

Go 4 Green & Smart

Introduction

This unit of work is an adaptation of two units devised by members of HEIA Inc, titled "Eating Green" which incorporates themes of social justice and values. (Ref: Eating Green – *Inform HEIA* (Q) Newsletter June 2008, *Building Values Across the Whole School: a resource package* Curriculum Corporation/DEST 2007). As part of the work undertaken by CEASA and HEIA(SA) to support Consumer Literacy across the curriculum, the unit was presented to workshops during April 2009 and trialled with a year 10 class at Aberfoyle Park High School. Please use the outline as a springboard for your own ideas and situation

Unit Description

Eating Green and *Food Footprint* are terms used in association with behaviours and practices related to the production, distribution, preparation and consumption of food that reduces environmental impact.

This unit topic is planned for year 9 / 10 students taking Home Economics - Food Technology over a period of approximately 10 weeks. Students will research the impact of their food choices on the environment and investigate strategies appropriate to their situation. They will devise actions, work collaboratively and take action, then reflect on their progress and learning.

The unit aims to:

- equip students to think critically about the suitability of their food behaviours, and apply problem solving skills to make informed consumer decisions (CFL Dimension: Understanding, Competence)
- develop understanding and application of the values of responsibility, care, respect and integrity especially with regard to the appropriateness of financial decisions and their consequences for themselves, others and the environment. (CFL Dimension: Understanding & Enterprise)

SACSA Outcomes

HPE: Health of Individuals and Families 5.6 Students assess their own values, attitudes and behaviour, critically analyse consequences and interrelationships that affect the health of communities. They develop a critical but positive and responsible approach towards factors that influence their quality of life. [F] [T] [KC1] [KC6]

D & T: 5.2 Independently generates and manages design strategies to create ethically defensible products, processes and systems. [Id] [In] [T] [KC3] [KC6]

D& T 5.6 Integrates principles of good resource management and duty of care when creating sustainable products, processes and systems and assembles effective arguments to defend these principles. [Id] [In] [C] [KC2] [KC3]

Curriculum Framing Questions

Curriculum- Framing Questions	Essential Question
	How important are food choices to environmental sustainability?
	Unit Questions
	Why should individuals be concerned about their food footprint? How can individuals and families affect their food footprint?

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Content Questions

What does food footprint mean? What affects the size of a person's food footprint?

What can people do to reduce their food footprint?

Content Questions cont.

What resources are used to manage food choices?

How can individuals and families – reduce waste, conserve energy, reduce water consumption.? What are the benefits for individuals and families of reducing resource consumption?

Support Materials and References

"Why food is important to our ecological footprint" **Inform**, HEIA (Q) Newsletter June 2008

"How big is your Ecological Footprint?" Quiz by Dr Sandra G Taylor, University of Adelaide 2004, as reproduced in DECS - Xtra

"Points of view: food miles and eating green" **Resource sheet 3: Eating Green - Teaching and Learning Units - Values for Australian Schooling**, Commonwealth of Australia

G Magazine – Green Living Made Easy (Monthly magazine) Luna Media, www.gmagazine.com.au

Websites: www.ecofoot.org.au

www.sustainableliving.sa.edu.au

www.epa.vic.gov.au/greenhousecalculator

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Part A: How big is my food footprint?

Outcomes: To identify and take action to reduce environmental impact of food choices.

Complete all written activities in your workbook / folder

1. Introduction: Discuss the impact of food on our ecological footprint. (see hand out for ideas and themes) Ref: www.ecofoot.org.au; www.sustainableliving.sa.edu.au; www.epa.vic.gov.au/greenhousecalculator
Complete the quiz on "How big is your ecological footprint?" Calculate the size of your current food footprint.
2. Class discussion: Use the **Social Enquiry Model** as a framework to examine possible viewpoints, values and practices adopted by different groups of people in relation to reducing food footprints.
3. Students: Record your food intake for 1 week in a food diary.
Analyse your food choices by highlighting the foods which are low on the food chain, local, seasonal and minimally processed. (Hint: use a different colour for each descriptor)
From the data, make some generalisation about your food choices and their effect on your food footprint.
Compare your data with others in the class. What values are evident?
4. Class Activity & Research: Visit a supermarket, check the foods on display and "brainstorm" a list of foods available which are low on the food chain, local, seasonal, minimally processed and packaged, fair trade or sustainably produced.
5. Practical Activity: Compare the packaging, portion size, cost, aesthetic qualities and food footprint value of a range of highly processed, main course meal component products with their home made equivalent.
6. On the **Reducing my food footprint** table (next page), identify several specific actions that you believe you would be able to take to help reduce your food footprint for each of the main strategies. Set goals and plan to achieve these at school and / or home for home work over the next few weeks.
7. In your group,
 - a. Select a minimum of 5 specific actions from column 2 of the **Reducing my food footprint** table. Investigate the nutritional impacts of making these changes and use them to plan, prepare and evaluate a meal that is both healthy and environmentally responsible. (see separate handout)
 - b. Organise to prepare your meal at school. The budget for your meal is \$5.00 per serve. Submit a food order and negotiate which ingredients you need to supply yourself.

The assessment criteria for the practical demonstration will be:

- a) Ability to defend the choice of ingredients and management strategies
- b) Application of environmentally friendly practices in the management of resources- choice of ingredients, time, energy, space, waste

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- c) Food preparation skills
- d) Sensory assessment qualities of the final product

8. Show the costing per serve for your meal from task 7 in a table like the one following. As a practice, calculate the total cost of a current meal (hint: You may need to visit a supermarket or use the internet) The first row is filled in as an example

Recipe Name:

No. of Serves:

Ingredient	Amount	÷ Unit Size	× \$ Cost per Unit	= \$ Cost per recipe
Milk	250 ml	1000ml	1.65	\$0.41
			Total Cost	
			Total Cost per serve	

9. Evaluate your meal and the strategies used to reduce your food footprint. Have the actions had an effect on the cost of the meal? Explain your answer.
10. Reflect on what you have learnt in this topic and what it has taught you about yourself, how you learn and what you value.

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Go 4 Green & \$mart.... Reducing My Food Footprint

For each of the practices in column 1, suggest several specific actions you could take and write these in column 2. The first one has a suggestion to help give you ideas.

Column 1: Environmentally friendly strategies	Column: Specific actions I could take
Buy food that is locally produced	e.g. purchase fruit and vegetables from a local farmers market
Plant a garden and grow your own fresh produce	
Avoid heavily processed food	
Eat food in season	
Buy Organic food	
Choose foods that have no or minimal packaging	
Drink tap water instead of bottled water	
Eat less meat and more plant based foods	
Don't waste food	
Choose foods that do not use a lot of water in their production	
Compost kitchen waste and garden cuttings	
Buy Fair trade food and drink	
Buy sustainable fish	
Get involved in community garden projects	
Lobby the school to make organic / fair trade food available in the canteen	

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Part B: Growing green

Students work in teams to design and produce a food product grown by the team.

1. From the selection identified in class, choose an edible plant to grow at school in the school garden. Research and report on the following information about this plant (include illustrations)
 - a) growing requirements.. sunlight, water, soil type, fertilisation needs etc
 - b) care & treatment during growth
 - c) suggested uses in food preparation
2. Work in a team to manage and be responsible for your plants during the growing time.
3. Maintain a visual diary of your experiences ie sketches, diagrams, photos, samples
4. When the plant is ripe, harvest and use the produce in a group enterprise.
eg prepare a shared meal for paying customers; sell the produce at a local venue; produce a saleable item which is made from the produce for sale at the canteen or fund raiser
5. Calculate the cost of growing and producing the product compared to purchasing it from the supermarket. Account for all resources used in growing the produce.
6. Reflect on the value of growing your own produce in terms of time, effort, environmental impacts, results, costs, satisfaction etc.
7. Produce a 5 minute presentation of the group product for the rest of the class

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Aberfoyle Park High School

Year 10 Food Technology

2009

Practical Assessment

Name:

This assessment task is designed to enable you to demonstrate decision-making, management and food skills that you have developed during the course of this unit.

The task: In a group of four, design a food product which includes produce from your school garden project.

Group members:

Your food product needs to:

- demonstrate a range of food preparation skills and processes
- apply food choices and strategies to reduce food footprints
- be cost effective
- be completely prepared within the available time frame
- reinforce healthy eating guidelines

Product chosen: (Attach a copy of all recipes for the group)

You now need to:

1. Defend your product, referring to the previous conditions plus any other factors which have affected the group choices.

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Self Evaluation

Name:

How could the product have been made more cheaply?

What was challenging about organising the product?

What parts did your group do well?

How could your group improve its organisation?

What strategies were applied by your group to

- a) Reduce food waste
- b) Use energy efficiently
- c) Keep food safe
- d) Manage bench space effectively
- e) Use equipment appropriately
- f) Present the food well
- g) Clean up effectively

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Teacher Assessment

Student:

Assessment Criteria

Level of Achievement

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Planning of the product to meet requirements:

- demonstrate a range of food preparation skills and processes
- apply food choices and strategies to reduce food footprints
- be economical
- be completely prepared within set time frame
- reinforce healthy eating guidelines

Group cooperation and decision-making

Effective group workspace organisation

Strategies applied by the group to:

- Reduce food waste
- Use energy efficiently
- Keep food safe
- Manage bench space effectively
- Use equipment appropriately
- Present the food well
- Clean up effectively
- Time management

Overall Achievement:

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Processed Foods Comparisons

Name: _____

Food Prepared: _____

Other Group Members: _____

Criteria for Comparisons	Processed Food Version	Home Made Version
Packaging generated by all meal components		
Ingredients needed		
Portion size : - volume - weight (g)		
Cost per serve (show calculations)		
Sensory Assessment:	Circle 1= dislike 5 = like a lot	Circle 1= dislike 5 = like a lot
Aroma	1 2 3 4 5	1 2 3 4 5
Appearance	1 2 3 4 5	1 2 3 4 5
Taste	1 2 3 4 5	1 2 3 4 5
Texture	1 2 3 4 5	1 2 3 4 5
Food Footprint value (low – high low is best)	<div style="display: flex; justify-content: space-around; width: 100%;"> Low Medium High </div> Local Low on food chain Seasonal Degree of processing	<div style="display: flex; justify-content: space-around; width: 100%;"> Low Medium High </div> Local Low on food chain Seasonal Degree of processing

Results:

Conclusion: