel guilty about throwing away our food because we paid for it.'
3. 'Perfect looking fruit and veg taste better than ugly or wonky fruit and veg.'
4. 'Growing and cooking our own food will help reduce food waste because we will value it more.'
5. 'People care more about the money lost than the environmental damage caused by food waste.'



Storage Activity 7

Cupboard Clear Out

Confusion about 'best before' and 'use by' dates can lead to good food being thrown out.



TO DO

At home or at school, pick ten foods at random and check their dates. Record each food, where you found it and which type of date it has in the table.

In the classroom, go through your lists and discuss the difference between use by and best before dates.

| Food | Location | "Type of Date" |
|------|----------|----------------|
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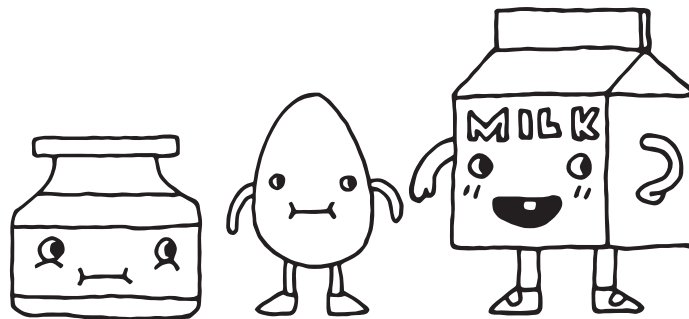


Food Waste
& You
**Cooking &
Preserving
Activities**



STOPFoodWaste.ie

Cooking & Preserving



There are many ways to make the most of food in the kitchen. Whatever your level of skill, opportunities to reduce food waste and enjoy good food are abundant. Preparing and serving a home cooked meal for yourself and for others can be very satisfying. Efficient use of leftovers is an ideal way of reducing food waste when cooking.

Preservation of food has been taking place since ancient times, when in order to survive humans needed to harness what nature gave us. In arctic climates food was preserved by freezing while drying was used in tropical climates. Without preservation methods, humans would not have been able to settle in one place as they would have constantly been on the move for fresh food.

Today we preserve food to help save money and to conserve resources. Preserved foods can also be incredibly delicious, allowing us to eat foods out of season prepared in a variety of different ways.

The process of preserving food either kills or slows down the activity of bacteria which can cause diseases. Bacteria needs oxygen and moisture to grow. Preserving methods such as curing, canning and freezing inhibits this growth. Preserving food is environmentally friendly - by using seasonally grown and locally sourced fresh produce, food miles are reduced, plus re-use of preserving jars also reduces food packaging.

Buy local and In Season

Locally produced food will be fresh, in season and supports local business. Food produced and enjoyed locally shortens the supply chain and limits the likelihood of spoilage during transit. If you buy local food directly from the producer, you have the opportunity to ask questions about how it's grown and how best to store and use it.

Check out the **Seasonal Foods Calendar** in the resources section of stopfoodwaste.ie to see what Irish grown produce is in season.

Use it up

Always know what's in the fridge, freezer and cupboards that needs to be used up. When necessary have a "Make and Do" meal. This means challenging yourself to take what ingredients are available and make a meal of them. An omelette or a pitta pizza is a good means of incorporating veggies that need to be used up.

Communication

Consider the food preferences of those you are preparing food for. If people get what they like, they will look forward to it and finish it.

Perfect portions

Use websites, measuring tools or weighing scales. Regardless of how you do it, try to measure out portions so you'll prepare only what's needed.

Super serving

Serving food in dishes at the centre of the table allows each person to take what they will eat. Plus, we're more likely to reuse leftovers from a central bowl than from someone's plate.

Befriend the freezer

Batch cook dishes that take longer to prepare and freeze half for later. Some foods, such as green vegetables, require blanching (brief exposure to boiling water or steam) followed by rapid cooling before freezing. This will help to retain the colour and nutrients of the vegetables. Some foods undergo textural change from freezing. This occurs because fruit and vegetables are largely made up of water. The water is frozen, it expands, and the ice crystals break down the plant cell walls. This makes a difference for food that would be eaten raw but for food that will be cooked, it makes little difference.

Grow Your Own

A whole packet of herbs or salad leaves can be hard to use up so why not grow them yourself and pick as you need them. Planting a seed and watching something grow helps us to understand where food comes from. This in turn, helps us value food and reduces the likelihood that we will waste it.

Seasonal variation

At certain times of the year such as Christmas and sunny summer days, we often end up creating more waste than we like to admit. Instead, these occasions should be seen as challenges when we get our thinking caps on to create amazing feasts without the waste. It's not being mean, it's being green!

Sharing is caring

Share produce, knowledge and skills. Ask your friends and family to pass on their tips and recipes, and offer yours to others. Together, we can fight food waste!

Activities!

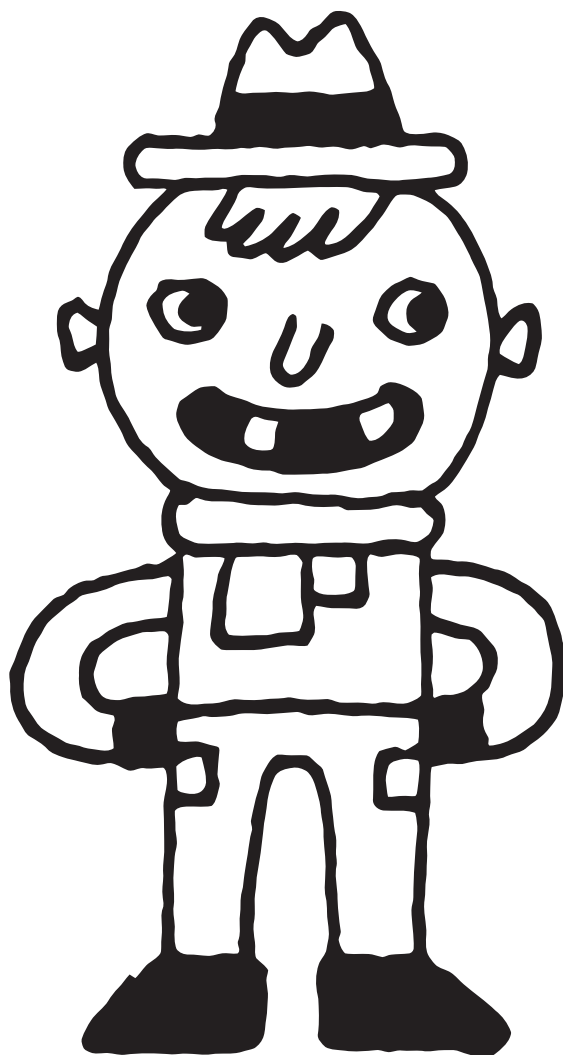


A great way to get a better understanding of food waste is to get stuck into these activities at home or in school.

Cooking & Preserving Activity 1

Get the Freezer Sorted!

Freezers can be useful but they can become a disorganised black hole in no time. We put food in with the best intentions of future use, but it often comes out and goes straight into the bin because we can't remember how long it's been in there!



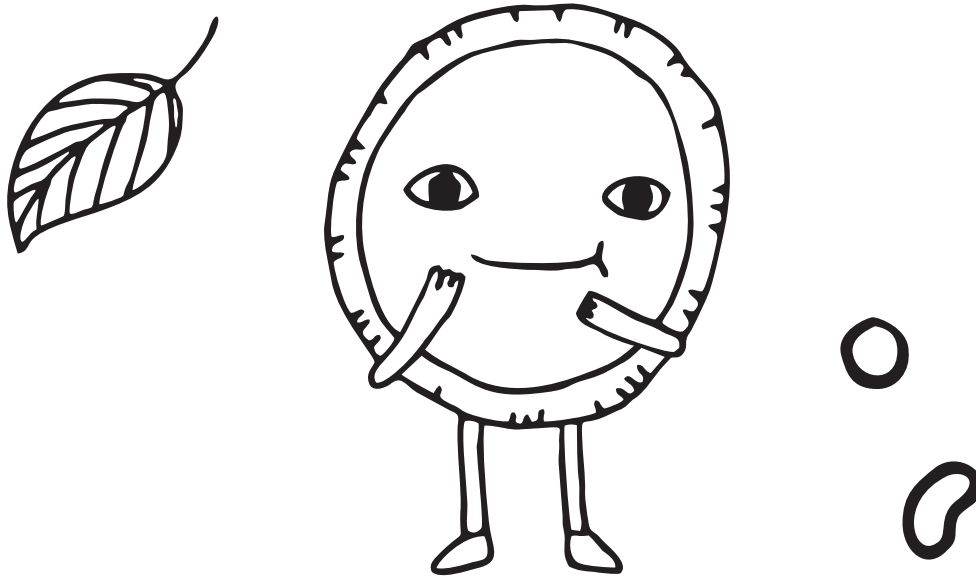
TO DO

Go to your freezer and make a list of what's inside. Put the list on the side of the freezer. Then plan a series of meals around these items - this is food that will cost you nothing but if forgotten it may be wasted.

Cooking & Preserving Activity 2

Sowing Seeds of Change!

Tell your friends and family about what you have learnt about food waste and why it matters – you may be pleasantly surprised by how interested they are in the subject, or by how little some of them may know. Think of the difference you could make to the people you care about, by simply starting the conversation!



TO DO

Have a 'world café'* style discussion in class to share the knowledge, ideas and solutions you come up with together.

or

Invite a local food producer or Chef to come in and talk about their experience of food waste in food production and/or food service settings.

*A world café conversation is an effective method of facilitating group dialogue.

Set the scene by setting up groups of 4/5 chairs around a central table with a large blank sheet in the centre.

Allow each group to come up with a different food waste related topic to discuss. Each group should appoint a table 'host' who will remain at that table throughout the discussion and invite other students to move around and share ideas across the tables and topics.

Encourage students to use the sheet of paper to 'harvest' themes in the discussion visually and with words. At the end, invite each table host to summarise the discussion that took place at their table.

Cooking & Preserving Activity 3

Potluck Meal

In order to ensure that good food does not go to waste, test your food preparation skills to come up with your own one-pot wonders.



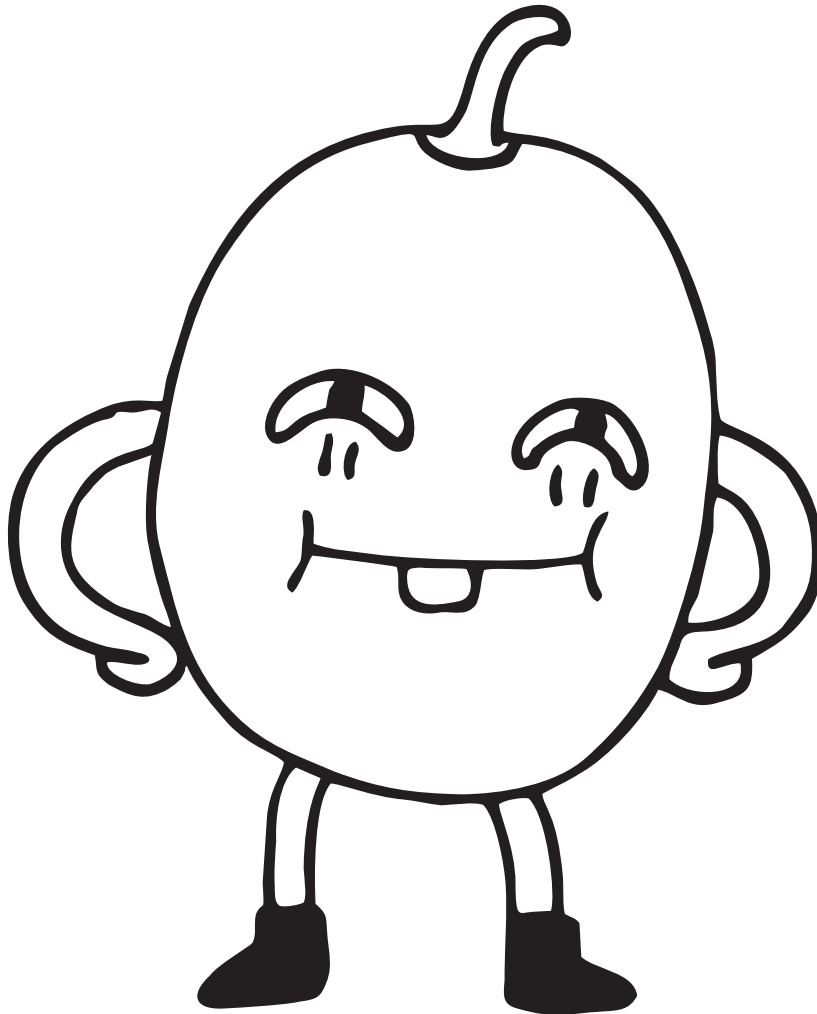
TO DO

As a class, source a random assortment of ingredients. Be resourceful and procure items that are at risk of going to waste at home. Come up with dishes that use up as many of the ingredients as possible. As a team, develop a menu and prepare a meal that uses the ingredients. Share the food together and discuss what you learned from the experience.

Cooking & Preserving Activity 4

Skin-t?

Less peelings means less food waste. You don't always have to peel carrots. As long as you wash and scrub them well to remove dirt and any debris, unpeeled carrots are safe (and delicious) to eat.



TO DO

Make a dish out of vegetable skins.

- Making home-made chips? Leave on the skins.
- Bake potato peelings in the oven or deep fry and eat as crisps.
- Consider washing vegetables well and cooking them in their skins.

Cooking & Preserving Activity 5

Get into Pickles

Many everyday foods and drinks are fermented, including chocolate, coffee, cheeses, breads, cured meats, soy sauce, and vinegars. The science of fermentation is understood as a chemical process by which food is exposed to bacteria and yeasts which preserve it.

However, you don't need to understand the science in order to make it work. Historically, fermentation was fundamental to extend the life of perishable foods before the advent of refrigeration. Fermentation is a great way to preserve foods when we encounter gluts in the garden, or when your favourite vegetable is in season and the shops are full of it.

If you feel fearful about fermentation, why not start with a simple pickle? This is not a ferment as such, but will preserve almost any vegetable quickly and simply, introducing your palate to the tangy taste of fermented foods. Cucumber pickle is a sandwich favourite.

TO DO

Easy Cucumber Pickle Recipe

INGREDIENTS

- 900g (2 lb) unpeeled cucumber
- 3 small white or red onions
- 350g (12 oz) sugar
- 2 level tablespoons salt
- 230g (8 fl oz) cider vinegar

METHOD

Choose firm fresh cucumbers without bruising.

Slice as thinly as possible. A mandolin is very useful for this.

Slice the onions thinly also. Combine the remaining ingredients and pour over the layers of the cucumber and onion slices.

Store the pickle in the fridge in a tightly sealed container.

After about 3 hours it will be ready to eat. Cucumber pickle tastes great in a sandwich with leftover meats.

Once covered and refrigerated, this simple pickle will preserve cucumbers for a few weeks. It tastes so good that it probably won't last that long!



Cooking & Preserving Activity 6

Take Stock

Stock is a flavoursome liquid made when bones, vegetables and aromatics (such as parsley, bay leaves, thyme, etc.) are simmered in water. Good homemade stock adds flavour to many dishes. Making stock is making the most of food because chicken stock uses up the carcass of a whole chicken, fish stock incorporates flavour from bones plus vegetable ends can be used up in the stock pot too.

A good practice is to keep a bag or box in the freezer at all times to collect non-starchy vegetables such as celery hearts and leaves, herb stems, onion ends, mushroom stalks, leek tops/ends, whatever edible parts of vegetables you don't have a use for there and then.

Once you have a sizable amount of such odds and ends, make up a batch of stock. Leave out members of the brassica family (including broccoli, cabbage, turnip and cauliflower) as these will overpower the flavour. Here's how to make vegetable stock:

TO DO

Vegetable Stock Recipe

For every kg of vegetables, use 2L of water

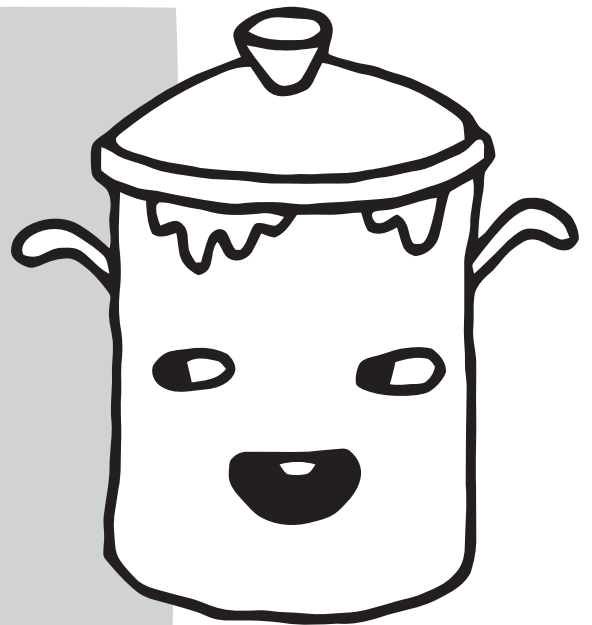
INGREDIENTS

- 1 kg vegetable ends
- 2 l cold water
- 2 bay leaves
- 6 black peppercorns

METHOD

1. Roughly chop the vegetables.
2. Put all of the ingredients in a wide heavy based pot.
3. Bring to a simmer (just under a boil).
4. Simmer for 45 minutes to 1 hour.
5. Strain and cool.

Use right away or store in the fridge or freezer. Vegetable stock will last for up to a week in the fridge and up to three months in the freezer.





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Comhairle Contae
Ros Comáin
Roscommon
County Council



These materials were produced as part of an LAPN collaboration between Stopfoodwaste.ie, Galway City Council, Galway County Council, Roscommon County Council, Mayo County Council, VOICE Ireland and the Home Economics Department, St Angela's College, Sligo.