OZHARVEST

FEAST™

FOOD EDUCATION AND SUSTAINABILITY TRAINING

UNIT OF INQUIRY

ACKNOWLEDGEMENTS

THIS EDUCATIONAL RESOURCE WAS PRODUCED BY OZHARVEST TO SUPPORT TEACHERS TO DELIVER THE TECHNOLOGY MANDATORY SYLLABUS AND INTRODUCE YOUNG PEOPLE TO THE ISSUE OF FOOD WASTE.

- It covers food waste solutions, nutrition, healthy eating, new recipe ideas and kitchen confidence to cook delicious meals that reduce waste.

- OzHarvest would like to acknowledge and sincerely thank Angela Colliver Consulting Services and the teachers who generously offered their time and feedback to help shape this Unit of Inquiry.

- While reasonable efforts have been made to ensure that this educational resource is factually correct, OzHarvest does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this educational resource.

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A MESSAGE FROM RONNI

FEAST™
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EVERY DAY, I AM REMINDED THAT A MEANINGFUL LIFE IS MADE UP OF MANY THINGS; FOOD GROWN WITH CARE, A PLANET THAT CAN SUSTAIN US, LOVING RELATIONSHIPS, COMMUNITY CONNECTIONS AND ABOVE ALL A SENSE OF PURPOSE.

I started OzHarvest to find my purpose, after noticing the huge volume of food going to waste in the hospitality industry and knowing so many people were still going hungry, I knew there had to be a better way.

With just one van in Sydney in 2004, OzHarvest has since grown to become Australia's leading food rescue organisation, with operations across the country. Our fleet of yellow vans are out and about in communities every day, delivering millions of meals and saving thousands of tonnes of food from landfill.

Whilst food rescue fills hungry bellies, education transforms lives and is the key to influencing change. Australia has set a national target to halve food waste by 2030 in line with the United Nations Sustainable Development Goals and OzHarvest is committed to driving change at all levels of society to achieve this goal.

Raising awareness about the harmful effects of food waste on the environment is part of this journey. Young people are integral to protecting our planet and creating a sustainable future and we hope that FEAST inspires them to take action! And like any good FEAST, it's designed to be fun, engaging and filled with good food.

FEAST extends beyond the classroom, as students develop the skills to become change makers in the community. It embodies our vision to build a world with zero food
waste and free of hunger.

By championing the value of food, we hope
to make wasting it a thing of the past. Every time we throw food away, it's literally costing us the earth.

So, please tuck in and enjoy this FEAST created by OzHarvest!

With gratitude,

RONNI KAHN AO
FOUNDER & CEO OZHARVEST

INTRODUCTION

FEAST™
FOOD EDUCATION AND SUSTAINABILITY TRAINING

OZHARVEST IDENTIFIED AN OPPORTUNITY IN THE AUSTRALIAN CURRICULUM TO BRING TOGETHER SUSTAINABILITY, FOOD WASTE AND NUTRITION EDUCATION, CREATING A NEW AND EXCITING CURRICULUM-ALIGNED PROGRAM.

FEAST educates students about healthy eating, food waste prevention, and the vital role we can play in protecting our planet and creating a sustainable future.

This resource is designed for teachers of Year 7 and 8 students, containing a unit of work under Technologies in Design and Technologies and Food Specialisations content of the Australian Curriculum. It also supports the NSW Technology Mandatory Syllabus in Stage 4.

FEAST aims to:

- Raise awareness about the issue of food waste, globally and in Australia.
- Provide resources to inspire teachers to engage students in quality teaching and learning about food waste prevention and how to plan, prepare and cook healthy nutritious food using recipes that help prevent food waste.
- Support schools to implement Food Technologies concepts, content, and processes.
- Educate students in creative food preparation to reduce food waste and design nutritious meals to promote healthy eating and sustainability.
- Enhance food preparation skills, knowledge and cooking techniques in school communities.
- Develop engaging learning programs using an enquiry process aligned to the Australian Curriculum and NSW Syllabus.

OBJECTIVES

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THE FEAST RESOURCES PROVIDE SCHOOLS WITH THE OPPORTUNITIES TO:

- Highlight the importance of tackling food waste from an environmental, economic and social perspective.
- Discover and envision a range of creative solutions to address the real-world problem of food waste.
- Implement food technologies and home economics-related content and processes.
- Encourage students to prepare and cook nutritious and healthy food, creating their own recipes using food that might have gone to waste.
- Explore the work of organisations in Australia fighting food waste.
- Develop food preparation skills and techniques.
- Use project-based learning (PBL) approaches to investigate and respond to a challenge, task, or project.
- Apply thinking skills and develop processes to overcome problems, unfamiliar information, and generate new ideas.
- Dream and consider possible solutions to address food production challenges.
- Design research projects with the goal of reflecting on local actions to ensure sustainable food production, use of resources and waste management.
- Design the steps required to create sustainable solutions for the problems identified.
- Deliver and share creative solutions to real life sustainability challenges.

TACKLING FOOD WASTE

OzHarvest developed the FEAST Program to help tackle the issue of food waste in Australia, to promote better environmental, social and economic outcomes.

The Food and Agriculture Organisation (FAO) estimates the direct economic costs of food waste to be around one trillion US dollars annually, (FAO, 2011; 2019) and as much as 10% of global greenhouse gas emissions are associated with food that is not consumed (UNEP, 2021). Food waste is a global problem, not just because of the quantities that end up in landfill, but also the huge amount of wasted resources – land, water, energy, and labour that goes into producing, processing, and transporting food that is not eaten.

In Australia, we waste 7.6 million tonnes of food each year, costing our economy $36.6 billion. A staggering 2.5 million tonnes of food waste comes directly from our homes, equating to 312kg per capita.

Australia has a national target of halving food waste by 2030, in line with United Nations Sustainable Development Goal 12.3. Educating students is key to fighting food waste and influencing long-term behavioural change.

THE FEAST PROGRAM

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The Unit of Inquiry Lesson Plans cover 10×one hour lessons and include:

- Project-Based Learning Program
- Extra-curricular extension activities
- Teacher and Student Web Portal
- A Professional Learning Program

The Cooking Classes include:

- Teacher practical risk assessment and class preparation information
- Safety and hygiene posters
- Accompanying student recipes and worksheets

A FEAST Kitchen Kit is available for schools without access to kitchen facilities, which includes:

- Mixing bowls, measuring cups, chopping boards and utensils including wooden spoons, tongs, strainer, grater, spatulas and knives
- Six electric frypans

Recipes include:

- Fruit Bites
- Beetroot Dip
- Tzatziki Dip with Vegetable Sticks
- Spaghetti Bolognaise
- Fruit Bites
- Beetroot Dip
- Fast Veggie Fritters
- Taco Salad
- Spanish Pan Omelette
- Quick Pickle Vegetables
- Honey Soy Noodle Stir Fry
- Wholemeal Pita Pizza Pockets
- French Toast
- Hummingbird Muffins
- Too Easy Ricotta
- Pumpkin & Tomato Quiches
- Easy Cheese Frittata
- Poached Eggs in Tomato Sauce

ABOUT THE APPROACH

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FOOD EDUCATION AND SUSTAINABILITY TRAINING

THIS EDUCATIONAL RESOURCE IS A UNIT OF WORK THAT USES AN INQUIRY-BASED AND INTEGRATED APPROACH TO LEARNING. IT HAS BEEN DESIGNED TO BE STUDENT-CENTRED AND INTERACTIVE.

FEAST has a variety of student activities that link to the Australian Curriculum in Technologies - Design and Technologies in Years 7-8 and the NSW Education Standards Authority (NESA) Syllabuses in Technology Mandatory 7-8 and Technology Electives. It also has many opportunities to integrate the Sustainability and Cultures Cross Curriculum Priorities (CCP) and General Capabilities.

The Australian Curriculum states 'Design and Technologies aims to develop the knowledge, understanding and skills to ensure that, individually and collaboratively, students:

- Develop confidence as critical users of technologies and designers and producers of designed solutions.
- Investigate, generate and critique innovative and ethical designed solutions for sustainable futures.
- Use design and systems thinking to generate design ideas and communicate these to a range of audiences.
- Produce designed solutions suitable for a range of technologies contexts by selecting and manipulating a range of materials, systems, components, tools and equipment creatively, competently, and safely; and managing processes.
- Evaluate processes and designed solutions and transfer knowledge and skills to new situations.
- Understand the roles and responsibilities of people in design and technologies occupations and how they contribute to society.

Source: ACARA.

The NESA Technology Mandatory Years 7-8 Syllabus states:

'Knowledge and understanding of technological content is developed through pedagogical approaches, such as project and problem-based learning. Through the production of innovative solutions to contextually relevant problems, students are provided with opportunities to use a variety of thinking strategies, embrace new concepts, and learn through trialing, testing and refining ideas. The practical nature of Technology Mandatory engages students in design and production activities as they develop safe practices and refine skills working with varied materials and production technologies. These authentic learning experiences provide students with a sense of satisfaction and are the foundation for life-long learning.'

(Source: NESA Mandatory Technology Years 7-8 Syllabus page 10)

ABOUT THE APPROACH

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STUDENTS

- Develop practical skills with tools, materials and processes while working safely, independently, and collaboratively on design projects.
- Develop thinking skills when designing and producing digital and non-digital solutions.
- Develop and apply skills in project management and evaluation when designing and producing solutions.

STUDENTS DEVELOP KNOWLEDGE AND UNDERSTANDING OF

- How traditional, contemporary, and advancing technologies are used when designing sustainable products and solutions.
- The role of people and technologies in developing innovative solutions for preferred futures.
- Develop and apply skills in project management and evaluation when designing and producing solutions.

STUDENTS

- Appreciate the contribution and impact of innovation and technologies now and in the future.
- Appreciate the dynamic nature of design and production processes and how they are used to develop solutions to personal, social and global issues.
- Appreciate the finite nature of some resources and the impact of their use on the environment and society.
- Value the development of skills and gain satisfaction from their use to solve problems and create quality products.

(Source: NESA Technology Mandatory Years 7-8 Syllabus page 13.)

EDUCATIONAL APPROACH

DESIGN AND TECHNOLOGIES INVOLVES THE PURPOSEFUL APPLICATION OF KNOWLEDGE, EXPERIENCE, AND RESOURCES TO CREATE PRODUCTS, ENVIRONMENTS, SYSTEMS, AND PROCESSES THAT MEET HUMAN NEEDS.

It involves all the processes in designing and producing useful products, environments, and systems while considering the effects on society and the environment.

The Design process (processes and productions skills strand) in Design and Technologies is a process to create a designed solution that considers social, cultural, and environmental factors and typically involves:

- Investigating and defining
- Generating and designing
- Producing and implementing
- Evaluating
- Evaluate processes and designed solutions and transfer knowledge and skills to new situations
- Collaborating and managing

Source: Adapted from QCAA, page 7.

The emphasis is on providing teachers with ideas and activities that enable the following:

- Provide a supportive classroom environment by valuing what students already know, meeting individual and collective needs, providing scaffolding and supporting all students to be successful.
- Be a resource person by collecting resources and materials, and suggesting strategies for investigation.
- Be a fellow investigator by advising on appropriate investigations, modelling ways of learning and identifying learning opportunities.
- Challenge students' ideas and learning strategies by encouraging further inquiry, providing the stimulus for investigating real life situations, alternative viewpoints and empowering students to investigate and respond to a challenge, task or project (commonly called 'Project-Based Learning').
- Co-evaluate what students know, can do and understand using a range of assessment strategies including self-assessment, and peer assessment, negotiated assessment tasks, learning logs, learning maps, self-assessment, peer assessment, analysis of work, observation, conferencing and collection of relevant work samples for analysis. (Note: The unit of work contains a 'Student Task' which is well suited for assessment as it is the summation of the work undertaken by the students.)

The unit of work has been designed as a sustained sequence of activities based on the content descriptions of the Australian Curriculum identified in Year 7 and Year 8 in Technologies, and/or in the NSW Syllabus in Technology Mandatory Years 7-8.

Teachers are encouraged to select the most appropriate activities for their purposes and adapt, modify, add to, or complement suggested activities with their own ideas to suit the needs of the students.

Digital tools including YouTube videos and apps are utilised in the unit, both for the teacher and students' use with different options for implementing in high, low, and non-technical environments. Teachers' decisions should be based on what technology is readily available in their teaching environment. Students may have many ideas regarding the digital tools they might wish to use in their work samples.

CURRICULUM LINKS

TECHNOLOGIES

The following content descriptions, cross curriculum priority and general capabilities have been incorporated into the unit.

Design and Technologies Knowledge and Understanding

- Analyse how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating AC9TDE8K05
- Analyse how food and fibre are produced in managed environments and how these can become sustainable AC9TDE8K04
- Analyse the impact of innovation and the development of technologies on designed solutions for global preferred futures AC9TDE8K02
- Analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments AC9TDE8K01

Design and Technologies Process and Production Skills

- Analyse needs or opportunities for designing, and investigate and select materials, components, tools, equipment and processes to create designed solutions AC9TDE8P01
- Generate, test, iterate and communicate design 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
- Develop design criteria collaboratively including sustainability to evaluate design ideas, processes and solutions AC9TDE8P04
- Develop project plans to individually and collaboratively manage time, cost and production of designed solutions AC9TDE8P05

Cross-curriculum priorities: Sustainability

SS3 Social, economic and political systems influence the sustainability of Earth's systems.

SW2 World views are formed by experiences at personal, local, national and global levels, and are linked to individual, community, business and political actions for sustainability.

SD1 Sustainably designed products, environments and services aim to minimise the impact on or restore the quality and diversity of environmental, social and economic systems.

SD3 Sustainable design requires an awareness of place, past practices, research and technological developments, and balanced judgements based on projected environmental, social and economic impacts.

General capabilities: Critical and Creative Thinking, Literacy, Numeracy, Personal and Social Capability, and Information and Communication Technology.

CROSS CURRICULUM PRIORITIES: ABORIGINAL AND TORRES STRAIT ISLANDER HISTORIES AND CULTURES

FEAST AIMS TO GUIDE EDUCATORS IN LOCALISING THE PROGRAM TO THEIR COMMUNITY CONTEXT, EMPHASISING CONNECTIONS WITH ABORIGINAL AND TORRES STRAIT ISLANDER STUDENTS, FAMILIES AND COMMUNITIES WHILE ALIGNING WITH CURRICULUM PRIORITIES, AND ENHANCING LEARNING EXPERIENCES.

This component of the Unit of Work has been co-authored with Dream Big Education Wellbeing and Consulting.

To correctly implement local Aboriginal and Torres Strait Islander histories and cultures, ensure you connect with appropriate people including:

- Aboriginal and/or Torres Strait Islander staff at your workplace,
- Local community leaders/Elders/ Organisations, and
- Aboriginal and/or Torres Strait Islander Education/Curriculum Advisors in your jurisdiction.
- Please contact your FEAST coordinator for support with making these connections.

It is recommended that your school:

- Knows and can pronounce the local Country and/or language group name (and any other significant words) where you are working. See here for a map of Aboriginal and Torres Strait Islander Australia.
- Knows and applies any local protocols as advised by your community. For example, understanding any language or terminology that should be used.
- Shows respect for significant Aboriginal and Torres Strait Islander peoples in your community – for example the term Aunty or Uncle may be used to show respect for an Elder. Ask what the appropriate terms are and seek permission to use them.

When working together:

- Genuinely acknowledge your reasons for engaging in this work and developing relationships with community.
- Acknowledge and respect when gender-based rules apply. For example, acknowledging and respecting women's business and men's business, and associated sites of significance,
- Take the time to listen, build relationships and trust when working together. Understand the importance of collective decision making and action in communities and acknowledge advice that arises from this.
- Consult with the community to share local knowledges and abide by the advice provided.
- Recognise the efforts of Aboriginal communities. This can be through advocacy, renumeration and/or support for local initiatives.
- Acknowledge Aboriginal and Torres Strait Islander peoples and communities' intellectual property rights and ensure this acknowledgement is included in any written materials.
- Ask the appropriate people if you are unsure.

CROSS CURRICULUM PRIORITIES: ABORIGINAL AND TORRES STRAIT ISLANDER HISTORIES AND CULTURES

Embedding Aboriginal and Torres Strait Islander Curriculum

The Cross-Curriculum Priority Aboriginal and Torres Strait Islander Histories and Cultures consists of three interconnecting aspects: Country/Place, Culture and People. In each of these aspects there are three organising ideas.

It is suggested that you:

- Identify key concepts in the organising ideas that are best suited to your content area.
- Unpack these concepts and look for connections to local Aboriginal knowledges, histories, cultures, and resources. For example, local plants and foods, seasonal availability and harvesting techniques that could enrich the FEAST program.

➨ Visit the Australian Curriculum website to view the organising ideas and key concepts.

Enhancing Learning Experiences

Learning from Country is a **place-based** pedagogical approach that supports student learning by building a sense of belonging in inclusive learning communities.

It is suggested that you:

- Identify and develop relationships with local Aboriginal and/or Torres Strait Islander organisations by inviting them to participate and share knowledge about locally sourced foods, their use and nutritional value.
- Engage with your local community by inviting them to a FEAST lesson to showcase the work you and the students are doing together and engage in the sharing of local knowledges and cultures.
- Provide students with opportunities to learn from Country by getting out of the classroom and listening to, walking with, and learning from local Aboriginal and Torres Strait Islander community members or Elders on Country.
- Engage with Elders and community by extending invitations to join in an end-of-program celebration. This could involve a shared meal and showcasing student achievement to celebrate success.

This content was co-authored by Dream Big Education Wellbeing and Consulting. To seek further Professional Development training and advice around the cross-curriculum priority of Aboriginal and Torres Strait Islander Histories and Cultures please contact your FEAST coordinator or Kylie Captain & Dr Cathie Burgess at Dream Big Education Wellbeing and Consulting.

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NSW SYLLABUS OUTCOMES

The following outcomes are integrated into the learning sequence in this resource.

DESIGN AND PRODUCTION SKILLS

TE4-1DP designs, communicates, and evaluates innovative ideas and creative solutions to authentic problems or opportunities

TE4-2DP plans and manages the production of designed solutions

TE4-3DP plans and manages the production of designed solutions

KNOWLEDGE AND UNDERSTANDING

TE4-6FO explains how the characteristics and properties of food determine preparation techniques for healthy eating Design and Production Skills

LIFE SKILLS

TELS-1DP communicates ideas and solutions to authentic problems or opportunities

TELS-2DP participates in planning for the production of designed solutions

TELS-3DP participates in the production of designed solutions

TELS-4DP follows safe practices in the use of tools, materials, and processes for design projects

Cross-curriculum priorities: Critical and Creative Thinking, Literacy, Numeracy, Personal and Social Capability, and Information and Communication Technology.

General priorities: Critical and creative thinking, Literacy, Numeracy, Personal and social capability, Information and communication technology capability, Work and enterprise.

Thinking skills: Design thinking and Systems thinking.

WA SYLLABUS OUTCOMES

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Design and Technologies

- The following Year 7 content descriptors have been incorporated into the unit.

KNOWLEDGE AND UNDERSTANDING

- Competing factors, including social, ethical and sustainability considerations, in the development of technologies (ACTDEK029)
- Ways in which products, services and environments evolve locally, regionally and globally (ACTDEK030)
- Production systems for food and fibre or their products, including key features of their design (ACTDEK032)
- Nutritional value and physical properties of food determine preparation techniques and presentation (ACTDEK033)

PROCESSES AND PRODUCTION SKILLS

- Define and break down a given task, identifying the purpose (WATPPS39)
- Consider components/resources to develop solutions, identifying constraints (WATPPS40)
- Design, develop, review and communicate design ideas, plans and processes within a given context, using a range of techniques, appropriate technical terms and technology (WATPPS41)
- Follow a plan designed to solve a problem, using a sequence of steps (WATPPS42)
- Safely make solutions using a range of components, equipment and techniques (WATPPS43)
- Independently apply given contextual criteria to evaluate design processes and solutions (WATPPS44)
- Work independently, and collaboratively when required, to plan, develop and communicate ideas and information, using management processes (WATPPS45)

WA CURRICULUM LINKS

Design and Technologies

- The following Year 8 content descriptors have been incorporated into the unit.

KNOWLEDGE AND UNDERSTANDING

- Social, ethical and sustainability considerations, in the development of technologies and designed solutions, to meet community needs for economic, environmental and social sustainability (ACTDEK029)
- Development of products, services and environments through the creativity, innovation and enterprise of individuals and groups (ACTDEK030)

PROCESSES AND PRODUCTION SKILLS

- Investigate a given need or opportunity for a specific purpose (WATPPS46)
- Evaluate and apply a given brief (WATPPS47)
- Consider components/resources to develop solutions, identifying constraints (WATPPS48)
- Design, develop, evaluate and communicate alternative solutions, using appropriate technical terms and technology (WATPPS49)
- Produce a simple plan designed to solve a problem, using a sequence of steps (WATPPS50)
- Safely apply appropriate techniques to make solutions using a range of components and equipment (WATPPS51)
- Develop contextual criteria independently to assess design processes and solutions (WATPPS52)
- Work independently, and collaboratively when required, to plan, develop and communicate ideas and information when managing projects (WATPPS53)

VIC CURRICULUM LINKS

FEAST™
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Design and Technologies

The following Year 7/8 content descriptors have been incorporated into the unit.

TECHNOLOGIES AND SOCIETY

- Examine and prioritise competing factors including social, ethical, economic and sustainability considerations in the development of technologies and designed solutions to meet community needs for preferred futures (VCDSTS043)
- Investigate the ways in which designed solutions evolve locally, nationally, regionally and globally through the creativity, innovation and enterprise of individuals and groups (VCDSTS044)

TECHNOLOGIES CONTEXTS

- Analyse how food and fibre are produced when creating managed environments and how these can become more sustainable (VCDSTC046)
- Analyse how characteristics and properties of food determine preparation techniques and presentation when creating solutions for healthy eating (VCDSTC047)
- Work independently, and collaboratively when required, to plan, develop and communicate ideas and information when managing projects (WATPPS53)

CREATING DESIGNED SOLUTIONS

- Critique needs or opportunities for designing and investigate, analyse and select from a range of materials, components, tools, equipment and processes to develop design ideas (VCDSCD049)
- Generate, develop and test design ideas, plans and processes using appropriate technical terms and technologies including graphical representation techniques (VCDSCD050)
- Effectively and safely use a broad range of materials, components, tools, equipment and techniques to produce designed solutions (VCDSCD051)
- Independently develop criteria for success to evaluate design ideas, processes and solutions and their sustainability (VCDSCD052)
- Use project management processes to coordinate production of designed solutions (VCDSCD053)

IMPLEMENTING THE UNIT

USING THE UNIT

- The unit can be used in several ways. It will be of most benefit to teachers who wish to implement a sustained sequence of activities in Year 7 and 8 Technologies as described in the Australian Curriculum and/or Stage 4 Technology Mandatory in the NSW Syllabus.

SELECTING ACTIVITIES

- At each stage, several activities are suggested from which teachers are encouraged to select the most appropriate for their purposes. Not all activities in each stage of the unit need to be used. Alternatively, teachers may add to or complement the suggested activities with ideas of their own.

- Some learning activities require food handling and cooking. It is recommended that before commencing these tasks teachers check that students do not have allergies or intolerances to foods being prepared and cooked. Similarly, it is recommended that teachers ensure foods being prepared and cooked are culturally acceptable.

- Teachers may like to consider using this education resource and creating a hyperlinked unit by organising the digital resources for use by the class on a shared website: Google Classroom or Adobe Connect.

RESOURCING THE UNIT

- The resources suggested are general as schools and the availability of resources vary widely – particularly in remote and disadvantaged socio-economic areas.

- There is a strong emphasis in the unit on gathering information and recipes, and on food handling and cooking.

- Students use internet-based resources to discover information and recipes and then design, prepare, and present recipes using food that might otherwise be wasted using a range of cooking and presentation techniques.

- Students also use digital devices to capture and represent stages in the development of their recipes and to provide evidence of their learning.

- Teachers will need to investigate what tools, equipment and technology are available in the school.

IMPLEMENTING THE UNIT

ADAPTING THE UNIT

- While the unit is targeted at Year 7 and 8 students, this is a suggested age range only and teachers are encouraged to modify activities to suit the needs of their students.

- Student resources are identified within units by the following label: 'See Resource Your Design Brief' page 2, 'See Resource Analysis of the Design Brief' page 3, etc.

UNDERSTANDING GOALS (UG)

- The following goals are provided as suggestions for teachers:

UG1 Students have a deep understanding of why it is important to take action on food waste

UG2 Students have an understanding of the behaviours that can reduce food waste in the home and/or at school

UG3 Students have an increased knowledge and understanding of food waste at a local, national and global level

UG4 Students understand where food comes from, and are better equipped to make informed, healthier food choices

UG5 Students have an increased knowledge and confidence to prepare, cook and eat nutritious food in a sustainable manner

VOCABULARY

OZHARVEST FEAST™ FOOD EDUCATION AND SUSTAINABILITY TRAINING

This vocabulary list aims to support differentiated learning with students.

Constraints: Limitations or restrictions.

Considerations: Things that will be considered in deciding or assessing something.

Dehydration: The removal of water from foods.

Ecological Footprint (or Foodprint): A resource accounting tool that measures how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes, taking into account prevailing technology. In order to live, we consume resources from the planet. Every action impacts the planet's ecosystems.

Fermentation: The breakdown of substances by yeast and bacteria.

Food System: A food system includes all the systems, processes and infrastructure involved. For example, growing, harvesting, processing, packaging, transporting, marketing, consumption, and disposal of food and food-related items.

Food Waste: Any food that could have been eaten by people which is wasted or thrown away. Food is wasted every day along the whole food system from growth, harvest, during transportation, in the packaging and manufacturing processes, at supermarkets and above all, in our homes.

Future Thinkers: Individuals who are working towards improving the world we live in. Many amazing future thinkers are working to create a better food system including farmers, chefs, academics, and food activists.

Nutrition: The process of providing nourishing food that contains nutrients.

Nutrients: There are 6 essential nutrients that the body needs to function properly. Nutrients are compounds in foods essential to life and health, providing us with energy, the building blocks for repair and growth and substances necessary to regulate chemical processes. There are six major nutrients: Carbohydrates (CHO), Lipids (fats), Proteins, Vitamins, Minerals, Water.

Pickling: A process in cooking where vegetables are preserved in brine, vinegar, or mustard to preserve and extend the shelf-life of food.

Promotion: An activity that supports or encourages a cause, venture, or aim.

Sustainability: Sustainable patterns of living meet the needs of the present without compromising the ability of future generations to meet their needs. Actions to improve sustainability are individual and collective endeavours shared across local, national, and global communities. They involve a balanced approach to the way humans interact with each other and the environment.

Supply Chain: The system of people and things that are involved in getting a product from the place where it is made to the person who buys it.

ASSESSMENT IS INTEGRAL TO THE ENTIRE UNIT SEQUENCE OF THE PROGRAM. EACH ACTIVITY SHOULD BE REGARDED AS A CONTEXT FOR ASSESSMENT OF STUDENT LEARNING.

When planning and implementing the unit of work, teachers are advised to make clear decisions on what they will focus on in assessing learning. The unit provides an opportunity for a range of skills and understandings to be observed. Teachers are encouraged to devise an assessment plan or use the provided assessment rubric.

In planning for assessment, student growth in the following contexts can be considered:

- Understanding of the topic
- Development of skills
- Exploration and clarification of values
- Specific learning outcomes across Science and Technology
- Use of language in relation to content
- Ability to reflect on learning and to see purposes behind activities
- Ability to use and critically analyse a range of texts
- Ability to work cooperatively with others
- Approach to learning (independence, confidence, participation, enthusiasm)

ASSESSMENT STRATEGIES

Each stage in the inquiry sequence provides information about student learning. There are several strategies used in this unit that are particularly helpful in providing information about what the student knows, what they can do and what they can understand.

ASSESSMENT

The assessment for this unit will be completed in three parts. Students will be required to complete a work folio that contains a series of worksheets and participate in practical lessons where students will prepare food safely and hygienically. They will also be required to form a group to design and produce a 'Fight Food Waste' Promo' relating to the unit 'FEAST'. The following understandings are provided to assist teachers in planning for assessment.

By the end of this unit, students will be able to:

- Understand the role we can play in reducing the volume of good food that is wasted in Australia.
- Understand why it is important to be aware of food waste and its broader impacts.
- Understand what behaviours can help reduce food waste at home.
- Understand how fruits and vegetables can increase our overall health.
- Understand how to prepare, cook, and eat nutritious food in an environmentally friendly way.
- Understand that the Australian Dietary Guidelines highlight the health benefits of consuming different types of food per week for their age group and others.
- Explain how to use food hygiene and safety practices when preparing, cooking, and serving food.
- Explain how to design and prepare recipes using food that might otherwise be wasted.
- Design and create recipes and dishes that can educate others about healthy eating and preventing food waste.
- Use a range of food preparation skills and techniques.
- Describe how the characteristics and properties of food determine preparation techniques and presentation when designing solutions for healthy eating.

RUBRICS

The assessment rubrics provided in this resource for Year 7 and 8 students are the summation of the student tasks. The rubrics provide:

- A common language for discussing student achievement in relation to the tasks undertaken, and
- A means of engaging and communicating student achievement, to the student, parents or caregivers.

THE RUBRIC COLUMNS: LEVELS

The rubric is divided into four levels.

- Level 1: Basic
- Level 2: Sound
- Level 3: Very High
- Level 4: Outstanding

THE RUBRIC ROWS: ASPECTS OF THE TASK

The rubric is divided into rows, with each row representing critical aspects of the student task.

In this learning sequence the Year 7 and 8 students, in groups, are asked to:

- Investigate all the things we can do to produce food for healthy eating and avoid food waste.
- Investigate how food is produced and what food waste is.
- Investigate different ways to prepare meals using food that might otherwise be wasted, how to work with select ingredients, design and create recipes that can educate others about healthy eating and prevent food waste.
- Analyse how the characteristics and properties of food determine preparation techniques and presentation when designing solutions for healthy eating.
- Make a presentation of their work samples.

GROUP WORK RUBRIC

This rubric is designed to specifically evaluate the student's skills in working as a group member.

LEVEL 4	LEVEL 3	LEVEL 2	LEVEL 1
Always prepares well for group work.	Often prepares well for group work.	Sometimes prepares well for group work.	Never prepares well for group work.
Always participates in group work.	Often participates in group work.	Sometimes participates in group work.	Never participates in group work.
Always supports and cooperates with other group members.	Often supports and cooperates with other group members.	Sometimes supports and cooperates with other group members.	Never supports and cooperates with other group members.
Is always open to suggestions.	Is often open to suggestions.	Is sometimes open to suggestions.	Is never open to suggestions.
Always contributes equally to the tasks.	Often contributes equally to the tasks.	Sometimes contributes equally to the tasks.	Never contributes equally to the tasks.
Always finishes work on time.	Often finishes work on time.	Sometimes finishes work on time.	Never finishes work on time.
Always completes work to a high standard.	Often completes work to a high standard.	Sometimes completes work to a high standard.	Never completes work to a high standard.

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OVERALL PROJECT RUBRIC

This rubric is designed to specifically evaluate what has been asked of the students from the scenario presented to the class.

SYLLABUS	LEVEL 4	LEVEL 3	LEVEL 2	LEVEL 1
AC9TDE8K04 AC9TDE8K05 AC9TDE8P01 AC9TDE8P02 AC9TDE8P03 AC9TDE8P04 AC9TDE8P05 TE4-1DP Weighting 20%	A 'Use It Up' Recipe Card that illustrates the steps involved in cooking with foods that might otherwise go to waste has been created with skill.	A 'Use It Up' Recipe Card that illustrates the steps involved in cooking with foods that might otherwise go to waste has been created.	A 'Use It Up' Recipe Card that illustrates the steps involved in cooking with foods that might otherwise go to waste has been partially created.	A 'Use It Up' Recipe Card that illustrates the steps involved in cooking with foods that might otherwise go to waste has not been created.
AC9TDE8K04 AC9TDE8K05 AC9TDE8P01 AC9TDE8P02 AC9TDE8P03 AC9TDE8P04 AC9TDE8P05 TE4-6FO Weighting 20%	A highly detailed Information Sheet explaining the nutritional properties of the ingredients used and how the recipe addresses food waste and a top wasted food has been created. The Information Sheet shows evidence of extensive research of the subject matter including how the characteristics and properties of the ingredients determine preparation techniques and presentation when designing solutions.	A detailed Information Sheet explaining the nutritional properties of the ingredients used and how the recipe addresses food waste and a top wasted food has been created. The Information Sheet shows evidence of research of the subject matter including how the characteristics and properties of the ingredients determine preparation techniques and presentation when designing solutions.	An Information Sheet that explains the nutritional properties of the ingredients used and how the recipe addresses food waste and a top wasted food has been partially created. The Information Sheet shows some evidence of research of the subject matter including how the characteristics and properties of the ingredients determine preparation techniques and presentation when designing solutions.	An Information Sheet that explains the nutritional properties of the ingredients used, and how the recipe addresses food waste and a top wasted food has not been created. The Information Sheet shows limited evidence of research of the subject matter including how the characteristics and properties of the ingredients determine preparation techniques and presentation when designing solutions.
AC9TDE8K02 AC9TDE8K01 TE4-1DP Weighting 25%	The 'Fight Food Waste' promotion successfully markets your top wasted food to the audience. It shows evidence of extensive research of the subject matter.	The 'Fight Food Waste' promotion successfully markets your top wasted food to the audience. It shows evidence of research of the subject matter.	The 'Fight Food Waste' promotion somewhat markets your top wasted food to the audience. It shows some evidence of research of the subject matter.	The 'Fight Food Waste' promotion unsuccessfully markets your top wasted food to the audience. It shows evidence of little research of the subject matter.

RUBRICS

OVERALL PROJECT RUBRIC

This rubric is designed to specifically evaluate what has been asked of the students from the scenario presented to the class.

SYLLABUS	LEVEL 4	LEVEL 3	LEVEL 2	LEVEL 1
AC9TDE8K02 AC9TDE8K01 TE4-1DP TE4-5AG Weighting 10%	The student portfolio showed clear evidence of research and understanding of chefs who have turned foods that might otherwise go to waste into delicious recipes and their contributions as social and environmental change-makers.	The student portfolio showed evidence of research and understanding of chefs who have turned foods that might otherwise go to waste into delicious recipes and their contributions as social and environmental change-makers.	The student portfolio showed some evidence of research and understanding of chefs who have turned foods that might otherwise go to waste into delicious recipes and their contributions as social and environmental change-makers.	The student portfolio showed little evidence of research and understanding of research and understanding of chefs who have turned foods that might otherwise go to waste into delicious recipes and their contributions as social and environmental change-makers
Literacy Critical & creative thinking Weighting 10%	Highly coherent and comprehensive design and layout of work samples to clearly communicate information.	Coherent and comprehensive design and layout of work samples to communicate information.	Somewhat coherent design and layout of work samples to partially communicate information.	Incoherent design and layout of work samples and does not communicate information clearly.
Critical & creative thinking Weighting 5% ICTs Weighting 5%	The 'Fight Food Waste' Promo presentation was communicated with a logical flow and without pauses.	The 'Fight Food Waste' Promo presentation was communicated with a mostly logical flow and with few pauses.	The 'Fight Food Waste' Promo presentation was communicated with a somewhat logical flow and with some pauses.	The 'Fight Food Waste' Promo presentation was communicated with little logic and frequent pauses.
Literacy Weighting 5%	The student answered all questions clearly and accurately.	The student answered most questions clearly and accurately.	The student answered some questions clearly and accurately.	The student answered a few questions clearly and accurately.

LEARNING PROCESS RUBRIC

This rubric is designed to specifically evaluate how students have engaged with the learning activities.

LEVEL 4	LEVEL 3	LEVEL 2	LEVEL 1
A clear definition of the task was provided.	A somewhat clear definition of the task was provided.	A basic definition of the task was provided.	A definition of the task could not be provided.
Research was completed with no prompting.	Research was completed with minimal prompting.	Research was completed with some prompting.	Research was completed with significant prompting.
A clear visualisation of the recipe(s) that can be created using food that might otherwise be wasted was provided.	A mostly clear visualisation of the recipe(s) that can be created using excess, leftover and/or rescued food was provided.	A somewhat clear visualisation of the recipe(s) that can be created using excess, leftover and/or rescued food was provided.	No clear visualisation of the recipe(s) that can be created using excess, leftover and/or rescued food was provided.
An extremely clear plan of the recipe(s) that can be created using food that might be wasted was provided.	A very clear plan of the recipe(s) that can be created using excess, leftover and/or rescued food was provided.	A mostly clear plan of the recipe(s) that can be created using excess, leftover and/or rescued food was provided.	A somewhat unclear plan of the recipe(s) that can be created using excess, leftover and/or rescued food was provided.
The recipe(s), procedure(s) and labelled drawing(s) were produced exceeding the required elements and with a logical flow with clear illustrations.	The recipe(s), procedure(s) and labelled drawing(s) were produced with all of the required elements and with a mostly logical flow with mostly clear illustrations.	The recipe(s), procedure(s) and labelled drawing(s) were produced with the minimum number of required elements and with a somewhat logical flow and some illustrations.	The recipe(s), procedure(s) and labelled drawing(s) were produced with less than the minimum number of required elements and with little logic and minimal illustrations.

SOME QUESTIONS AND POSSIBLE ANSWERS

How does the FEAST program address the Australian Curriculum outcomes and NSW Technology Mandatory syllabus?

- The FEAST content enables students to understand how properties of foods determine preparation and presentation techniques when designing solutions for healthy eating. AC9TDE8K05
- The FEAST content enables students to analyse the impact of innovation and the development of technologies on designed solutions for global preferred futures. AC9TDE8K02
- Within the FEAST program students also analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments. AC9TDE8K01
- Students use the following Design and Technologies Process and Production skills:
  - Analyse needs or opportunities for designing, and investigate and select materials, components, tools, equipment and processes to create designed solutions AC9TDE8P01
  - Generate, test, iterate and communicate design 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
  - Develop design criteria collaboratively including sustainability to evaluate design ideas, processes and solutions AC9TDE8P04
  - Develop project plans to individually and collaboratively manage time, cost and production of designed solutions AC9TDE8P05
- Students are required to design an OzHarvest inspired 'Use It Up' Recipe Card, an Information card and a creative promotion to be shared at a 'Fight Food Waste' Promo.
- When applying the process of "Design and Production", students engage actively with real world solutions and use technological skills, knowledge and understanding to create solutions to reduce food waste.
- Through questioning and seeking solutions to problems, students develop an understanding of the relationship between food science and technology, and the significance of their contribution to and influence on society and our natural world.
- Students actively engage with real world solutions and use technological skills, knowledge and understanding to create solutions to reduce food waste, ensuring that all Australians have a sustainable future.

SOME QUESTIONS AND POSSIBLE ANSWERS

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- This unit addresses the cross-curriculum priorities of Sustainability, as well as several general capabilities.

Should all the activities be undertaken?

- The program is adaptable to suit your needs. You can run the unit for several weeks to a term, depending on your school's circumstances.

What about differing tastes and eating preferences?

- Encouraging children to eat healthy food is a global priority. People can have different views about eating certain foods. It is suggested that where students are vegetarian, pescatarian or vegan, they can choose to explore, cook and create recipes that use fruit and vegetables, and understand the importance of eating them to grow and be healthy.

I do not know much about food waste in Australia or cooking with food that might otherwise be wasted – will I be able to teach it effectively?

- Yes! The unit is designed in such a way that the teacher is a co-learner and teachers are provided with teacher notes. In addition, the resources are mainly web-based and are readily available. Most importantly, teachers will find that they learn along with the students and make discoveries with them.

FACT SHEET 1
FOOD WASTE

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FOOD WASTE OCCURS WHEN ANY FOOD THAT COULD HAVE BEEN EATEN BY PEOPLE, IS WASTED OR THROWN AWAY. FROM THE FARM TO THE PLATE, EVERY STEP OF THE MODERN-DAY FOOD CHAIN SEES FOOD BEING LOST, SPOILED, OR THROWN AWAY. FOOD WASTE OCCURS ACROSS THE ENTIRE SUPPLY CHAIN; ON FARMS, MANUFACTURING, TRANSPORTATION, SUPERMARKETS, INSTITUTIONS, HOSPITALITY AND FROM OUR HOMES.

Global Food Waste Facts:

- There is enough food produced in the world to feed everyone.
- One third of all food produced is lost or wasted –around 1.3 billion tonnes of food – costing the global economy close to $940 billion each year.
- Up to 10% of global greenhouse gases comes from food that is produced, but not eaten.
- Food rotting in landfill releases methane – 28 times stronger than carbon dioxide.
- Almost half of all fruit and vegetables produced are wasted (that's 3.7 trillion apples).
- Throwing away one burger wastes the same amount of water as a 90-minute shower.

Australian Food Waste Facts:

- In Australia, we waste 7.6 million tonnes of food each year, 70% of which is perfectly edible.
- Food waste costs our economy $36.6 billion a year.
- Majority of food waste in Australia comes from our homes (2.5 million tonnes).
- Food waste costs households $2,000 - $2,500 per year.
- The top five most wasted foods in Australia are vegetables, bread, fruit, bagged salad, and leftovers.

Source: www.ozharvest.org/fight-food-waste

FACT SHEET 2
FOOD AND OUR ECOLOGICAL FOOTPRINT

ECOLOGICAL FOOTPRINT (OR FOOD PRINT) IS A RESOURCE ACCOUNTING TOOL THAT MEASURES HOW MUCH LAND AND WATER AREA A HUMAN POPULATION REQUIRES TO PRODUCE THE RESOURCES IT CONSUMES AND TO ABSORB ITS WASTES, TAKING INTO ACCOUNT PREVAILING TECHNOLOGY. IN ORDER TO LIVE, WE CONSUME RESOURCES FROM THE PLANET. EVERY ACTION IMPACTS THE PLANET'S ECOSYSTEMS. [1]

We often do not realise the true cost of producing food and the impact it has on the environment. Did you know that 51% of land in Australia is used for livestock grazing to produce the meat we eat and 37% for growing crops - making up almost 35% of Australia's ecological footprint?' [2]

Our ecological footprint is influenced by what we eat, how food is produced, how far it has travelled, how it is packaged, prepared, and cooked, the portion size and how much is wasted.

Wasting food wastes everything – valuable land, water, energy, resources, and money. Our everyday actions can make a difference to reduce our ecological footprint at home by:

- Not wasting food
- Choosing food that is locally grown
- Buying seasonal produce
- Selecting food with less packaging
- Buying less processed foods
- Composting the food that cannot be eaten
- Avoiding single use plastic cutlery, cups and plates
- Using energy efficiently for cooking

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