

Lesson 2 – ‘Food Kilometres’

In this activity students will learn about the resources used, and the distances that food travels around the world, hence the importance of not wasting food.

Meets Maths AMCNA098 Identify and describe factors and multiples of whole numbers and use them to solve problems

Health and Physical Education ACPMP067 Participate positively in groups and teams by encouraging others and negotiating roles and responsibilities

Design and Technologies ACTDEK021 Investigate how and why food and fibre are produced in managed environments and prepared to enable people to grow and be healthy

HASS ACHASSK120 Types of resources (natural, human, capital) and the ways societies use them to satisfy the needs and wants of present and future generations

HASS ACHASSK121 Influences on consumer choices and methods that can be used to help make informed personal consumer and financial choices

Sustainability OI.1-OI.9 All life forms are interconnected and actions for sustainability require evaluation of past practices and balanced judgements based on future economic, social and environmental impacts

You will need

- A classroom with potential to ‘spill out’ to an outdoor area. Alternatively, a large room or school hall.
- Photocopies of Lesson 2 Worksheet (below), one copy for each five students.

Method

Divide the class into groups of 5 students.

Hand out the Lesson 2 Worksheet (below on page 16), one worksheet for each group.

By filling out only column 2, ask each group to prepare a realistic, healthy food budget for a week for a (fictitious) family of four people, choosing a selection of food items based on the ingredients in the worksheet. Encourage the students to only ‘buy’ what their ‘family’ needs. In column two, write the number of items (e.g. write ‘2’ for 2 bags of apples).



Then, the teacher can read aloud the following script:

Up to 40% of each person’s carbon footprint is made from growing, producing, transporting, manufacturing, packaging and retailing of food by the global, industrial food economy. Most of the food we eat every day has travelled some 1,500-2,000 kilometres to reach our plates, which uses an enormous amount of fossil fuel just for transport.

Also, the growing of food on an industrial scale requires huge amounts of artificial fertilisers, pesticides, insecticides and other inputs like petrol or diesel that run huge machines such as harvesters.

Pose some questions for the class, such as: How does food get to the supermarkets? (e.g. by vehicles using oil, petrol, diesel). What effect does the use of oil and petrol have on the environment? (e.g. fossil fuel depletion, carbon emissions, greenhouse gas, leading to climate disruption).

Read aloud the following script:

Research by Melbourne’s CERES community environment park found that the average Australian shopping basket of 29 household food items travels a total of 70,803 kilometres. Of those, 21,073 kilometres (almost the distance around Australia’s coastline) are travelled by road and the greenhouse gases generated on any given day are equivalent to 2,830 cars driving for an entire year. Approximately 80% of the energy used is in the production of food and 20% of the energy used is in transport.

<https://ceres.org.au/wp-content/uploads/pdfs/Resources/CERES-Farm-Food-Miles-Report-2007.pdf>

Ask the students to calculate (in column 4) of the Lesson 2 Worksheet the 'food kilometres' related to everything in their shopping list (e.g. *1 bag of apples x 2 per week = 112x2= 224km*). Students then add up all the kilometres to come up with a grand total.

Allowing 15 minutes, every group should collectively physically step out one pace/step for every kilometre that the group accumulated. For example, if the group total 'shopping list' was 63,000 kilometres, the group should collectively step out 63,000 steps. Allow a minute or two for the groups to work out how they are going to do this activity. (*Hints: some children might like to step out 1,000 then add this to total, counting in tens, then hundreds. One student might like to be a 'counter' for the team. Some students could step out the food kilometres of one food type at a time, such as carrots. As this could be a noisy activity, you may like the students to go to the oval or school hall to do this. HINT: Quick shuffling steps are good.*)

After the 15 minutes has lapsed, stop the activity and discuss, as a class. What did the activity make the students realise? Was it hard to count and add all the steps? Look at the processed/packaged foods with many ingredients from around the world, like chocolate. Compare the 'food kilometres' of raw food versus processed food.



Ask the students the following questions, as a group.

1. How can we reduce food kilometres? (e.g. *buy locally grown food, eat food in season, reduce processed and packaged food*)
2. If you go to your local food shop and buy local food, who benefits? (e.g. *local producers, farmers*)
3. What are some foods we 'need' versus food we 'want'?
4. If there was political unrest, illness or natural disasters in other countries, what might happen to our food supply? (e.g. *that could affect the food supply chain*)
5. Why should we reduce 'food kilometres'? (e.g. *to reduce emissions of carbon dioxide and other greenhouse gases*)
6. What happens when we waste food? (e.g. *the energy and environmental impacts that went into growing, harvesting, processing and transporting the food are wasted*)
7. Have any students heard about the rotting of food in landfill and how it releases methane? Does anyone know the environmental impacts of methane? (e.g. *methane is 25 times more powerful as a greenhouse gas than carbon dioxide. So, food waste can contribute to global warming and climate change*)

Challenge your students to think of some of the fresh produce grown and made in Tasmania. The list could include:

- **Cherries**
- **Apples**
- **Meat (beef, lamb, pork, chicken)**
- **Pears**
- **Blueberries**
- **Raspberries**
- **Strawberries**
- **Potatoes**
- **Lettuce**
- **Peas**
- **Cabbage & Cauliflower**
- **Carrots**
- **Milk**
- **Cheese**
- **Grapes/Wine**
- **Honey**
- **Seafood**

These are grown for local, national and international markets.

Lesson 2 Worksheet

Adapted from Gaballa, S and Abraham, A (2007) Food Miles in Australia: A Preliminary Study of Melbourne, Victoria, CERES Environment Park <https://ceres.org.au/wp-content/uploads/pdfs/Resources/CERES-Farm-Food-Miles-Report-2007.pdf>

Food type	No. of items per week (for 4 people)	Kilometres	Total = No of items x kilometres
1 bag of 12 apples	e.g. 2	112	e.g. 224
1 bag of 12 oranges		567	
1 hand of 12 bananas		2,746	
1 bag of 12 carrots		311	
1 lettuce		54	
1 bag of 12 potatoes		155	
1 pack instant noodles (6 serves)		582	
1 loaf of bread		486	
1 chicken		93	
1 salami		25,165	
1 roast beef		298	
1 dozen eggs		134	
1 tin baked beans		3,132	
1 box cereal		886	
1 kg rolled oats		539	
Tea (25 tea bags)		8,259	
Orange juice 2 litres		2,024	
1 block chocolate 250g		13,174	
			Total 'food kilometres'km

Note: 'food kilometres' for salami and chocolate are correct: 25,165 km and 13,174 km respectively