Food Systems

Suggested Grade Level: 7-8

The Big Idea

Students continue to explore where their food comes from and develop a deeper understanding of food systems. Students continue to explore the effects the food system has on the environment and how we can balance human needs with environmental impacts.

Activity Notes

Students may have encountered associated lesson plan resources in previous grades. Consider checking with students and if necessary, framing resources, including videos, as a review.

Food systems represent a collection of dynamic and complex processes. Understanding our place in these systems is integral to making informed choices that not only benefit ourselves but everyone involved in a food system. The complex nature of food systems can lead to frustration and confusion. Encourage students to stay positive and curious as they develop their understanding of what impacts food systems have, and how as an individual they can participate in these systems.

Be sure to foster a safe and inclusive space for all students during discussion. For example, consider food access, cultural background, varying definitions of healthy food, and ensure that food is discussed in a positive manner without judgement. Refer to the Teach Food First resource for more teaching tips.

To help students begin their research refer to the suggested additional resources on page 6.

Learning Goals

Grade 7

- I am learning various ways that food systems impact the environment.
- I am learning about personal and external factors that can influence what people choose to eat.
- I am exploring ways to reduce the negative effects that food systems have on the environment, including how to encourage sustainable eating practices.

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Learning Goals

Grade 8

- I am learning how food systems affect people, society, and the environment from a variety of perspectives, and exploring ways food systems can be improved.
- I am learning about local and global food systems including some parts and processes that make them efficient and safe.
- I am learning the inputs and outputs associated with different types of food systems.
- I am exploring strategies which promote sustainable food choices and habits by investigating political, social, economic, and environmental food issues.

Activities

Total Time: 1 Hour

Introduction: Brief discussion	5 minutes
Activity 1: Video and discussion	20 - 25 minutes
Activity 2: Photo analyses	10 minutes
Activity 3: Compare and contrast	15 minutes
Activity 4: Environmental impacts response	10 minutes
Wrap-up and Review	5 minutes

Success Criteria

Grade 7 students will be able to:

- Describe a variety of ways in which food systems affect the environment.
- Discuss individual and external influences on people's food choices and eating habits.
- Identify ways to reduce some negative environmental impacts of food systems and suggest how to support sustainable food choices.

Grade 8 students will be able to:

- Explain different points of view on the ways food systems affect people, our society, and the environment, and identify how food systems can be improved.
- Identify steps and processes in local and global food systems including ways in which they can be efficient and safe.
- Describe the inputs and outputs associated with the steps of different types of food systems, using examples from the lessons for support.
- Identify strategies that will promote sustainable food choices and habits by considering social, economic, and environmental factors.

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Preparation

Download associated resources:

- "How our Food Systems Impact the Environment" video
- "Hungry Planet, What the World Eats" presentation
- "Hungry Planet, What the World Eats" presentation notes
- "Growing Chefs! Ontario Local and Global Food Systems Definitions"
- "Growing Chefs! Ontario Food Systems Map"

Introduction

Facilitate a class discussion using the ideas:

- Why is it important to know where your food comes from? What can be gained from being more informed about where your food comes from and how it gets to you?
- Share some ideas of why this is important: community and personal health, environment, cost/access, jobs, and social equity are all great suggestions.

Activity 1: How does our Food System Impact the Environment Video

Share that the food systems we are learning about today are not representative of First Nation, Métis, and Inuit community food systems in Canada, which are different and unique in many ways.

Watch the "How Our Food Systems Impact the Environment" video:

- Were any of our ideas represented?
- What impacts were listed that we didn't discuss?
- Did the video bring up more questions? Encourage students to share their questions.

Activity 2: "What The World Eats" Presentation

Watch the "What the World Eats" photo presentation. Examine each photo and give students time to make observations and connections. Direct students to look for and identify:

- Types of food/food groups
- Packaging: amount and type, brands
- Presence of whole foods: Does the diet contain whole foods or processed foods or both?
- Appliances, food storage, and/or cooking utensils: What impact do you think the available appliances and food storage options have on each families' diet?

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Activity 3: Compare and Contrast

Break students into groups and provide them with chart paper or another note taking medium to record their discussion.

As a class, review the definitions of Global and Local Food Systems.

Assign each group two photos to compare from the slide show.

Have each group compare and contrast their two photos with regards to:

- Types and variety of food
- Quantity of food
- Preparation and cooking equipment
- Setting
- Cost
- Where do you think the food is coming from or purchased (global or locally sourced?, both?)
- Packaging
- Fresh whole foods vs. processed foods
- Which of the two pictures would you assume has a bigger environmental impact and why?
- Which foods look more nourishing for our bodies? Which photos show a variety of foods?
- How is the consumption stage different? How is the food eaten and shared different for each family?

Have groups present their observations to the class.

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Activity 4: Environmental Impacts Response

Food systems are dynamic and complex. In North America, many more people exist as consumers than producers. This divide can lead to consumers not being aware of the far reaching negative impacts that food systems can have. Have students work in small groups to identify and articulate three actions or adjustments in behaviour they, as a consumer, could take to lessen the negative impacts that their food choices may have in a variety of areas.

Provide the following prompts to help facilitate discussion:

Environmental Impacts:

- How can you lower the amount of food waste you produce?
- What types of food are you eating?
- Are you eating locally grown fruit and vegetables in season?
- Where and how has your food been grown?
- How is the food packaged?
- If you increase the amount of local foods you consume, how would this affect the variety of foods you have access to?

Economic impacts:

- Where does the money that is spent on groceries go? Does it stay inside your community, or move outside of your community?
- Who benefits from the money used to purchase food? Consider the impact on farmers, store owners, store employees, delivery drivers, business owners, etc.

Social impacts:

- Does everyone have equal access to food? Why or why not and what can be done to make it more equal?
- Do workers involved in the food system receive fair pay for their labour?
- If you don't know the answers, or what questions to ask, where can you go to find out?

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Additional Resources

- Food equity initiatives in your local community, including related First Nations, Métis, or Inuit programs.
- Book: "What the Word Eats" by Faith D'Aluisio and Peter Menzel is available for purchase online and makes a great resource to include food literacy and food systems in your classroom.
- Growing Chefs! Ontario YouTube channel
- Love Food Hate Waste
- Food Secure Canada
  - Sustainable Consumption for All 2019
  - Sustainable Consumption for All 2022
  - Affordable Food in the North
  - Indigenous Food Sovereignty Discussion Paper
  - 10 Discussion Papers of the People's Food Policy
- Beyond Hunger: The Hidden Impacts of Food Insecurity
- PROOF - 2021: Household Food Insecurity in Canada
- Food Distribution Primer
- Crops and Ecology primer
- Migrant Rights Network
- Local food policy and or National Food Policy of Canada
- Grocers typically have information in store regarding where food comes from, which may also be available online

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Extension Ideas

- Place-based:
  - Consider finding local field trip opportunities, resources and programs in your area to use as extension activities, such as cooking programs, farmers market/grocery store tours etc. Be mindful of associated cost and potential impact on access and student participation.

- Science & Technology:
  - List the stages of the food system on the board. Provide students with an example of the inputs and outputs of 'production' in food systems. Ask students to write down the inputs and outputs for the rest of the food system stages. Discuss as a class.

- STEM:
  - A) Coding: Ask students to draw a labeled map of where a particular food originates (e.g., pineapple), and how it ends up in consumers' hands in Ontario. Use Ozobots to trace through the food's journey from farm to table, and code the Ozobot to stop and react to the major transition points along the way.

  - B) Ask students to build modes of transportation used in food systems. Facilitate a discussion about why food is distributed long distances, the environmental impacts of different transportation types, how the "food miles" concept is not an indicator of climate friendly food, and the idea of local/regional food systems. See Food Distribution primer for more information.

- Mathematics:
  - Ask students to find the median income of each country represented in the "What the World Eats" presentation. Calculate what proportion of each family's salary is spent on food.

- Literacy:
  - Ask students to explore different examples of food products and their countries of origin and write a written reflection about the benefits and drawbacks of local and global foods.

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Ontario Curriculum Connections

Science and Technology

Grade 7
Strand B - Life Systems

Overall:
- B1. assess the impact of human activities and technologies on the environment, and analyse ways to mitigate negative impacts and contribute to environmental sustainability

Specific:
- B1.1 assess the impact of various technologies on the environment
- B1.2 assess the effectiveness of various ways of mitigating the negative and enhancing the positive impact of human activities on the environment

Grade 8
Strand D - Structures and Mechanisms

Overall D1:
- Assess the social and environmental impacts of various systems, and evaluate improvements to the systems or alternative ways of meeting the same needs.

Specific:
- D1.2 Assess the impact on individuals, society, and the environment on alternative ways of meeting needs that are currently met by existing systems, taking different points of view into consideration

Overall D2:
- Demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation

Specific:
- D2.1 identify various types of systems
- D2.2 describe the purpose, inputs, and outputs of various systems, including systems related to food processing
- D2.3 identify the various processes and components of a system that allow it to perform its function efficiently and safely

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Ontario Curriculum Connections

Health and Physical Education

Stand D - Healthy Living

Grade 7 and 8

Overall D3:

- Demonstrate the ability to make connections that relate to health and well-being – how their choices and behaviours affect both themselves and others, and how factors in the world around them affect their own and others' health and well-being.

Grade 7

Specific:

- D3.1 demonstrate an understanding of personal and external factors that affect people's food choices and eating habits (e.g., personal: likes and dislikes, basic food skills, busy schedules, food allergies or sensitivities, health conditions, personal values, cultural practices or teachings; external: family or household budget, cost of foods, access to clean drinking water, type of food available at home, at school, or in the community), and identify ways of encouraging healthier eating practices

Grade 8

Specific:

- D3.1 identify strategies for promoting healthy eating habits and food choices within the school, home, and community