



Food Unit 'Fight Food Waste' Food Education and Sustainability Training	
Stage	Stage 4, Year 7 and 8
Weeks	10 Weeks (10 theoretical lessons and 9 practical lessons - 1.0 hour each to adjust)
Timing	Term X, 2023
Teacher	
Unit Overview	
<p>This Technologies unit includes 10 x one-hour theoretical lessons and 9 x one-hour supporting practical lessons. Students will learn about the benefits of healthy eating, food waste prevention, and the vital role we can play in protecting our planet and creating a sustainable future.</p> <p>Students will learn how to prepare and cook nutritious food, using the Australian Dietary Guidelines to highlight the health benefits of consuming different types of food per week for their age group and others and how to use food hygiene and safety practices when cooking food.</p> <p>They will design and create recipes that focus on healthy eating, avoiding food waste and describe how the characteristics and properties of food determine preparation techniques and presentation when designing solutions as evidence of their learning.</p> <p>Key inquiry questions include:</p> <ul style="list-style-type: none">● Why is food waste an issue?● Why is food wasted in the home?● What can we do as individuals to reduce food waste?● How can our individual actions create change and help build a sustainable future?● How do we make informed, healthier food choices?● How can we design a promotion to showcase how to fight food waste in Australia?● How can we apply design thinking and design production skills to devise food waste solutions?	



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Main Outcomes in the Australian Curriculum		
Design and Technologies Knowledge and Understanding		
AC9TDE8K05	<ul style="list-style-type: none"> Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating. 	
AC9TDE8K04	<ul style="list-style-type: none"> Analyse how food and fibre are produced in managed environments and how these can become sustainable. 	
AC9TDE8K02	<ul style="list-style-type: none"> Analyse the impact of innovation and the development of technologies on designed solutions for global preferred futures. 	
AC9TDE8K01	<ul style="list-style-type: none"> Analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments. 	
Design and Technologies Processes and Production Skills		
AC9TDE8P01	<ul style="list-style-type: none"> Analyse needs or opportunities for designing, and investigate and select materials, components, tools, equipment and processes to create designed solutions. 	
AC9TDE8P02	<ul style="list-style-type: none"> Generate, test, iterate and communicate design ideas, processes and solutions using technical terms and graphical representation techniques, including using digital tools. 	
AC9TDE8P03	<ul style="list-style-type: none"> Select, justify and use suitable materials, components, tools, equipment, skills and processes to safely make designed solutions. 	
AC9TDE8P04	<ul style="list-style-type: none"> Develop design criteria collaboratively including sustainability to evaluate design ideas, processes and solutions. 	



AC9TDE8P05	<ul style="list-style-type: none"> Develop project plans to individually and collaboratively manage time, cost and production of designed solutions.
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Assessment

Assessment for Learning	Assessment as Learning	Assessment of Learning
<ul style="list-style-type: none"> Pre Assessment Students' knowledge about the issue of food waste. 	<ul style="list-style-type: none"> Students produce a variety of work samples, including designated assessment activities. These should be evaluated to determine students' level of achievement and understanding. Student understanding may be assessed through the use of observational checklists, anecdotal records and analysis of contributions to class discussions. 	<ul style="list-style-type: none"> Students engage in peer assessment, based on jointly derived criteria for activity completion. Student understanding may be assessed through the use of observational checklists, anecdotal records and analysis of contributions to class discussions.

Adjustments

<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Consideration to teaching CTT <input checked="" type="checkbox"/> Consideration to environment CTE <input checked="" type="checkbox"/> Consideration to lesson delivery CTLD <input checked="" type="checkbox"/> Consideration to instructions CTI <input checked="" type="checkbox"/> Consideration to printed material CTPM <input checked="" type="checkbox"/> Consideration to time management and organisation CTTM&O 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Consideration to content CTC <input checked="" type="checkbox"/> Consideration to class discussions CTCD <input checked="" type="checkbox"/> Consideration to written responses CTWR <input checked="" type="checkbox"/> Consideration to reading tasks CTRT <input checked="" type="checkbox"/> Consideration to assessment CTA <input type="checkbox"/> Other _____
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Understanding Goals	Cross Curricular Priorities
<p>The following goals are provided as suggestions for teachers:</p> <p>UG1 Students have a deep understanding of why it is important to take action on food waste</p> <p>UG2 Students have an understanding of the behaviours that can reduce food waste in the home and/or at school</p> <p>UG3 Students have an increased knowledge and understanding of food waste at a local, national and global level</p> <p>UG4 Students understand where food comes from, and are better equipped to make informed, healthier food choices</p> <p>UG5 Students have an increased knowledge and confidence to prepare, cook and eat nutritious food in a sustainable manner</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Asia and Australia’s engagement with Asia <input type="checkbox"/> Aboriginal and Torres Strait Islander histories and cultures <input checked="" type="checkbox"/> Sustainability
General Capabilities	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Critical and creative thinking <input checked="" type="checkbox"/> Ethical understanding <input checked="" type="checkbox"/> Information and communication technology capability 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Intercultural understanding <input checked="" type="checkbox"/> Literacy <input checked="" type="checkbox"/> Numeracy <input checked="" type="checkbox"/> Personal and social capability
Vocabulary	
<p>Constraints, Considerations, Dehydration, Ecological Footprint, Fermentation, Food System, Food Waste, Future Thinkers, Nutrition, Nutrients, Pickling, Preservation, Promotion, Sustainability, Supply Chain</p>	



Resources

Food Waste Facts and Hunger Facts by OzHarvest <https://www.ozharvest.org/sustainability/food-waste-facts/>
Reduced Food Waste by Project Drawdown <https://drawdown.org/solutions/reduced-food-waste>
Use It Up by OzHarvest <https://www.ozharvest.org/use-it-up/>
Food Waste Explained by OzHarvest <https://youtu.be/wgLuXvtLyQ>
Use It Up Video by OzHarvest <https://youtu.be/-rGhLuZwRIU>
Food Fighter - Sydney Harbour by OzHarvest https://youtu.be/sk09b0B_3UM
The Top Six to Fix | The Path to Half – Solutions to halve Victoria’s food waste by 2030 by Sustainability Victoria
<https://assets.sustainability.vic.gov.au/asset-download/Report-The-Path-to-Half.pdf?mtime=20210127091447&focal=none>
Food Safety and Hygiene by OzHarvest FEAST https://education.ozharvest.org/wp-content/uploads/2020/04/FEAST-Food-Safety-Hygiene_editable-2.pdf
Basic Knife Skills by Tasty <https://youtu.be/G-Fg7l7G1zw>
Sensory Vocabulary Poster by Food a Fact of Life <https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf>
How To Slice Every Fruit | Method Mastery by Epicurious <https://youtu.be/VjINuQX4hbM>
How To Chop Every Vegetable | Method Mastery by Epicurious <https://youtu.be/p28wMbunulQ>
War on Waste: Plate Waste by ABC TV & iview <https://www.youtube.com/watch?v=SFJqdbzOMzk>
'Supervalue' – a look at food miles and food waste by Paul Bruce & Fiona McGee <https://www.youtube.com/watch?v=kjfyu0H49rM>
Climate Solutions 101 by Project Drawdown <https://drawdown.org/climate-solutions-101/unit-3-reducing-sources>
Food Waste Facts and Hunger Facts by OzHarvest <https://www.ozharvest.org/food-waste-facts/>
What To Do – Fight Food Waste by OzHarvest <https://www.ozharvest.org/fightfoodwaste/what-to-do/>
A-Z of Food Saving Tips by OzHarvest <https://www.ozharvest.org/fightfoodwaste/wp-content/uploads/2018/05/A-Z-Food-Saving-Tips.pdf>
Climate change food calculator: What's your diet's carbon footprint? by BBC <https://www.bbc.com/news/science-environment-46459714>
School Presentation by OzHarvest FEAST <https://education.ozharvest.org/resources/#presentation>
OzHarvest School Presentation by OzHarvest <https://youtu.be/Cv4smasuO6U>
The Global Food Waste Crisis and the Danish Solution by Elise M. Dadourian <https://youtu.be/e7HwD5Go3io>
50 People Try To Dice An Onion by Epicurious <https://youtu.be/KdD2Vm3pzeo>
3 Ways To Chop Onions Like A Pro by Tasty <https://youtu.be/OLJb66aYtG8>
How to Crack an Egg by Howcast <https://youtu.be/ls5qnn2mjuM>
The Mind Behind – A Thought for Food by BBC Culture <http://www.bbc.com/storyworks/culture/the-mind-behind/a-thought-for-food>
OzHarvest founder Ronni Kahn looks back on her life by ABC News (Australia) <https://youtu.be/ZSIMexqwzPI>



Waste Not Want Not by ABC Landline https://www.abc.net.au/news/rural/programs/landline/2022-08-14/waste-not-want-not:-dealing-with-the-issue-of-food/14019342?utm_campaign=abc_news_web&utm_content=link&utm_medium=content_shared&utm_source=abc_news_web

TEDxAuckland | Beyond the zero waste restaurant by Matt Stone <https://www.youtube.com/watch?v=56Y0TEIkI90>

UNEP appoints renowned Italian chef and food system activist Massimo Bottura as Goodwill Ambassador by UNEP <https://www.unep.org/news-and-stories/press-release/unep-appoints-renowned-italian-chef-and-food-system-activist-massimo>

Refettorios by Food for Soul <https://www.foodforsoul.it/what-we-do/refettorios-social-tables/>

The Orb <https://www.theorb.tas.gov.au/living-cultures/foods>

50 People Try To Grate Cheese | Basic Skills Challenge by Epicurious <https://youtu.be/HWS3lxfDOHE>

Nicolas Appert by Britannica <https://www.britannica.com/biography/Nicolas-Appert>

The Father of Canned Food: Nicolas Appert - Hidden Genius by Stuff Of Genius HowStuffWorks <https://youtu.be/z7ZCD8ZSB9U>

Food and Wellbeing Curriculum Connections by The Australian Curriculum <https://australiancurriculum.edu.au/resources/curriculum-connections/portfolios/food-and-wellbeing/>

Australian Guide To Healthy Eating by Australian Government Department of Health <https://www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating>

Five Food Groups | Eat For Health <https://www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating>

How does cooking affect nutrients in veggies by Reactions <https://youtu.be/6hFxSJcq-KU>

Fresh or frozen food? Using science to prove which is best with surprising results by BBC <https://youtu.be/As261YI0-6c>

Use It Up Recipes by OzHarvest <https://www.ozharvest.org/use-it-up/tips/>

Use Up Leftovers by Big Oven <https://www.bigoven.com/recipes/leftover>

Simple Meal Recipes by Cancer Council <https://www.cancercouncil.com.au/cancer-information/living-well/nutrition-and-cancer/recipes-and-snacks/simple-meal-recipes/>

Vegetarian Recipes by The Heart Foundation <https://www.heartfoundation.org.au/search/%22vegetarian%22>

Tryfor5 Recipes by Nutrition Australia <https://www.tryfor5.org.au/recipes-2>

FEAST at Home recipes by OzHarvest FEAST <https://education.ozharvest.org/home-resources/>

Too Easy Ricotta by OzHarvest https://youtu.be/uklk_dTtQYA

If Ed Sheeran's "Shape of You" was about Food Waste by Global Citizen <https://youtu.be/B1-pKW0t2yM>

Introducing 'I Value Food', a Campaign to End Food Waste by Sustainable America <https://sustainableamerica.org/blog/introducing-i-value-food-a-campaign-to-end-food-waste/>

Love Food Hate Waste by Waste and Resources Action Programme <https://www.lovefoodhatewaste.com/>

Feeding the 5000 by Feedback <https://feedbackglobal.org/campaigns/feeding-the-5000/>

Gruen by ABC iView <https://iview.abc.net.au/show/gruen>

Eleven things startups can do to get their pitch deck on point by SmartCompany

<https://www.smartcompany.com.au/startupsmart/advice/eleven-things-startups-can-do-to-get-their-pitch-deck-on-point/>

FEAST Thank you by OzHarvest <https://youtu.be/bxEL1LLWMjg> <https://youtu.be/e-ISR2iik60>

Food Fighter Trailer by OzHarvest https://youtu.be/wqtu6_glpHg

Lesson Sequences		
CONTENT	TEACHING LEARNING AND ASSESSMENT	DIFFERENTIATION
LESSON 1: Investigating and defining – The essential question and scenario		
<p>Analyse needs or opportunities for designing, and investigate and select materials, components, tools, equipment and processes to create designed solutions AC9TDE8P01</p> <p>Develop design criteria collaboratively including sustainability to evaluate design ideas, processes and solutions AC9TDE8P04</p>	<p><u>Teacher background information</u> <i>In this lesson students are introduced to the issue of food waste and the assessment task for the unit.</i></p> <p>The Essential Question for the unit: How can the power of individual choice create a future without food waste?</p> <p>Assessment: The FEAST Food Unit ‘Fight Food Waste’ has been designed so teachers can modify the assessment tasks to suit the needs of their students. Before starting the FEAST program with your students, it is important to decide if the task will be assessed individually or as a group.</p> <p>Individual assessment:</p> <ul style="list-style-type: none"> ● Look through the design brief and marking rubric to decide what you would like to assess your students on. The ‘Use It Up’ Recipe Card and Information Sheet are recommended to assess, whereas you may choose to omit the ‘Fight Food Waste’ Promotion. <p>Group assessment:</p> <ul style="list-style-type: none"> ● Form a team (max 4). Each member needs to actively participate and the workload needs to be shared evenly. It works best when the teacher selects the groups. ● Select a team name. Your team name should reflect the theme of the unit in some way. For example: food fighters, future thinkers, change makers etc. ● Delegate tasks. As a team, delegate tasks for each member, ensuring the workload is shared evenly. This could be done by allocating the ‘Use It Up’ Recipe Card to Team Member 1, the Information Card to Team Member 2, the ‘Fight Food Waste’ Promotion planning to Team Member 3 and Team Member 4 could be the team leader, assisting each member with completing the task. 	<p>Support Students can discuss the features of the task and record their understandings using a recording device rather than in written form.</p>



Recommended activities

Individual student activity:

Students complete the pre-program survey. Please complete the online student & teacher pre-program surveys (this should take 10-15 minutes). The link is emailed to you prior to the start of the program (please contact feast@ozharvest.org if you have not received the link). You will need access to a device per student.

Whole class activity:

Capture student's interest and find out what students already know about food waste. Ask students to define what 'food waste' might mean to them.

Create a mind map capturing students' prior understanding of how food gets wasted, what type of food often goes to waste at school or at home and what recipes could be made using these foods.

For example bananas are often wasted, instead we could make banana bread, smoothies or banana pikelets.

Whole class activity:

Let's set the scene! Food waste is a global problem.

- Globally one third of all food produced is wasted, costing the global economy nearly \$1 trillion (USD) each year, while 828 million people still go hungry and three billion people can't afford a healthy diet.
- Wasting food feeds climate change. In fact, 10% of global greenhouse gas emissions comes from food waste which rots in landfill and released methane into the atmosphere.
- But there's good news! According to scientists at Project Drawdown, reducing food waste is the most powerful way you can take climate action.
- In Australia, we waste more than 7.6 million tonnes each year and 2.5 million tonnes of it come from our homes. In 2021, OzHarvest launched their first national campaign 'Use It Up' to tackle food waste at home.

Source: [Food Waste Facts and Hunger Facts | OzHarvest Sustainability](#)
[Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming](#)
[Use It Up | OzHarvest | Save food, save money, save the planet!](#)

Watch the following videos as a class:

- [Food Waste Explained](#) by OzHarvest, to learn about the problem of food waste, the resources that go into



producing food and what individuals can do to fight food waste. Watch here:

<https://youtu.be/wgLuXvtLyQ> animation (2:12 min)

- [Food Fighter - Sydney Harbour](https://youtu.be/sk09b0B_3UM) by OzHarvest, to see how much food Australians waste each year. Watch here: https://youtu.be/sk09b0B_3UM (0:35min).
- [Use It Up Video](https://youtu.be/-rGhLuZwRIU) by OzHarvest, to see food wastes impact on climate change. Watch it here: <https://youtu.be/-rGhLuZwRIU> (0:49min).

Whole class activity:

Share a copy of the design brief with the students and talk about the requirements of the task. See **Your Design Brief** in the Student Resources Design Folio, page 2.

Explain to the class that in this unit, their task is to:

Design a 'Use It Up' Recipe Card that uses up commonly wasted foods to create a delicious meal.

Design an Information Sheet with the following tips to promote your selected commonly wasted food:

- a) Explain how the recipe tackles food waste.
- b) Identify one storage tip to make your recipe last longer.
- c) Explain how the recipe encourages healthy eating.
- d) Explain one way you would cook or prepare your recipe to maintain or improve the nutritional value (e.g. steaming vegetables maintains vitamin content compared to boiling them).
- e) Identify one food safety tip to consider when creating your recipe.
- f) Discuss the characteristics and properties of the ingredients used in the recipe (e.g. flavour, appearance, texture, and aroma).

'Fight Food Waste' Promo (optional)

- Teams are to compile their 'Use It Up' Recipe Cards and Information Sheets to assist with the creation of their promotion.
- The creative promotion will successfully promote their 'Use It Up' recipe idea, what they've learnt about food waste and how to inspire others to avoid wasting food.
- The promotion has been left open-ended to allow for student creativity. The promotion could be a speech, video advertisement, skit, jingle etc.

Complete a Design Folio by completing all worksheets in the Student Resources Design Folio which includes templates for the 'Use It Up' Recipe Card, Information Sheet and the 'Fight Food Waste' Promo script (optional).

Consider ways you could help students with visual/hearing impairments. (Scribing instructions on board or individual cards and ensuring that instructions are clear for all students before engaging in activities.)



Whole class activity:

Check for student understanding by asking questions about the task and clarifying any unknown terminology.

Individual student activity:

Ask students to define the task they have been set by completing **Analysis of The Design Brief and Criteria For Success** in the Student Resources Design Folio, page 3-4.

- **Analysis of the design brief:** Students are tasked with looking carefully at the design brief and listing the specifications they are required to follow to complete the task (i.e. the considerations and constraints that may affect their project)
 - **Considerations** are flexible factors that allow the product to be modified for example choice of ingredients, allergies.
 - **Constraints** are inflexible factors that must comply with the design brief for example made within the practical lesson time frame, includes a top wasted food and appeals to target audience (adolescents)
- **Criteria for success:** Students refer to the design brief and their list of considerations and constraints to develop 6-8 criteria for success. Make sure students put them into question format.
 - The criteria for success is used to assess design ideas, processes and solutions for the 'Use It Up' Recipe Card, Information Sheet and 'Fight Food Waste' promotion.
 - For example: Did the 'Use It Up' Recipe Card include commonly wasted foods?

Whole class activity:

Brainstorm team names (if working in groups) and begin selecting commonly wasted foods for the task. Visit [The Top Six to Fix | The Path to Half - Solutions to halve Victoria's food waste by 2030](#) by Sustainability Victoria (page 18-19). See **Resource Initial Planning For The Unit** in the Student Resources Design Folio, page 5.

[Practical Cooking Activity – Introducing safety and hygiene through the preparation of Fruit Bites or Dips with Vegetable Sticks \(Beetroot & Cottage Cheese Dip or Tzatziki Dip\)](#)

OzHarvest recommends that all classes make a simple cold recipe as their first cooking activity to introduce students to the importance of basic kitchen hygiene and safety before attempting more complex recipes.



Safety and hygiene introduction: Prior to undertaking the practical lesson students complete the worksheet [Food Safety and Hygiene](#) by OzHarvest FEAST. Visit https://education.ozharvest.org/wp-content/uploads/2020/04/FEAST-Food-Safety-Hygiene_editable-2.pdf

It is recommended that teachers' set-up the classroom with the cooking ingredients and equipment (except knives) prior to the students arriving, ensuring each workstation has serving dishes on hand.

Whole class activity:

- **Discuss** cooking procedures and food safety. See **Risk Assessment**, in the FEAST Practical Guide, page 7.
- **Read** through the recipe with the whole class.
- **Demonstrate** how to prepare the recipe:
 - **Chop** different shaped fruit safely e.g. cut fruit to make a flat surface and make a claw shape with your hand holding the food – keep your fingertips clear of the knife.
 - **Chop** carrot safely into sticks e.g. cut lengthways to make a flat surface and make a claw shape with your hand holding the food – keep your fingertips clear of the knife.
 - If time permits, **watch** [Basic Knife Skills](#) by Tasty (6:33min) to demonstrate a variety of basic knife skills. Watch here: <https://youtu.be/G-Fg7l7G1zw>
- **Form groups or pairs** recommended group size: 2 students.
- **Students wash hands** (download Hand Washing Poster by OzHarvest FEAST)
- **Hand out knives** when students have collected their ingredients and assembled at their workstations.
- **Students prepare dish**
- **Students wash dishes and clean up**, explain the planned washing up process, including wiping down workstations and pack away/reset for next class.
- **Students eat**

Whole class activity - Wrap up:

- Discuss or write the following questions on the whiteboard for students to respond to:
 - How does the recipe tackle food waste?
 - How does the recipe encourage healthy eating?
 - What skills have been used throughout the recipe?

Consider allowing students to fill out 'answer



	<ul style="list-style-type: none"> ○ Did the cooking and preparation of the recipe maintain or improve its nutritional value? Explain. ○ How did you consider food safety and hygiene when completing this practical cooking task? ○ Describe the sensory properties of the final dish using the Sensory Vocabulary Poster by Food a Fact of Life. Visit https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf <p>If time permits, watch How To Slice Every Fruit - Method Mastery by Epicurious. Watch here: https://youtu.be/VjINuQX4hbM (23:36min) or How To Chop Every Vegetable - Method Mastery by Epicurious. Watch here: https://youtu.be/p28wMbunulQ (42:42min) for an interesting end to the lesson, watching chefs slicing, chopping and dicing their way through a range of interesting fruits and vegetables, explaining knife safety tips and tricks throughout. Ask students which fruits and vegetables they have tried and identify the knife safety techniques demonstrated throughout the video.</p> <p>Lesson Feedback Class reflects and provides feedback on the lesson.</p>	<p>cards' for these questions to submit individually, or a 1-to-5 confidence rating to gauge student understanding.</p>
<p>LESSON 2: Investigating and defining - Understanding the issue of food waste</p>		
<p>Analyse the impact of innovation and the development of technologies on designed solutions for global preferred futures AC9TDE8K02</p> <p>Analyse how food and fibre are produced in managed environments and</p>	<p>Teacher background information <i>Students investigate and define food waste.</i></p> <p>Did you know that food waste feeds climate change? When we think of climate change, we think of solar panels and electric cars, but rarely of the impact of the food we eat, or in this case don't eat. Up to 10% of global greenhouse gas emissions come from wasted food (that's more than the entire aviation industry).</p> <p>For many it's an overwhelming issue and people don't believe they can make a difference ... the good news is that according to Project Drawdown, reducing your food waste has been identified as a leading solution to address climate change.</p> <p>Do you know where the majority of food gets wasted? Food waste happens across the whole supply chain, from farms for fork – but over a third comes from our homes,</p>	<p>Support</p>



how these can become sustainable
[AC9TDE8K04](#)

Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating
[AC9TDE8K05](#)

and 70% of wasted food is perfectly edible. The good news is that food waste at home is mostly avoidable, if you get into good habits, such as: **buying** only what you need, **storing** food correctly and **using up** what you have before buying more! OzHarvest is committed to the national target of halving food waste by 2030 and is searching for creative thinkers to design solutions to end food waste!

Food waste definition: when any food that could have been eaten by people is wasted or thrown away. Food is wasted every day along the whole food supply chain from when it's grown, during transportation, in the packaging and manufacturing process, at the supermarkets and above all, in our homes.

Recommended activities

Whole class activity:

Watch:

- Craig Reucassel as he goes undercover to determine how much food Australians waste when eating out. [War On Waste: Plate Waste](#) by ABC TV & iview. Watch here: <https://www.youtube.com/watch?v=SFJqdbzOMzk%20> (2:29min).
- A thought provoking short Australian film showing all the resources that go into making our food. ['Supervalue' - a look at food miles and food waste](#) by Paul Bruce and Fiona McGee. Watch here: <https://www.youtube.com/watch?v=kjfYu0H49rM> (5:00min).
- Learn how we can stop harmful greenhouse emissions in their tracks in the lecture [Climate Solutions 101](#) by Project Drawdown. Watch here: <https://drawdown.org/climate-solutions-101/unit-3-reducing-sources> (video starts from 8:00min)

Whole class activity:

Brainstorm in small groups and write a sentence about why we should care about the issue of food waste. See **Resource What is Food Waste?** in the Student Resources Design Folio, page 6.

Individual student activity:

Research food waste using the information and links below. See **Resource What is Food Waste?** in the Student Resources Design Folio, page 7.

This task will inform the development of the students' 'Use it Up' Recipe Card, Information Sheet and 'Fight Food Waste' Promo. Students may visit the following sites to research what food waste is, commonly wasted foods and



why we need to avoid wasting food.

- [Food Waste Facts and Hunger Facts](https://www.ozharvest.org/food-waste-facts/) by OzHarvest. Visit <https://www.ozharvest.org/food-waste-facts/>
- [What To Do - Fight Food Waste](https://www.ozharvest.org/fightfoodwaste/what-to-do/) by OzHarvest. Visit <https://www.ozharvest.org/fightfoodwaste/what-to-do/>
- [A-Z of Food Saving Tips](https://www.ozharvest.org/fightfoodwaste/wp-content/uploads/2018/05/A-Z-Food-Saving-Tips.pdf) by OzHarvest. Visit <https://www.ozharvest.org/fightfoodwaste/wp-content/uploads/2018/05/A-Z-Food-Saving-Tips.pdf>
- [The Top Six to Fix | The Path to Half – Solutions to halve Victoria’s food waste by 2030](https://assets.sustainability.vic.gov.au/asset-download/Report-The-Path-to-Half.pdf?mtime=20210127091447&focal=none) (p18-19) by Sustainability Victoria. Visit <https://assets.sustainability.vic.gov.au/asset-download/Report-The-Path-to-Half.pdf?mtime=20210127091447&focal=none>

Other suggested activities

Individual student activity:

Explore the interactive food calculator by BBC to see examples of how the food we eat impacts our environment. Visit [Climate change food calculator: What's your diet's carbon footprint?](https://www.bbc.com/news/science-environment-46459714) by BBC. Visit <https://www.bbc.com/news/science-environment-46459714>

Whole class activity:

Book an [OzHarvest presentation](https://education.ozharvest.org/resources/#presentation) at <https://education.ozharvest.org/resources/#presentation> or **watch** the [OzHarvest School presentation](https://youtu.be/Cv4smasuO6U) by OzHarvest at <https://youtu.be/Cv4smasuO6U> (8.19min) to learn about the issue of food waste, food insecurity and why OzHarvest does the work that they do.

Watch The Global Food Waste Crisis and The Danish Solution by Elisa Dadourian explaining the social, economic, and environmental consequences of food waste and how Denmark are leading the effort to combat this global issue. Watch here: <https://www.youtube.com/watch?v=e7HwD5Go3io> (19:33min).



Practical Cooking Activity- Spaghetti Bolognese or Fast Veggie Fritters (time 30-35 minutes)

It is recommended that teachers' set-up the classroom with the cooking ingredients and equipment (except knives) prior to the students arriving, ensuring each workstation has serving dishes on hand.

Test whether the electric frypans are overloading the power in the room as this may result in a power outage.

Do you have a student with an egg allergy? If making Fast Veggie Fritters, substitute one egg for 2 tablespoons of water, 1 teaspoon oil and 2 teaspoons of baking powder.

Do you have students who are vegan or vegetarian? If making Spaghetti Bolognese, remove the lean beef mince from the ingredients.

Whole-class activity:

- **Discuss** safety when using hot appliances. See **Risk Assessment**, FEAST Practical Guide, page 7.
- **Read** through the recipe with the whole class.
- **Demonstrate**
 - **Knife safety** by discussing the incorrect and correct ways to dice an onion as demonstrated in the video [50 People Try To Dice An Onion](https://youtu.be/KdD2Vm3pzeo) by Epicurious. Watch here: <https://youtu.be/KdD2Vm3pzeo> (3:19min). Watch [3 Ways To Chop Onions Like A Pro](https://youtu.be/0LJb66aYtG8) by Tasty. Watch here: <https://youtu.be/0LJb66aYtG8> (5:10min).
 - Fast Fritters: [How to crack an egg](https://youtu.be/Is5qnn2mjuM) by Howcast. Watch here: <https://youtu.be/Is5qnn2mjuM> (1:07min).
- **Form groups or pairs** recommended group size: 2 students.
- **Students wash hands**
- **Hand out knives** when students have collected their ingredients and assembled at their workstations.
- **Students prepare dish**
- **Students wash dishes and clean up**
- **Students eat**

Whole class activity - Wrap up:

- Discuss or write the following questions on the whiteboard for students to respond to:

Consider ways you could help students with visual/hearing impairments. (Scribing instructions on board or individual cards and ensuring that instructions are read clearly for all students before engaging in activities.)



- How does the recipe tackle food waste?
- How does the recipe encourage healthy eating?
- What skills have been used throughout the recipe?
- Did the cooking and preparation of the recipe maintain or improve its nutritional value? Explain.
- How did you consider food safety and hygiene when completing this practical cooking task?
- Describe the sensory properties of the final dish using the [Sensory Vocabulary Poster](https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf) by Food a Fact of Life. Visit <https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf>

Discuss how we can substitute ingredients to reduce our environmental impact, such as including lentils to reduce meat consumption. Is the Bolognese recipe meat based? Should we do a veggie Bolognese so it's an example of a plant based substitute? What's the relevance of the Fritters? Use up wilted veggies and any herbs.

Describe the sensory properties of the final dish using the [Sensory Vocabulary Poster](https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf) by Food a Fact of Life.

Discuss characteristics and properties of the ingredients that determine preparation techniques. For example:

Spaghetti Bolognese: The onions and garlic when chopped and browned release flavours. If using the minced beef, notice that when cooked it releases fats. The tomatoes add flavour, texture, and moisture to the dish. The vegetables provide a specific flavour, add texture, and colour, and contribute to the volume of the dish.

Fast Veggie Fritters: The flour and egg mixture when heated hardens and browns and the cheese melts. The mixed vegetables (fresh or frozen) added to the mixture adds flavour, texture and moisture to the dish. The vegetables provide a specific flavour, add texture, and colour and the self-raising flour contribute to the volume of the dish.

Lesson Feedback

Class reflects and provides feedback on the lesson.



LESSON 3: Investigating and defining - Future thinkers and innovative solutions to fight food waste

Analyse the impact of innovation and the development of technologies on designed solutions for global preferred futures [AC9TDE8K02](#)

Analyse how food and fibre are produced in managed environments and how these can become sustainable [AC9TDE8K04](#)

Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating [AC9TDE8K05](#)

Analyse how people

Teacher background information

Students investigate future thinkers who are helping to fight food waste, produce healthy food and promote the benefits of healthy eating. And explore innovative solutions to tackle food waste and ensure a sustainable food future.

Future thinkers are individuals who are working towards improving the world we live in and are helping to create a better food system. From farmers to chefs, academics to food activists, any one whose work helps to ensure that everyone has access to healthy nutritious food and design innovative solutions to reduce food waste.

Recommended activities

Whole class activity:

Watch [The Mind Behind- A thought for food](#) by BBC Culture to learn about future thinker Ronni Kahn, CEO and Founder of OzHarvest. Watch here: <http://www.bbc.com/storyworks/culture/the-mind-behind/a-thought-for-food> (1:30min).

Watch [OzHarvest founder Ronni Kahn looks back on her life](#) by ABC News (Australia). Watch here: <https://www.youtube.com/watch?v=ZSImexqwzPI> (4:38min).

Whole class activity:

Watch [Waste Not Want Not: Dealing with the issue of food waste](#) by ABC Landline and complete the accompanying worksheet. Science, innovation, value-adding and food recovery programs are helping to reduce food waste across the supply chain. Watch here: https://www.abc.net.au/news/rural/programs/landline/2022-08-14/waste-not-want-not:-dealing-with-the-issue-of-food/14019342?utm_campaign=abc_news_web&utm_content=link&utm_medium=content_shared&utm_source=abc_news_web (12:12min). See **Resource Dealing with the issue of food waste** in the Student Resources Design Folio, page11.

Individual student activity:

Write a persuasive text, using the scaffolding provided, on the topic “innovative ways to tackle food waste are

Support

Teachers group students with differing abilities together and assign learning buddies.

Where needed students may be grouped in pairs with peer support.



in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments
[AC9TDE8K01](#)

essential in tackling climate change”. See **Resource Innovative Ways to Reduce Food Waste** in the Student Resources Design Folio, page 8-10.

Other suggested Activities

Whole class activity:

Watch [TEDxAuckland Talk Beyond the zero waste restaurant](#) by chef Matt Stone. Future thinker Matt explains how he reduces waste in his restaurants to zero and in turn makes the food, ecosystem and community better. Watch here: <https://www.youtube.com/watch?v=56Y0TEIkI90> (9:08min).

Individual student activity:

Discover a future thinker named [Massimo Bottura](#) who is an Italian chef and food waste fighter. Visit <https://www.unep.org/news-and-stories/press-release/unep-appoints-renowned-italian-chef-and-food-system-activist-massimo>

Learn about [Refettorios](#) by Food for Soul designed by Massimo. Visit <https://www.foodforsoul.it/what-we-do/refettorios-social-tables/>.

Whole class activity:

Reflect on the essential question: How can the power of individual choice create a future without food waste? Discuss with the class their chosen future thinkers and how they are creating a future without food waste.

Optional Learning Experience

Individual student activity:

Research three future thinkers such as Kylie Kwong, Matt Moran, Alex Elliott-Howery, Massimo Bottura, Matt Orlando, Dan Barber, Matt Stone and Jo Barrett who are all food innovators. **Choose** one future thinker and write a short biography or review their work.

See **Resource Future Thinkers** in the Optional Learning Experiences.

Individual student activity:

Visit [The Orb](#) (<https://www.theorb.tas.gov.au/living-cultures/foods>) to learn about Australian Indigenous ingredients. Ask students to write about five things they learnt. See **Resource Future Thinkers** in the Optional Learning Experiences.



Practical Cooking Activity: Trav's Taco Salad (time: 20 minutes) or Honey Soy Noodle Stir Fry (time: 50 minutes)

Travis Harvey is OzHarvest's Executive Chef and a master of zero-waste cooking. Alongside the chef team, Travis creates thousands of delicious meals using rescued ingredients that may have otherwise been wasted. He has created this delicious Taco Salad for FEAST.

Taco Salad vegetarian option: Substitute 1 tin of refried beans and 1 tin of kidney beans for the lentils and mince.

Whole-class activity:

- **Discuss safety** when using hot appliances with students. See Risk Assessment, Practical Guide.
- **Read** through the recipe with the whole class. Can any ingredients be sourced from the school garden?
- **Demonstrate**
 - Taco Salad: demonstrate how to dice a tomato. Cut the tomato in half and place the flat side on the chopping board. Make a claw shape with your hand holding the food – keep your fingertips clear of the knife.
 - Honey Soy Noodle Stir Fry: How to use a box grater correctly by watching [50 People Try To Grate Cheese | Basic Skills Challenge](https://youtu.be/HWS3IxfDOHE) by Epicurious. Watch here: <https://youtu.be/HWS3IxfDOHE>
- **Form groups:** recommended group size: 2 students.
- **Students wash hands**
- **Hand out knives** when students have collected their ingredients and assembled at their workstations.
- **Students prepare dish**
- **Students wash dishes and clean up**
- **Students eat**

Whole class activity: - Wrap up

- Discuss or write the following questions on the whiteboard for students to respond to:
 - How does the recipe tackle food waste?
 - How does the recipe encourage healthy eating?
 - What skills have been used throughout the recipe?

Teachers group students with differing abilities together and assign learning buddies.

Consider ways you could help students with visual/hearing impairments. (Scribing instructions on board or individual cards and



	<ul style="list-style-type: none"> ○ Did the cooking and preparation of the recipe maintain or improve its nutritional value? Explain. ○ How did you consider food safety and hygiene when completing this practical cooking task? ○ Describe the sensory properties of the final dish using the Sensory Vocabulary Poster by Food a Fact of Life. Visit https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf <p>Discuss how you used up the ingredients and why these foods are often wasted?</p> <p>Discuss characteristics and properties of the ingredients that determine preparation techniques. For example: Taco Salad: The onions when chopped release flavours. The minced beef releases fats. The tomatoes add flavour, texture, and moisture to the dish. The vegetables provide a specific flavour, add texture, and colour, and contribute to the volume of the dish. Honey Soy Noodle Stir Fry: The egg mixture hardens when heated. The vegetables provide colour, release flavour and have a crunchy texture. The noodles are partially cooked and only need warming up.</p> <p>Lesson wrap up Class reflects and provides feedback on the lesson.</p>	ensuring that instructions are read clearly for all students before engaging in activities.)
LESSON 4: Investigating and defining – Reducing food waste with kitchen science		
<p>Analyse the impact of innovation and the development of technologies on designed solutions for global preferred futures AC9TDE8K02</p> <p>Analyse how food and fibre are produced in managed environments and how these can become sustainable</p>	<p><u>Teacher background information</u> <i>Students research how different methods of food preservation can change the characteristics and properties of food, extending the life of ingredients and in turn reducing food waste.</i></p> <p><u>Recommended activities</u> Whole class activity: Discuss food preservation as a method that stops good food from going to waste, provides an opportunity to consume a variety of fruits, vegetables, and other food products all year-round. Dehydration and fermentation are two other ways we can preserve food to prevent it from being wasted. Preserving food using food preparation techniques, impacts its sensory properties (taste, texture, aroma, and appearance).</p>	<p>Support Where needed information is read aloud to some students.</p> <p>Where needed students have responses scribed by the teacher or a peer.</p>



[AC9TDE8K04](#)

Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating

[AC9TDE8K05](#)

Whole class activity:

Talk about how dehydration removes moisture so that bacteria, yeast, and moulds cannot grow and spoil food. Fermentation, specifically pickling, is another method of food preservation where a food is soaked in a solution of water, vinegar, salt, sugar, or oil that prevents spoilage.

Whole class activity:

Talk about Food Technologist [Nicholas Appert](#), who in 1795 began experimenting with ways to preserve food, succeeding with soups, vegetables, juices, dairy products, jellies, jams, and syrups. Nicholas invented the basis of modern canning technique by preserving the process of boiling and preserving food in glass jars. Visit <https://www.britannica.com/biography/Nicholas-Appert>

Whole class activity:

Watch [The Father of Canned Food: Nicolas Appert - Hidden Genius](#) by Stuff Of Genius HowStuffWorks to learn more about Nicolas Appert. Watch here: <https://youtu.be/z7ZCD8ZSB9U> (1:37min)

Whole class activity:

Describe the sensory properties of food using the [Sensory Vocabulary Poster](#) by Food a Fact of Life. Visit <https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf>

This activity can be completed using a variety of foods, such as:

- Apricot, tinned apricot, dried apricot
- Tomato: sundried tomato, canned tomato
- Cabbage: sauerkraut
- Onion: dried onion, pickled onion
- Cucumber: pickled cucumber

See **Resource Exploring Food Preservation and the Sensory Properties** in the Student Resources Design Folio, page 12.



Discuss how incorporating one of the preservation methods of an ingredient into a recipe can change the sensory properties of the dish. For example adding sundried tomato into pasta sauce enhances the taste and flavour of the dish.

Suggested activity:

Homework Activity: Look through recipe books and websites and research how different cultures pickle vegetables. Share findings with the class.

Practical: Pickling Vegetables or Spanish Pan Omelette (30-45 minutes)

Talk about the history of pickling and why it has been used for thousands of years as a technique to reduce food waste and enjoy foods all year round.

Share how vegetables can be pickled using any shape you choose. Some vegetables we love to pickle include carrots, cherry tomatoes, beans, and asparagus.

Talk about how in times of abundance preserving food is the best way to sustainably fill up the pantry and use up surplus food that may have otherwise gone to waste, and the different cultures that use pickling techniques.

Whole-class activity

- **Discuss safety** when using hot appliances with students. See **Risk Assessment** in the FEAST Practical Guide, page 7.
- **Read** through the recipe with the whole class.
- **Demonstrate**
 - Pickling Vegetables: How to cut the carrot/cucumber lengthways to make a flat surface and make a claw shape with your hand holding the food – keep your fingertips clear of the knife.
 - Spanish Pan Omelette: How to thinly slice the potatoes to ensure they are sufficiently cooked.
- **Form groups or pairs** recommended group size: 2 students.
- **Students wash hands**



- **Hand out knives** when students have collected their ingredients and assembled at their workstations.
- **Students prepare dish.**
- **Students wash dishes and clean up:** explain the planned washing up process, including wiping down workstations and pack away/reset for next class.
- **Students eat.**

Whole class activity - Wrap up:

- Discuss or write the following questions on the whiteboard for students to respond to:
 - How does the recipe tackle food waste?
 - How does the recipe encourage healthy eating?
 - What skills have been used throughout the recipe?
 - Did the cooking and preparation of the recipe maintain or improve its nutritional value? Explain.
 - How did you consider food safety and hygiene when completing this practical cooking task?
 - Describe the sensory properties of the final dish using the [Sensory Vocabulary Poster](https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf) by Food a Fact of Life. Visit <https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf>

Discuss how the ingredients in the recipe were used and therefore avoided from going to waste.

Discuss characteristics and properties of the ingredients that determine preparation techniques. For example: **Pickling Vegetables:** The acid from the vinegar will preserve the vegetables by killing off any microorganisms to prevent spoilage. The vegetables provide colour and retain a crunchy texture after the pickling process. **Spanish Pan Omelette:** The egg mixture when heated hardens and the potatoes soften. The spices provide flavour and colour



	<p>and the capsicum and olives provide flavour and a crunchy texture.</p> <p>Lesson wrap up Class reflects and provides feedback on the lesson.</p>	
<p>LESSON 5: Investigating and defining - Understanding nutrition</p>		
<p>Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating AC9TDE8K05</p>	<p><u>Teacher background information</u> <i>Students explore nutrients in food and have increased knowledge and confidence to prepare, cook and eat nutritious food. Understanding the role and health benefits of the five food groups. No single food contains all the required nutrients our body needs, so it's important to eat a variety of foods to maintain a healthy diet.</i></p> <p>The content covered in this lesson supports and builds on the primary school Health and Physical Education (HPE), Science and Technologies Food and Wellbeing Australian Curriculum outcomes. Source: Curriculum Connections.</p> <p><u>Recommended activities</u></p> <p>Whole class activity: Talk with students about what the Australian Guide To Healthy Eating by the Australian Government Department of Health shows us about the recommended daily food consumption. The bigger the portion of the pie chart means you should eat the most of this food group in a day. Visit https://www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating.</p> <p>Whole class activity: Facilitate group discussion about five food groups and ask tricky questions: Q: "Does fruit juice or dried fruit go into the fruits group or the 'extras' group?" A: Australian Dietary Guidelines advises that only ½ cup fruit juice or 2 tablespoons of dried fruit count towards a single fruit serve. Any more than that and even 100% fruit juice would be counted as an 'extra' food.</p>	<p>Support</p>



Q: “Are lentils, chickpeas, and beans part of the vegetable group or meat and alternatives group?”

A: They are both! They are packed with protein and so they can go in either. Protein helps us grow and helps our muscles repair.

Individual student activity:

Research the essential five food groups and provide a brief summary on the importance of each food group using the website [The Five Food Groups | Eat For Health](https://www.eatforhealth.gov.au/food-essentials/five-food-groups) by the Australian Government Department of Health. Visit <https://www.eatforhealth.gov.au/food-essentials/five-food-groups>. See **Resource My Five Food Groups** in the Student Resources Design Folio, page 13.

Individual student activity:

Adapt recipes to make healthy choices. The OzHarvest Wholemeal Pita Pizza reduces food waste by using a range of from the fridge toppings and is a healthy alternative to ordering takeaway pizzas. Using the [Australian Guide to Healthy Eating](#) students complete the table provided and add three extra ingredients to the pizza that would increase the overall nutritional value of the recipe. Students explain how the recipe addresses healthy eating and reduces food waste. See **Resource Adapting Recipes to Make Healthy Choices** in the Student Resources Design Folio, page 15.

Whole class activity:

Learn how cooking vegetables can affect the nutritional value. For example, heat breaks down the plant cell walls releasing vitamins and minerals for easier absorption, but over cooking can lead to nutrient loss. To get the best nutrient value, steaming vegetables maintains vitamin content compared to boiling them.

Watch: [How does cooking affect nutrients in veggies](#) by Reactions to delve deeper into how cooking impacts vegetable nutritional value. Watch here: <https://www.youtube.com/watch?v=6hFxSJcq-KU> (4:32min).

Whole class activity:

Talk to students about how different food storage options can affect the nutritional value of food e.g. frozen produce maintains its vitamins compared to refrigerated produce. Watch [Fresh or frozen food? Using Science to prove which is best with surprising results!](#) - by BBC. Watch here: <https://www.youtube.com/watch?v=As261YIO-6c> (4:37min).



Practical: Wholemeal Pita Pizza or Chickpea and Lentil Kofta Pita Pockets (time 20-30 minutes)

Talk with students about how the ingredients and cooking methods we select when developing a recipe impacts the nutritional value of the recipe.

Whole-class activity

- **Read** through the recipe with the whole class.
- **Form groups or Pairs** recommended group size: 2 students.
- **Students wash hands**
- **Hand out knives** when students have collected their ingredients and assembled at their workstations.
- **Students prepare dish.**
- **Students wash dishes and clean up:** explain the planned washing up process, including wiping down workstations and pack away/reset for next class.
- **Students eat.**

Whole class activity: - Wrap up

- Discuss or write the following questions on the whiteboard for students to respond to:
 - How does the recipe tackle food waste?
 - How does the recipe encourage healthy eating?
 - What skills have been used throughout the recipe?
 - Did the cooking and preparation of the recipe maintain or improve its nutritional value? Explain.
 - How did you consider food safety and hygiene when completing this practical cooking task?
 - Describe the sensory properties of the final dish using the [Sensory Vocabulary Poster](https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf) by Food a Fact of Life. Visit <https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf>

Lesson Feedback



	Class reflects and provides feedback on the lesson.	
LESSON 6: Generating and designing - 'Use It Up' Recipe Card and Information Sheet		
<p>Analyse the impact of innovation and the development of technologies on designed solutions for global preferred futures AC9TDE8K02</p> <p>Analyse how food and fibre are produced in managed environments and how these can become sustainable AC9TDE8K04</p> <p>Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating AC9TDE8K05</p> <p>Generate, test, iterate and communicate design</p>	<p><u>Teacher background information</u> <i>Students develop design techniques and research skills whilst referring to the design brief/challenge.</i></p> <p><u>Recommended activities:</u> Invite students to revisit the design brief and think about what is possible in the time they have available to undertake their tasks in this unit. Students prepare a project plan and outline what needs to be done, who is responsible, when things will be done and write it down as a suggested order of the work. Consider will they use digital or non-digital equipment and tools? How might they work safely and cooperatively? How might they appropriately source their images and information that are used to create their recipes? See Resource 'Use It Up' Recipe Card & Information Sheet Project Plan in the Student Resources Design Folio, page 16.</p> <p>'Use It Up' Recipe - Generate solutions and draft ideas Before you research your recipe consider the following:</p> <ul style="list-style-type: none"> ● What commonly wasted food item features in your recipe? ● What ingredients and equipment are needed to prepare your recipe? ● What healthy cooking methods are used? ● Who is the recipe for? Any dietary requirements such as gluten free, vegetarian? ● What ingredients are in season, fresh and local? ● What ingredients do you already have? ● Cost and time. ● Expertise. 	<p>Support Provide a scaffolded design brief for students to elaborate on.</p>



ideas, processes and solutions using technical terms and graphical representation techniques, including using digital tools
[AC9TDE8P02](#)

Select, justify and use suitable materials, components, tools, equipment, skills and processes to safely make designed solutions
[AC9TDE8P03](#)

Analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments
[AC9TDE8K01](#)

Ask students to research and document recipe ideas in their Design Folio. See **Resource Inspirational Ideas** in the Student Resources Design Folio, page 17.

Students **research** three healthy recipes that include their top wasted food to adapt for the task. Recipe ideas may be gathered by browsing websites including:

- [Use It Up Recipes](https://www.ozharvest.org/use-it-up/tips/) by OzHarvest. Visit <https://www.ozharvest.org/use-it-up/tips/>
- [Use Up Leftovers](https://www.bigoven.com/recipes/leftover) by Big Oven. Visit <https://www.bigoven.com/recipes/leftover>
- Simple Meal Recipes by Cancer Council. Visit <https://www.cancercouncil.com.au/cancer-information/living-well/nutrition-and-cancer/recipes-and-snacks/simple-meal-recipes/>
- [Vegetarian Recipes](https://www.heartfoundation.org.au/search/%22vegetarian%22) by The Heart Foundation. Visit <https://www.heartfoundation.org.au/search/%22vegetarian%22>
- [Tryfor5 Recipes](https://www.tryfor5.org.au/recipes-2) by Nutrition Australia. Visit <https://www.tryfor5.org.au/recipes-2>
- [FEAST at Home recipes](https://education.ozharvest.org/home-resources/) by OzHarvest FEAST. Visit <https://education.ozharvest.org/home-resources/>

Individual student activity:

Select their top three recipes and write why they have selected each recipe in the spaces provided. Students choose one recipe and justify why they have chosen it, explaining how the recipe utilises their commonly wasted food and how it addresses healthy eating.

Other suggested activities:

Class discussion:

Materials, tools, equipment, and evaluation

Challenge students to think about the materials, tools, and equipment they will need to design and create their 'Use It Up' Recipe Card and Information Sheet. Will they use digital or non-digital equipment and tools? How might they work safely? How might they appropriately source their images and information that is used to create the 'Use It Up' Recipe Cards?

Challenge students to be in the solution business and define three ways to not waste food. For example, checking the food in the fridge regularly, looking at use by dates and moving food that needs to be used up to the front? Do they need to get creative and cook new recipes using food that might otherwise be wasted?



Practical: French Toast or Hummingbird Muffins (time 40-50 minutes)

It is recommended that both recipes are served with the Too Easy Ricotta.

Students learn to make their own ricotta! Making ricotta is a great way to reduce food waste by using up milk and watching a science process first-hand: mixing milk with an acidic ingredient like vinegar causes some of the milk proteins to curdle. Serve the ricotta with your hummingbird muffin or French toast.

Whole-class activity

- **Discuss safety when using hot appliances with students. See Risk Assessment, Practical Guide**
- **Read** through the recipe with the whole class.
- **Demonstrate**
 - Handmade Ricotta: watch how to make [Too Easy Ricotta](https://www.youtube.com/watch?v=uklk_dTtQYA&t=3s) by OzHarvest (0.41min). Watch here: https://www.youtube.com/watch?v=uklk_dTtQYA&t=3s
 - French Toast and Hummingbird Muffins: watch [How to Crack an Egg](https://www.youtube.com/watch?v=Is5qnn2mjuM) (1.07min) by Howcast. Watch here: <https://www.youtube.com/watch?v=Is5qnn2mjuM>
- **Form groups or pairs** recommended group size: 2 students.
- **Students wash hands**
- **Hand out knives** when students have collected their ingredients and assembled at their workstations.
- **Students prepare dish**
- **Students wash dishes and clean up**
- **Students eat**

Whole class activity - Wrap up:

- Discuss or write the following questions on the whiteboard for students to respond to:
 - How does the recipe tackle food waste?
 - How does the recipe encourage healthy eating?
 - What skills have been used throughout the recipe?
 - Did the cooking and preparation of the recipe maintain or improve its nutritional value? Explain.
 - How did you consider food safety and hygiene when completing this practical cooking task?

Consider ways you could help students with visual/hearing impairments. (Scribing instructions on board or individual cards and ensuring that instructions are read clearly for all students before engaging in activities.)



	<ul style="list-style-type: none"> ○ Describe the sensory properties of the final dish using the Sensory Vocabulary Poster by Food a Fact of Life. Visit https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf <p>Discuss the recipe, ingredients, preparation and cook time. Discuss how the recipe can use up foods that might otherwise be wasted. For example, using stale bread in French Toast, over-ripe fruit in the Hummingbird muffins or leftover milk to make ricotta.</p> <p>Discuss characteristics and properties of the ingredients that determine preparation techniques. For example:</p> <p>French Toast: The bread base adds texture, fruit adds flavour, texture, and moisture to the dish. The fruit provides a specific flavour, adds texture, and colour, and contributes to the volume of the dish.</p> <p>Hummingbird Muffins: The flour and egg mixture when heated hardens and browns. The fruit provides colour, moistness and flavour.</p> <p>Too Easy Ricotta: When the milk is heated and the vinegar added, the mixture curdles and changes texture to firm and spreadable.</p> <p>Lesson Feedback: Class reflects and provides feedback on the lesson.</p>	
<p>LESSON 7: Generating and Designing ‘Use It Up’ Recipe Card and Information Sheet</p>		
<p>Generate, test, iterate and communicate design ideas, processes and solutions using technical terms and graphical representation techniques, including using digital tools AC9TDE8P02</p>	<p>Teacher background information and Learning Goals <i>Students action how they are going to produce their ‘Use It Up’ Recipe Card and Information Sheet.</i></p> <p>Recommended activities: Individual student activity ‘Use It Up’ Recipe Card Now that students have chosen their recipe, it’s time to create their ‘Use It Up’ Recipe Card. Ask students to draft their ‘Use It Up’ Recipe Card by completing the template provided or creating their own. See Resource ‘Use It Up’ Recipe Card Template in the Student Resources Design Folio, page 20.</p>	<p>Support</p> <p>Where needed scaffolding is supplied.</p>



<p>Select, justify and use suitable materials, components, tools, equipment, skills and processes to safely make designed solutions AC9TDE8P03</p> <p>Develop design criteria collaboratively including sustainability to evaluate design ideas, processes and solutions AC9TDE8P04</p> <p>Develop project plans to individually and collaboratively manage time, cost and production of designed solutions AC9TDE8P05</p>	<p>Individual student activity Information Sheet Ask students to draft their Information Sheet that answers the questions outlined in the design brief. Students can draft their answers in the template provided or create their own. See Resource Information Sheet Template in the Student Resources Design Folio, page 21.</p> <p>Before students begin drafting their Information Sheet they may consider revisiting the following questions and websites:</p> <ul style="list-style-type: none">a) Explain how the recipe tackles food waste. Refer to Resource What is Food Waste in the Student Resources Design Folio, page 6-7, completed at the beginning of the unit.b) Identify one storage tip to consider when creating your recipe. Visit What To Do - Fight Food Waste by OzHarvest https://www.ozharvest.org/fightfoodwaste/what-to-do/.c) Explain how the recipe encourages healthy eating. Visit The Five Food Groups Eat For Health by the Australian Government Department of Health https://www.eatforhealth.gov.au/food-essentials/five-food-groups.d) Explain one way you would cook or prepare your recipe to maintain or improve the nutritional value (e.g. steaming vegetables maintains vitamin content compared to boiling them). Watch How does cooking affect nutrients in veggies by Reactions https://www.youtube.com/watch?v=6hFxSjCq-KU.e) Identify one food safety tip to consider when creating your recipe. Complete the Food Safety and Hygiene worksheet by OzHarvest https://education.ozharvest.org/wp-content/uploads/2020/04/FEAST-Food-Safety-Hygiene_editable-2.pdf.f) Discuss the characteristics and properties of the ingredients used in the recipe (e.g. flavour, appearance, texture and aroma). View the Sensory Vocabulary Poster by Food a Fact of Life https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf. <p>For students who are creating their own templates: Talk about the importance of a clear layout of information and a clear design that makes it easy for an audience to understand and interpret the information given. Talk about the importance of sourcing graphics, photos, and information correctly. Review rules on personal safety, group safety, and classroom and furniture safety with the students.</p>	<p>Provide a card template to help students identify required content and structure their ‘Use It Up’ Recipe Card and Information Sheet.</p>
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Practical activity: Use It Up Veggie Fried Rice or Pumpkin and Tomato Quiches (time: 20 – 40 minutes)

Consider pre-cooking the rice for this recipe to save on time, given that brown rice requires longer cooking time or alternatively purchase microwave rice packets.

Whole-class activity

- **Discuss safety** when using hot appliances with students.
- **Read** through the recipe with the whole class.
- **Demonstrate**
 - Veggie Fried Rice: How to mince the garlic by using a pinch of salt and the back of the knife to crush the garlic cloves.
 - Pumpkin and Tomato Quiches: demonstrate how to roll the slice of bread so that it flattens.
- **Form groups or pairs** recommended group size: 2 students.
- **Students wash hands**
- **Hand out knives** when students have collected their ingredients and assembled at their workstations.
- **Students prepare dish**
- **Students wash dishes and clean up**
- **Students eat**

Whole class activity - Wrap up:

- **Discuss** or write the following questions on the whiteboard for students to respond to:
 - How does the recipe tackle food waste?
 - How does the recipe encourage healthy eating?
 - What skills have been used throughout the recipe?
 - Did the cooking and preparation of the recipe maintain or improve its nutritional value? Explain.



	<ul style="list-style-type: none"> ○ How did you consider food safety and hygiene when completing this practical cooking task? ○ Describe the sensory properties of the final dish using the Sensory Vocabulary Poster by Food a Fact of Life. Visit https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf <p>Discuss the recipe, ingredients, preparation and cook time. Discuss how the following foods found in the recipe can be used and thereby avoid them going to waste. For example, Veggie Fried Rice can use up limp carrots, sad beans and wilted greens.</p> <p>Discuss characteristics and properties of the ingredients that determine preparation techniques. For example:</p> <p>Veggie Fried Rice: The vegetables add colour, volume and texture. The rice provides volume and the herbs or spring onions add flavour, texture, and moisture to the dish.</p> <p>Pumpkin & Tomato Quiches: The pumpkin and tomatoes provide a specific flavour, add texture, and colour, and contribute to the volume of the dishes. The egg and cheese mixture when heated hardens and browns.</p> <p>Lesson Feedback Class reflects and provides feedback on the lesson.</p>	
LESSON 8: Producing and implementing – The ‘Fight Food Waste’ Promo		
<p>Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating AC9TDE8K05</p>	<p>Teacher background information and Learning Goals <i>Students research and develop their ‘Fight Food Waste’ Promo and finalise their ‘Use It Up’ Recipe Card and Information Sheet.</i></p> <p>Recommended activities: Class discussion: What is a promotion or promo for short? A promotion is an activity that supports or encourages a cause, a venture or an aim.</p>	Support



Generate, test, iterate and communicate design ideas, processes and solutions using technical terms and graphical representation techniques, including using digital tools
[AC9TDE8P02](#)

Watch [If Ed Sheeran's "Shape of You" was about Food Waste](#) by Global Citizen. This video is a lighthearted creative promotion to reduce food waste <https://www.youtube.com/watch?v=B1-pKW0t2yM> (2:25min).

Discover global food waste avoidance promotions/campaigns:

- OzHarvest 'Use It Up': <https://www.ozharvest.org/use-it-up/>
- I Value Food: <https://sustainableamerica.org/blog/introducing-i-value-food-a-campaign-to-end-food-waste/>
- Love Food Hate Waste: <https://www.lovefoodhatewaste.com/>
- Feeding the 5000: <https://feedbackglobal.org/campaigns/feeding-the-5000/>

Ask students to begin brainstorming and recording ideas and information for their 'Fight Food Waste' Promo. See **Resource 'Fight Food Waste' Promo** in the Student Resources Design Folio, page 23.

Class discussion: Students need to consider the following when drafting their ideas:

- How will you inform, educate, inspire about preventing food waste?
- How does your promotion inform your target audience? Consider their cultural and racial diversity.
- How long will your promotion be?
- Where will your promotion take place?
- What medium will you use for your promotion? For example a song, poster, play, dance or speech.

In groups or individually, students complete their 'Fight Food Waste' Promo project plan and outline what needs to be done, who is responsible and when tasks need to be done. Students review Resource **'Fight Food Waste' Promo Project Plan** in the Student Resources Design Folio, page 19.

Creating the final solution:

Ask students to gather the materials and tools they require.

Talk with students about how they might share and present their final solution to an audience. Whether they might use food photography, a display folder, a digital presentation, or a combination of these to show evidence of their design and production process.

Suggested activities:

Whole-class activity



Discover how some people promote new ideas and concepts by reviewing creative promotions made in the 'Gruen' television program by ABC iView. Watch here: <https://iview.abc.net.au/show/gruen>.

Note: Teachers Gruen is classified PG. Adult guidance is recommended for people under 15 years. Please preview episodes prior to showing class as some episodes have explicit content.

Class discussion: there are different ways of promoting items, the key features should include:

- Making a statement
- Identifying the problem and having something unique for the market space
- Telling a story that is tight, simple, and compelling
- Keeping your audience engaged
- Including graphs to make figures and potential figures clear
- Using testimonials
- Preparing for questions

Read [Eleven things startups can do to get their pitch deck on point](https://www.smartcompany.com.au/startupsmart/advice/eleven-things-startups-can-do-to-get-their-pitch-deck-on-point/) by SmartCompany for more information about the key features of a promotion. Visit

<https://www.smartcompany.com.au/startupsmart/advice/eleven-things-startups-can-do-to-get-their-pitch-deck-on-point/>.

Practical activity: Easy Cheese Frittata or Poached Eggs in Tomato Sauce (time: 30-45 minutes)

Whole-class activity

- **Discuss safety** when using hot appliances with students.
- **Read** through the recipe with the whole class.
- **Form groups or Pairs** recommended group size: 2 students.
- **Students wash hands**
- **Hand out knives** when students have collected their ingredients and assembled at their workstations.
- **Students prepare dish**
- **Students wash dishes and clean up**
- **Students eat**



	<p>Whole class activity - Wrap up: Discuss or write the following questions on the whiteboard for students to respond to:</p> <ul style="list-style-type: none"> ○ How does the recipe tackle food waste? ○ How does the recipe encourage healthy eating? ○ What skills have been used throughout the recipe? ○ Did the cooking and preparation of the recipe maintain or improve its nutritional value? Explain. ○ How did you consider food safety and hygiene when completing this practical cooking task? ○ Describe the sensory properties of the final dish using the Sensory Vocabulary Poster by Food a Fact of Life. Visit https://www.foodafactoflife.org.uk/media/6174/sensory-vocabulary-p316.pdf <p>Discuss characteristics and properties of the ingredients that determine preparation techniques. For example: Easy Cheese Frittata: Cheese adds texture and when heated hardens and browns. The garlic and onion add flavour and the frozen vegetables and spinach also provide a specific flavour, add texture, and colour, and contribute to the volume of the dish.</p> <p>Poached Eggs in Tomato Sauce: The eggs when heated harden and provide texture, colour and flavour. The tomatoes and spinach have a specific flavour, add texture, and colour, and contribute to the volume of the dish.</p> <p>Lesson Feedback Class reflects and provides feedback on the lesson.</p>	
LESSON 9: Finalise ‘Use It Up’ Recipe Card and Information Sheet and Deliver the ‘Fight Food Waste’ Promotion		
<p>Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating AC9TDE8K05</p> <p>Develop design criteria</p>	<p>Teacher background information and Learning goal <i>Students finalise their ‘Use It Up’ Recipe Card and Information Sheet and deliver their ‘Fight Food Waste’ Promo.</i></p> <p>Students finalise their ‘Use It Up’ Recipe Card, Information sheet, ‘Fight Food Waste’ Promo script and design folio. See Resources ‘Use It Up’ Recipe Card, Information Sheet and ‘Fight Food Waste’ Promo in the Student Resources Design Folio, pages 24-26.</p> <p>Individual assessment:</p> <ul style="list-style-type: none"> ● Students share final designs with a peer in the class and seek feedback on their ideas. 	<p>Support</p>



collaboratively including sustainability to evaluate design ideas, processes and solutions

[AC9TDE8P04](#)

Analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments

[AC9TDE8K01](#)

Group assessment:

- Students present their 'Fight Food Waste' Promo to their peers.

Practical activity: Prepare 'Use It Up' Recipe for the 'Fight Food Waste' Promo or choice of 'Use It Up' recipe - Anything Curry, Everything Salad or Leftover Greens Pie

Note: students cooking an OzHarvest developed 'Use It Up' recipe are required to visit: <https://www.ozharvest.org/use-it-up/tips/> to access the recipe ingredients and steps.

Whole-class activity

- **Discuss safety** when using hot appliances with students.
- **Form groups or pairs** recommended group size: 2 students.
- **Students wash hands.**
- **Hand out knives** when students have collected their ingredients and assembled at their workstations.
- **Students prepare dish.**
- **Students wash dishes and clean up:** explain the planned washing up process, including wiping down workstations and pack away/reset for next class.
- **Students eat** or present the recipe at the Waste Avoidance Campaign.
- Discuss or write the following questions on the whiteboard for students to respond to:
 - How does the recipe tackle food waste?
 - How does the recipe encourage healthy eating?
 - What skills have been used throughout the recipe?
 - Did the cooking and preparation of the recipe maintain or improve its nutritional value? Explain.
 - How did you consider food safety and hygiene when completing this practical cooking task?
 - Describe the sensory properties of the final dish using the [Sensory Vocabulary Poster](#) by Food a Fact of Life

Lesson Feedback



	Class reflects and provides feedback on the lesson.	
LESSON 10: Evaluating		
<p>Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating AC9TDE8K05</p> <p>Develop design criteria collaboratively including sustainability to evaluate design ideas, processes and solutions AC9TDE8P04</p>	<p><u>Teacher background information</u> <i>In this lesson, students will deliver their ‘Fight Food Waste’ Promo and ‘Use It Up’ Recipe Cards. Students assess the results of the research undertaken to produce recipes, cards, and promotions.</i></p> <p><u>Recommended activities</u> Whole class activity: Students present their ‘Fight Food Waste’ Promo which includes successfully promoting their ‘Use It Up’ recipe idea, and what they’ve learnt about food waste and how to inspire others.</p> <p>Students listen to presentations and reflect critically on:</p> <ul style="list-style-type: none"> ● How much do their fellow students know about the subject matter? ● How well have they used their chosen medium? ● How creative is their promotion? ● What is unique or eye-catching about their visual style? ● What concepts about the subject matter have they chosen to emphasize? ● Have they missed anything? <p>Whole-class activity: Students reflect on their learning by reviewing their criteria for success they developed at the beginning of the unit. See Resource Analysis of The Design Brief and Criteria For Success in the Design Folio. Students reflect on all aspects involved in researching and designing their ‘Use It Up’ Recipe Card and Information Sheet and Promotion.</p> <p>Individual student activity: Students evaluate their work by completing Resource Evaluating in the Student Resources Design Folio, page 27. Students use their criteria for success to evaluate their ‘Use It Up’ Recipe Card, Information Sheet</p>	<p>Support</p>



and 'Fight Food Waste' Promotion.

Students can answer the following questions:

- Did you meet the design brief requirements?
- How can our food choices have a positive impact on our environment?
- How do our food choices impact our health?
- How did each member contribute to the task?

Individual student activity:

Students complete the post-program survey. Please complete the online student & teacher post-program surveys (this should take 10-15 minutes). The link will have been emailed to you during Week 9 of the Term (please contact feast@ozharvest.org if you haven't received the link). You will need access to a device per student.

- **For students completing a survey:** Show Ronni's "Thank you" video to encourage students to complete the survey. View video here: <https://youtu.be/bxEL1LLWMjg>
- **For students not completing a survey:** please show this "Thank you" video from Ronni to your students to thank them for being part of our FEAST program and encourage them to continue their journey fighting food waste. View video here: <https://youtu.be/e-ISR2iik60>

Suggested activities

Individual student activity:

Students self-assess their work samples by using the marking rubric provided in the FEAST Unit of Work to evaluate their individual and/or group contribution to the task.

Whole class activity:

Watch the 2018 Food Fighter Documentary (1hour 26 minutes) where Ronni Kahn sets out to expose and highlight Australia's food waste crisis. Watch the trailer here: https://youtu.be/wqtu6_gIpHg

- Available on Binge: <https://binge.com.au/movies/asset-food-fighter!15077> and Apple TV: <https://tv.apple.com/au/movie/food-fighter/umc.cmc.1f61zgvzpwv0dlt757kqpdlo>

Thank you

	<p>Please contact the FEAST team at FEAST@ozharvest.org if you have any questions or would like any additional resources. We thank you for delivering FEAST at your school.</p> <hr/>	
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Reflection

Questions to guide reflection:

- To what level did students achieve the learning outcomes?
- How effective were the activities in helping students to understand key concepts and achieve the learning outcomes?
- How did the teaching strategies and activities facilitate student engagement?
- How could the unit be improved to enhance student engagement and learning?