

Education Pack

Fighting against food waste



Primary 1 - 3



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Secondary



Whole school



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Introduction

Welcome to the **Love Food Hate Waste** education pack for the Scottish curriculum. **Love Food Hate Waste** is here to help us all make the most of the food we love. By taking simple steps we can all reduce the food that we end up throwing away, saving ourselves money and reducing our impact on the planet. In Scotland, **Love Food Hate Waste** is run by **Zero Waste Scotland** as part of our drive to value resources and inspire change.

Through a variety of engaging and easy to use inter-disciplinary lessons, your learners are given a voice on a significant problem facing our world today. They are able to contribute directly in a positive and tangible way to the Global Goals for sustainable development from the United Nations and the Scottish Government pledge to reduce the food we throw away by 33%.

We are here to support your teaching and enhance learning. Along with curriculum links and engaging activities this pack includes:

- **Primary lessons**

The first lesson of each age group will inform and inspire your learners, the second will have them loving and valuing food, while the third will give them all the practical know-how to hate waste and save food from the bin.

- **Secondary lessons**

Subject specific and stand-alone, these lessons are the perfect opportunity to embed Learning for Sustainability across the curriculum and tackle a pressing global issue in a different context.

- **Whole school lessons**

Putting your learning into practice, the whole school lessons facilitate your engagement with food in the school setting and support you in sharing what you've learned with the wider community.

Join our Yammer group on [Glow](#) for further insight and support.



Thank you for joining us in the fight against food waste and we hope you enjoy taking your learners along on this journey to save food from the bin.

The **Love Food Hate Waste** team, **Zero Waste Scotland**.

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Whole School

Whole
School

Curriculum links

Please refer to the **National Improvement Hub**
for the **Curriculum for Excellence Benchmarks**

Whole school lessons

An autopsy of food waste

Expressive Arts

Health and Wellbeing

HWB 1-35a / HWB 2-35a

Literacy and English

LIT 1-02a, LIT 2-02a, LIT 1-07a
LIT 2-07a:

Numeracy and Mathematics

MTH 2-05a, MNU 1-11a
MNU 2-11a

Sciences

Social Studies

SOC 1-08a, SOC 2-08a

Technology

TCH 1-01a, TCH 2-01a

Religious and Moral Education



An autopsy of food waste

Safety Note: Please be aware of any learners with food allergies and make sure that they are not directly involved in the autopsy.



In a nutshell

This lesson introduces the whole school to food waste - a current, real world environmental issue. It encourages learners to consider the scale of food waste within the school and in Scotland as a whole.

Learners are tasked with:

- Measuring how much food is wasted during one lunchtime by performing an 'Autopsy' of the food waste.
- Becoming 'Waste Warriors' to reduce the amount of food that is currently being thrown away.

This whole school lesson can be delivered as a standalone activity or to 'launch' a whole school approach to reducing food waste with learners going on to experience another three lessons per age group. Once the lessons have been completed, there are also '[Share your success](#)' ideas which encourage you to share your achievements with the wider community.

Why do a food waste autopsy?

This lesson encourages creative problem solving, critical thinking, collaboration and effective communication. It is designed to empower students by giving them a voice on a significant economic and environmental 21st century problem through inter-disciplinary learning with opportunities to develop skills for life. It enables learners to contribute in a positive and tangible way, becoming active global citizens while linking closely to the UN Sustainable Development Goal 12.3 and the Scottish Government target of 33% food waste reduction by 2025.



Core learning

We are learning about how much food we waste during our lunchtime at school and across Scotland. We understand that we can save food from the bin and that it is important to reduce what we waste.



An autopsy of food waste

Step 1 - who, what, when

Who

Having buy-in and support from a range of people in your school is important. Why not speak to the below groups about what you're planning?

- **Catering staff** - Get catering staff involved from the beginning and find out what they think. Regulations can sometimes restrict what can be done with leftover food but simple things like ensuring learners to stick to their menu choice could have a big impact. Why not find out about the situation in your school? A special food waste monitoring toolkit for catering staff is available [here](#).
- **Parents** - Why not send a letter to parents to help inform them of the issues and update them on what you're planning? If you have a parent teacher council why not raise this at the next meeting?
- **Teachers** - This project can involve all classes in the school. Let your colleagues know what is involved and ensure your head teacher is aware and supportive.
- **Your current waste collection provider** - If your school is not set up with a food waste recycling collection please speak to your current waste collection provider for advice. This could be your local council or school waste contractor.



What

Select the learners who will take part in the two main activities of this lesson:

- An Autopsy of food thrown away in one lunchtime.
- A lunchtime patrol of Waste Warriors.

In Primary both activities could be given to the P7s as a leadership development opportunity. Across both Primary and Secondary you may wish to utilise existing networks or groups in the school such as your Eco Committee or Food for Life Action Group.

Autopsy

For the Autopsy, learners will put their thinking caps on and investigate what food is being thrown away during their lunch break. They will weigh and record the amount of waste. The group will film what they are up to and share this with the rest of the school updating on their progress.

Waste Warriors

After the Autopsy, learners will take an active role in encouraging others to save food from the bin. As Waste Warriors they will monitor what is being thrown away during lunch and provide tips on reducing waste while aiming for clear plates.

By the end of the project, the whole school should be able to track a reduction in food being thrown away as a result of their efforts.

All waste data can be logged on the [Love Food Hate Waste Glow](#) group in order to share and track results.

An autopsy of food waste

When

Tailor the timings to suit your individual school needs.

Suggestions include:

- Weighing the food waste on the same day once a week for 4 weeks
- Or every 3 weeks following your menu cycle
- Or daily for one week in total

By the end of your time on this lesson you should be able to see a reduction in the amount of food being wasted.

We recommend that you follow up your initial activity in different terms to ensure it has a lasting effect and all the good behaviours are not forgotten.



Step 2 - The Autopsy

Once your learners have been selected, take them down to visit the school kitchen and talk to the school catering staff. You may want to prepare a list of questions for them to ask before the visit. They could ask catering staff how they feel about the level of food wasted in the school, or you could ask the catering staff to show the learners how food is prepared and what the implications of serving daily meals are.

On the day of your Autopsy, collect all the food waste that day, including any peelings, in food waste bags. Ask the catering staff if leftover liquids can be kept in a clear bin or jug. Place the bags and bin on newspaper in a space with enough room for your learners to see the contents.

For the Autopsy you will need:

- A set of scales and measuring jug for liquid waste
- If necessary - rubber gloves and aprons
- Newspapers
- Food waste bags
- The food waste [Monitoring Toolkit](#) with monitoring sheets and risk assessment form

You should also bring a flipchart and a projector, computer, digital camera and video camera if these are available.

An autopsy of food waste

Have the bags of food waste laid out in front of the learners and ask them what they think is in them. You may wish to keep the bags in the bins if they are too heavy. Explain that it is food waste from the school canteen.

Select learners to weigh the bags of food waste. Depending on the size of your scales you may have to do this in lots. You may wish to use gloves and other protective gear.

Select learners to measure the liquid waste using your measuring jugs.

Write down the different weights and volumes on your flipchart or in the monitoring sheets provided. Add them up to reach the total mass of food waste produced by the school in one day in kilograms. Add the liquid waste up to get the total volume. This will be your baseline - you want this number to go down.

Ask learners:

- What do they think is in the bags?
- What is unavoidable food waste? e.g. apple cores, banana peels
- What is avoidable food waste? e.g. food that could have been eaten

Open the bags up and begin your Autopsy. You may wish to put the bags back in the bins if they are heavy and supply plastics gloves and protective gear. Tell your learners to investigate what has been thrown away and what could be saved. During the Autopsy, ask questions about why things are being wasted and what the possible solutions are.

Throughout the whole activity either film learners responses or ask pupils to take turns being the film crew. Ensure they get up close to the Autopsy so the whole school will be able see what is being wasted.

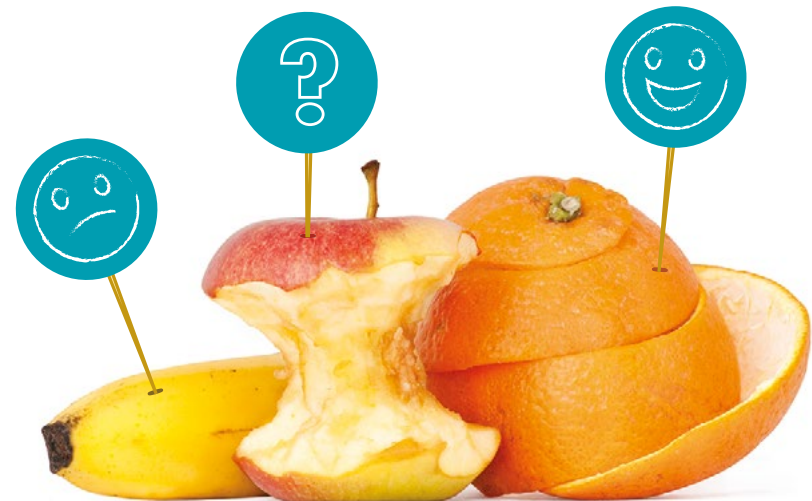
Step 3 - Reflection

Now the Autopsy is complete it is time for learners to reflect on what they have seen. Now you have the total weight you have the total weight for one day, ask learners to calculate with you how much food the school wastes in:

- One week (5 days)
- One month (20 days)
- One year (approx 195 days)
- Per learner (divide the waste by number of children)

Write the figures on the board.

Ask learners if they think that this is all the food that we'll waste today? Explain that this is only the food wasted today at school and that some of us might also waste food when we are at home. Explain that they will be finding out a little more about why so much food is wasted and how they can help to change this during the Love Food Hate Waste lessons over the next few weeks.



An autopsy of food waste

Tell learners that the difference between unavoidable and avoidable food waste is very important.

Unavoidable food waste

Unavoidable can be put in the food waste bin to be recycled. Recycle for Scotland have a range of lessons which could be useful here including a food waste recycling presentation and pupil reflection activity.

Avoidable food waste

Food that could have been saved!

Ask learners why they think we waste food that could have been eaten?
Didn't like the taste? Portion was too big? Felt too full?

Ask learners what they think we can do to help the school reduce the amount of food that is wasted at lunchtime?

- Don't take food if you know you don't like the taste.
- Take smaller portions or ask the canteen staff to give you less food when you're not hungry.
- Don't snack between meals so you're hungry when you eat.
- Try to eat all the food on your plate or save any leftover food to eat later if possible.

Record responses for the film, save the file and share with other classes.
The [Autopsy PowerPoint](#) may also be useful.

Show the learners the 'Food we waste in Scotland' and 'Food saving actions' posters and talk them through the different elements. You may wish to put these posters in the dinner hall.

Food waste diary

Day	What got binned?	How much?	Why was it not saved?
Friday Example	bananas, chicken breast bits of broccoli	1 banana, half chicken, 4 bits broccoli - 20 grams	The banana was brown, I was too full for the chicken, I don't like broccoli

Helpful tips
Pin your diary to the fridge to remind you to fill it in.
Record waste from every meal.
Include all food waste (e.g. peelings, nut skin, tea bags etc.).
A rough estimate of the quantity will be fine.

LOVE FOOD hate waste



An autopsy of food waste

Step 4 - Waste Warriors

Communicate the results of the Autopsy to other classes. The [Autopsy PowerPoint](#) may also be useful. Explain that we can all make a real difference in saving food from the bin and over the course of your school's chosen time frame there will be Waste Warriors on hand during lunchtime to fight against food waste. You may wish to change the name to something specific to your school/setting/local area.

Waste Warriors will be responsible for:

- Standing by the bins and encouraging those approaching in an appropriate manner to clear their plates and ensuring food goes in the correct bin.
- Giving 'clear plate rewards' to those who save food from the bin.
- Ticking off which food is being wasted the most. There is a sheet provided in the [Monitoring Toolkit](#).

It is important that the etiquette for this role is outlined at an early stage. Phrases should be agreed that can be communicated by the learners without causing offence. You may wish to have the Waste Warriors devise a pledge and put together a schedule to ensure that the duties are shared out fairly.

The Waste Warriors may need additional support from teachers.

Things to note:

- Squeeze out liquids from cartons.
- Will packed lunches and school dinner waste be separated? If so you will need two bins.
- Make sure plastic and foil packaging is separated from the food before going in the bin.

Next steps

After you have completed the Autopsy of waste project you might want to celebrate and share all your hard work with the wider community - see [Sharing your success page](#) for lots of ideas! It is a perfect opportunity for further inter-disciplinary learning across the school contributing to a culture of sustainability and waste awareness.

Don't forget to share all videos, photos and data on the [Love Food Hate Waste Glow](#) group to highlight all your efforts and champion your school's behaviour change triumphs.



An autopsy of food waste

Curriculum for Excellence Experiences and Outcomes

Health and Wellbeing

- HWB 1-35a / HWB 2-35a: When preparing and cooking a variety of foods, I am becoming aware of the journeys which foods make from source to consumer, their seasonality, their local availability and sustainability.

Literacy and English

- LIT 1-02a: When I engage with others, I know when and how to listen, when to talk, how much to say, when to ask questions and how to respond with respect.
- LIT 2-02a: When I engage with others, I can respond in ways appropriate to my role, show that I value others' contributions and use these to build on thinking.
- LIT 1-07a: I can show my understanding of what I listen to or watch by responding to and asking different kinds of questions.
- LIT 2-07a: I can show my understanding of what I listen to or watch by responding to literal, inferential, evaluative and other types of questions, and by asking different questions of my own.

Mathematics and numeracy

- MTH 2-05a: Having explored the patterns and relationships in multiplication and division, I can investigate and identify the multiples and factors of numbers.
- MNU 1-11a: I can estimate how long or heavy an object is, or what amount it holds, using everyday things as a guide, then measure or weigh it using appropriate instruments and units.
- MNU 2-11a: I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems.

Social Studies

- SOC 1-08a: I can consider ways of looking after my school or community and can encourage others to care for their environment.
- SOC 2-08a: I can discuss the environmental impact of human activity and suggest ways in which we can live in a more environmentally-responsible way.

Technologies

- TCH 1-01a: I can explore and experiment with digital technologies and can use what I learn to support and enhance my learning in different contexts.
- TCH 2-01a - I can extend and enhance my knowledge of digital technologies to collect, analyse ideas, relevant information and organise these in an appropriate way.



Food waste diary

Day	What got binned?	How much?	Why was it not saved?
Friday Example	banana, chicken breast bits of broccoli	1 banana, half chicken, 4 bits broccoli - 20 grams	The banana was brown, I was too full for the chicken, I don't like broccoli



Helpful tips

Pin your diary to the fridge to remind you to fill it in!

Record waste from every meal

Include all food waste (e.g. peelings, fruit skins, tea bags etc.)

A rough estimate of the quantity will be fine.



Sharing your success

This resource was created to inspire young people to develop the knowledge, values and skills necessary to save food from the bin. We have learned over the course of these lessons that food waste is a serious worldwide challenge but one we can tackle in our daily lives.

You have worked hard to reduce your school's food waste, so why not celebrate your achievements and spread this message further? It is important to encourage learners to share what they have experienced with others. The more that families and people in the wider community care about reducing their food waste, the more we have a real chance of creating a better, more sustainable world and protecting our environment for future generations.

Here is list of suggested ideas to help you celebrate all your hard work and raise awareness in your wider community. Why not ask your learners for their suggestions too?

Host a Love Food Hate Waste evening

- Why not invite parents, local businesses and MSPs to the school and host an evening event?
- This could include learners serving reimagined leftover dishes - there may even be local groups who could support you with this.
- Decorate the venue where everyone will be gathering with the artwork created during the lessons. Learners could also create placemats with hints and tips on how to reduce food waste at home and then laminate them!
- Play your autopsy video and/or any other presentations that learners have created. They could also perform their plays or simply explain what they've learned.
- Most of all celebrate how much food you've saved from the bin with parents and the wider community!

What's in your kitchen?

- Why not encourage learners to share what they've learned during each lesson with their parents or carers?
- They could perform an autopsy of waste in their own kitchens or create new dishes from leftovers and bring the results into school.
- Parents could fill in a short survey created by learners, focusing on the key ways to reduce waste at home.



Sharing your success

Write a letter to a local business

- Why not ask learners to write a letter to a local supermarket, café, restaurant or business where food is prepared? Learners could explain all about the food they've saved from the bin at school and ask them about the food waste they have on their premises and how they try to reduce it.
- It may be possible to invite a representative of the business to come into the school to give a talk on how things work for them.

Zero waste recipe book

- Why not create a school recipe book that focuses on reducing waste and source the recipes from learners?
- You could compete with other schools in your cluster to come up with the best recipe book.
- Challenge learners to sell copies to friends and family - you could donate money to a local good cause or invest in more cooking equipment for learners in your school?

Find out more about food waste recycling and tackling waste in Scotland

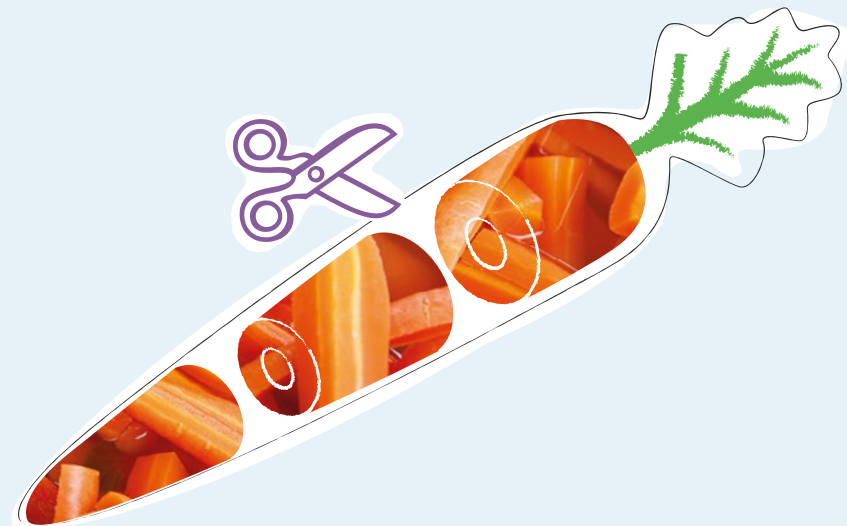
- Why not have learners write a letter to your local authority waste department and ask where the food waste goes in your area?
- Encourage learners to explore the different ways that food can be used to make energy, be recycled or composted. You may wish to refer to these lessons from **Recycle for Scotland**.
- You might also want to try the **Eco Schools** programme, which empowers children to become environmentally aware through a variety of waste related activities that can be completed as part of your school's efforts to achieve a Green Flag.

Explore Scotland's ambition to become a good food nation

- In Scotland we are aspiring to become a country in which people from every walk of life take pride and pleasure in, and benefit from, the food they buy, serve and eat in a way that is healthy for individuals and for the environment.
- Why not explore other fantastic programmes of food education in Scotland including the **Food for Life** resources from the Soil Association and farm visits from **The Royal Highland Education Trust**? Other suggestions can be found in the A'peeling links & resources section.
- You could also talk to local groups that focus on food sustainability or redistributing food to people in need like the UK wide charity **FareShare**.

Explore careers in the food and drink industry

- Why not encourage learners to look at the exciting career opportunities within the food and drink industry in Scotland?
- A host of ideas and resources can be found on the **Food and Drink Federation Scotland's** website.



A'peeling links & resources

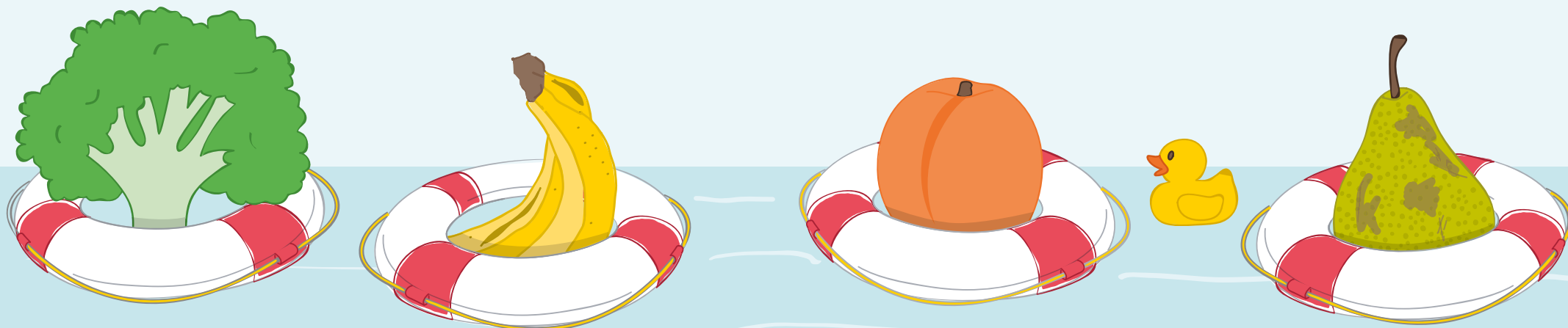
Please note that each link below will take you to an external website.

We hope that you have enjoyed working through this food waste fighting education pack from Love Food Hate Waste. If you're still hungry for more, why not explore some of the links below?

- **The Global Goals for sustainable development from the United Nations** - this pack contributes directly to goal 12. Responsible Consumption & Production but touches on others including goals 11 and 13.
- **Recycle for Scotland**
- **Food for Life** – don't forget to share your success in the stories section.
- **Quality Meat Scotland**
- **Royal Highland Education Trust**
- **Food and Drink Federation Scotland**
- **Eco Schools Scotland**
- **Chefs @ School**
- **Eat Better Feel Better**

- **Children's Food Trust**
- **Royal Environmental Health Institute of Scotland**
- **Food Standards Scotland**
- **Scottish Business in the Community** - Food for Thought
- **Seafood in Schools**
- **Better Eating Better Learning**
- **Making Things Last** - A Circular Economy Strategy for Scotland, including the food waste target.
- **The Crunch** - Food, Health & our Environment
- **Jamie Oliver's Food Revolution**

With special thanks to Do Be Ltd for their work in developing this resource.



Love Food Hate Waste is delivered in Scotland by **Zero Waste Scotland**



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Zero Waste Scotland exists to create a society where resources are valued and nothing is wasted. Our goal is to help Scotland realise the economic, environmental and social benefits of making best use of the world's limited natural resources. We are funded to support delivery of the Scottish Government's circular economy strategy and the EU's 2020 growth strategy. www.zerowastescotland.org.uk @ZeroWasteScot

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