YEAR 7

How does food waste harm the environment and what can we do to prevent it?

LESSON OVERVIEW

This lesson has been developed to build student understanding of various strategies that help reduce food waste. They will investigate the effects of food waste on the environment, in particular the release of greenhouse gases. Students will research the food waste hierarchy model in developing and developed countries and present the strategies large corporations and other countries are implementing to prevent food waste in landfill. Please note, the subsequent research, developing presentations and sharing of findings will extend beyond this initial lesson.

LEARNING INTENTION

Students will:

- Discuss food waste prevention strategies for households and sustainable practices
- Investigate the food waste hierarchy model and the effects of food waste on the environment and climate change
- Research what large corporations and other countries are doing to reduce and prevent food waste

RESOURCES

- Interactive whiteboard with internet connection
- Laptops, computers and/or tablets
- Whiteboard/butcher's paper for recording

ASSESSMENT

- Monitoring understanding throughout class discussion and questioning
- Collecting work samples
- Teacher feedback

DIFFERENTIATION

Support: Teacher scaffolds tasks and questions to suit student ability, students work with others and adults to complete tasks

Structured: Use small group instruction to help support students complete their research and create worksheet

Extension: Students complete task independently, expanding their investigations and choosing more complex methods for presentation

AUSTRALIAN CURRICULUM LINKS

Science

Science Understanding - Some of Earth's resources are renewable, including water that cycles through the environment, but others are non-renewable **(ACSSU116)**

HASS

Geography- The nature of water scarcity and ways of overcoming it, including studies drawn from Australia and West Asia and/or North Africa **(ACHASSK185)**

Design and Technologies

Investigate the ways in which products, services and environments evolve locally, regionally and globally and how competing factors including social, ethical and sustainability considerations are prioritised in the development of technologies and designed solutions for preferred futures **(ACTDEK029)**

LESSON INTRODUCTION - 5 MINUTES

1. Discuss the concept of wasting food – that is food waste that is discarded but should have been eaten. Ask students to reflect on their household bins and how much food waste is being thrown out each week. Ask them to estimate how much food waste is created by restaurants and supermarkets each week or year.
2. Students brainstorm strategies families and households can implement to reduce food waste. Read the 'Six steps to reducing food waste at home' on the Love Food Hate Waste NSW website. **www.lovefoodhatewaste.nsw.gov.au/at-home/six-steps-reducing-food-waste-at-home**

MAIN BODY OF TEACHING - 30 MINUTES

3. Discuss some solutions to minimise food waste in businesses such as restaurants, cafes and supermarkets. Read the 'Ways to reduce business food waste' on the Love Food Hate Waste NSW website **https://www.lovefoodhatewaste.nsw.gov.au/in-business/ways-reduce-business-food-waste**
4. Ask students to list the environmental effects that food waste creates and record on a whiteboard or butcher's paper. Examples include; land fill, waste of resources like soil, water, energy, waste of water and energy to process landfill and methane produced from landfills. **https://sustainability.unsw.edu.au/sites/all/files/page_file_attachments/WEDay_UNSW_2013_poster.pdf**
5. Explore packaging options that reduce harm to the environment and can keep food fresh for longer. For example, wrapping in beeswax wrap. Consider the food storage options people had before plastic became commonplace in retail (plastic bags, cling wrap, ziplock bags). A good example to explore is how Indigenous Australians used paper bark to preserve and store their foods for longer - **http://museum.wa.gov.au/explore/intertwined/paperbark-water-carrier** and **http://tasteaustralia.biz/bushfood/paperbark/paperbark-recipes/**
6. Ask students whether they think food waste has an effect on climate change. Read the information on the Environmental Impacts page of Love Food Hate Waste Victoria website **www.lovefoodhatewaste.vic.gov.au/About-your-food/Environmental-impacts** and 'What's food loss and waste got to do with climate change? A lot, actually' on the World Resources Institute website at **www.wri.org/blog/2015/12/whats-food-loss-and-waste-got-do-climate-change-lot-actually** and discuss findings and impacts.
   Examples of further resources to explore include - **https://www.wfp.org/climate-change/climate-impacts** and **http://www.environment.gov.au/protection/waste-resource-recovery/publications/national-food-waste-strategy**
7. Investigate the food waste hierarchy model on the NSW EPA website at **www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/the-waste-hierarchy**. Discuss the actions at each level – avoidance, resource recovery, and disposal. Watch the following short video to learn more about the benefits of recycling food waste - **https://www.epa.nsw.gov.au/working-together/grants/organics-infrastructure-fund**
8. Ask students to work in groups reviewing one area of the hierarchy model; either avoidance, resource recovery or disposal. Research the positive and negative impacts of each level and what foreign countries and national corporations are doing to prevent food waste in that particular area. This can include governments, supermarket chains, not for profit organisations, charities, agricultural businesses, trade and industry. Students can research issues such as weekly food consumption, recycling, food security and donation, landfill, composting, water usage.

FOLLOW UP LESSONS

Students continue to research and take notes, creating a presentation to their peers of what they have found, reflecting on impacts, successes and relevance to Australia. Students can choose their presentation format.

PLENARY - 10 MINUTES

9. Students share presentations with their peers, discussing what they have found about the global approach to preventing food waste and the positive and negative results of managing food waste in one of the three hierarchical levels – avoidance, resource recovery and disposal.

HOME ACTIVITY / EXTENSION TASK IDEAS

FOR HOME

Students continue researching countries, governments and corporations regarding the prevention of food waste and create a digital presentation.

EXTENSION

Watch the videos about businesses and restaurants making changes to prevent food waste on the NSW EPA YouTube Channel, the Love Food Hate Waste playlist.
www.youtube.com/playlist?list=PLI3o2BIofNT9LkPtpF2QO4DVgolUBviuW