

Investigating Where Our Food Comes From

Subject(s) Basic Science, Agricultural Science, Social Science

Year(s) 9–10

Learning Intention(s)

Students develop an understanding of the physical properties of soils, including structure, texture, bulk density and levels of air and water in the soil.

Curriculum links

Basic Science

Strand: S9.1 and 10.1 Things and the Environment

AS 9.3 and AS 10.3 Agronomy

Sub-strand: 9.1.2 Living Together

Learning Outcome(s)

- 9.1.2.2 Explore the wide variety of organisms in the ecosystem and show their interdependence as a means of survival.
- 9.1.2.3
- Explain the types of interactions which occur between living things and with their physical environment for survival

Agricultural Science

Strand: AS 9.3 and AS 10.3 Agronomy

Sub-strand:

9.3.2 Horticulture

10.1.1 General Agriculture

Learning Outcome(s)

- AS 10.3.2.1 Demonstrate cultivation practices on selected vegetables.
- 10.1.1.3 Recognise the importance of farming towards sustainable agriculture.

Social Science

Strand: SS 9.3 and 10.3 Place and Environment

Sub-strand: 10.3.1 Geography of Fiji

Learning Outcome(s)

- 10.3.1.1 Investigate the main features of physical geography and illustrate how they determine land use to maximise productivity.
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Teaching Activity

Note: This activity is adapted from Ingrid Schudel (2022), 'Food and Farming,' in *Sustainability Education: A Classroom Guide*, pp. 141–144

Time estimate

2 x 60-minute sessions

Materials required

- Samples or pictures of a range of locally grown or locally processed foods (foods that students are familiar with). Pictures should also include informational panels on the packaging that shows the origin and ingredients of the food.
- Internet access, if available
- 'Organic Farming Team Research' handout – print 1 per group
- Butchers paper – 1 sheet per group

Key vocabulary

- Organic
- Processed
- Food miles
- Packaging
- Transportation

Engage: Introducing the concept of food origins

1. Explain that for this activity, they will learn about organic and inorganic (processed) foods to gain an awareness of different food sources and the ways that certain foods are produced.
2. Ask students to write briefly about these questions:
 - *What kinds of foods make up your favourite meal? List the main foods and identify their sources. For example: taro from the family garden, instant noodles from the shop, fish from the sea or fish market.*
 - *Describe how you feel when eating this particular meal (full/satisfied/happy). Is it easy or difficult to tell where your food has come from? Why is it important to know where the food comes from?*
3. Have students share their responses in small groups or with the class. Use these examples to explain the words from the 'Key vocabulary' list: organic, processed, packaging, transportation, food miles. If you have access to the internet, you may wish to use these links for more information about food miles:
 - BBC Bitesize [What are food miles and why are they important?](#)
 - FoodMiles.com [Food miles calculator](#)
 - Kids.Earth.Org [What is organic farming?](#)

Explore: Investigating the origins of favourite food

4. **Show** students a selection of foods brought to the classroom or **display** photos of foods. (If photos are used, ensure they include the ingredients list and place of origin of the foods.)
Provide a range of foods including processed foods (e.g. instant noodles, biscuits, chocolate, canned fish and meat) or locally grown foods (e.g. taro or corn) or fresh fruit from overseas (e.g.

apples from Australia, kiwifruit from New Zealand). Try to select items that the students might eat at home.

5. **Organise** the students into pairs. Each pair selects two foods they love to eat and carries out the following research tasks:
 - o the country where each item originated from
 - o the different components of the food
 - o possible reasons why the food is not produced locally
 - o problems that might arise if people only eat locally grown foods, such as cost of food, and health and environmental impacts

Where possible, use food packaging or wrapping to work out the different food components and to determine how far the item has travelled to reach them.

If you have access to the internet, students can use the [Food miles calculator](#) to determine the food miles of their chosen foods.

6. Ask some of the pair groups to present their findings to the whole class.

Explain: Why food origins matter

Lead a class discussion that covers the following points:

- *Buying food from a supermarket involves lots of choices. As we learn more about sustainability, we might change our choices about the products we buy.*
- *Much of the cost of food production goes into transporting it from distant places –this is sometimes called ‘food miles’ – and on processing, packaging and storage. Growing food yourself or buying locally grown organic produce can reduce the use of energy and is better for the environment. Additionally, it is healthier as nutrients can be lost when food travelling long distances and are also damaged by heat, oxygen and light. The fresher the food, the healthier it is.*
- *Buying food locally has other advantages. It helps to maintain communities, support the local economy and strengthen the link between producers and communities.*
- *If we know where our food comes from and how it is produced, we can better understand wider environmental issues such as water pollution, soil management and bio-diversity, and the importance of reducing the food miles of certain foods.*
- *Processed foods are usually packaged in materials such as plastics that may not easily biodegrade and will contribute to polluting the environment.*

Task: Researching Organic Farming

1. Conduct a class discussion about the advantages and disadvantages of organic farming:
 - o benefits of growing foods locally
 - o negative impacts of increased food miles.
2. Divide the class into six groups and allocate a topic statement to each group:
 - o Group 1: Organic farming supports local plants and animal life
 - o Group 2: Organic foods are expensive to produce
 - o Group 3: Organic foods are prone to decay and they rot quickly
 - o Group 4: Organic farming is good for the soil
 - o Group 5: Organic products are more nutritious
 - o Group 6: Organic foods are less attractive-looking
3. Distribute a copy of the ‘Organic Farming Team Research’ handout to each group.

4. Each group works together to research their allocated statement and record their data on the handout. Depending on their findings, teams may either support or dispute their statement, and must support their stance with informed evidence.
5. Student groups write up their summary findings on a large sheet of paper to present to the class or display on the classroom wall.
6. After the presentations, hold a class discussion to review the findings. Then provide the following prompt to students, and have them write a response in their workbook:

In 200 words, write a descriptive summary of what factors matter the most to you when you are choosing foods to buy or grow to feed your family.

Your answers might include factors such as price, quality, health and environmental sustainability.

Organic Farming Team Research

Team Members _____

Topic Statement _____

Points for	Supporting evidence and notes
Points against	Supporting evidence and notes
Conclusion: Do you support or dispute your team statement? Why?	