

Food Security...Insecurity

"Lunch Bag" Challenge

Subject Area: Science

Grade: 7



GENERAL LEARNER OUTCOMES

SCIENCE 7 - Unit B: Plants for Food and Fibre

Focusing Questions: How do we produce useful plant products? What techniques do we use, what knowledge are these techniques based on, and how do we apply these techniques in a sustainable way?

- Key Concepts
- resource management
- sustainability



SPECIFIC LEARNER OUTCOMES

Science, Technology and Society (STS) and Knowledge

Students will:

1. Investigate plant uses; and identify links among needs, technologies, products and impacts
- Investigate practical problems and issues in maintaining productive plants within sustainable environments, and identify questions for further study
2. Analyze plant environments, and identify impacts of specific factors and controls
- Describe methods used to increase yields, through modifying the environment and by creating artificial environments
 - Describe and interpret the consequences of using herbicides, pesticides and biological controls in agriculture

SKILLS OUTCOMES- INITIATING AND PLANNING

Students will:

- Ask questions about the relationships between and among observable variables, and plan investigations to address those questions

SKILLS OUTCOMES - COMMUNICATION AND TEAMWORK

Students will:

- Work collaboratively on problems; and use appropriate language and formats to communicate ideas, procedures and result





SKILLS OUTCOMES - ATTITUDE

Interest in Science ... students will be encouraged to:

Show interest in science-related questions and issues

Mutual Respect ... students will be encouraged to:

Appreciate that scientific understanding evolves from the interaction of ideas involving people with different views and backgrounds

Scientific Inquiry ... students will be encouraged to:

Seek and apply evidence when evaluating alternative approaches to investigations, problems and issues (e.g., consider the nutrient content of food they eat and the potential presence of residues; consider observations and ideas from a number of sources, during investigations and before drawing conclusions)

Collaboration ... students will be encouraged to:

Work collaboratively in carrying out investigations and in generating and evaluating ideas (e.g., assume responsibility for their share of work in preparing for investigations and in gathering and recording evidence; consider alternative ideas and approaches suggested by members of the group; share the responsibility for difficulties encountered in an activity)

Stewardship ... students will be encouraged to:

Demonstrate sensitivity and responsibility in pursuing a balance between the needs of humans and a sustainable environment



STUDENT LEARNING OBJECTIVES

Students will:

- Analyze nutritional value of plants raised for food used in the “Lunch Bag”
- Analyze sustainability and security of food items used in the “Lunch Bag”
- Develop skills in initiating and planning as they work on communication and teamwork with their group

LUNCH BAG CHALLENGE

Food Security...Insecurity



ASSESSMENT

Students will provide evidence of learning by:

- Creating a “Lunch Bag” containing items (produced in Alberta) reflecting the idea of food security (sustainability)
- Creating a Google Slide presentation to document their understanding of food security (sustainability and stability), nutrition, availability, accessibility, and affordability ... reflecting on the food choices included in their “Lunch Bag”



MATERIALS

- Food items being used in group “Lunch Bag”
- Found objects needed to complete group presentation
- Agriculture then and now - Food accessibility (1:03 minutes)
- Discuss innovative ways of growing and preserving food



LEARNING RESOURCES

VIDEOS

- [Agriculture Then and Now: Food Accessibility \(1:03\)](#)
- [Hydroponic Farming Looks to Offer Food Stability Across Canada \(2:45\)](#)
- [World Without Food Science: Availability of Food \(2:44\)](#)
- [Canadians Concerned About Rising Food Prices \(2:00\)](#)

Alberta Education Program of Studies
[Canada's Food Guide - 2019](#)



TEACHER INSTRUCTIONS

Food Security...Insecurity Lunch Bag Challenge



Before beginning the classroom activity “Lunch Bag Challenge” lead a classroom discussion on the five elements vital to food security and the goal of eliminating hunger and malnutrition worldwide; food is available, accessible, nutritious, stable and affordable.

*Links to video suggestions to assist in this process are listed below.

DISCUSS:

- Discuss the goal of Canada’s Food Guide as a tool to encourage healthy eating
- [Canada’s Food Guide - 2019](#)

VIEW VIDEOS AND HOST POST VIDEO DISCUSSIONS:

- [**Agriculture Then and Now: Food Accessibility \(1:03\)**](#)
- [**Hydroponic Farming Looks to Offer Food Stability Across Canada \(2:45\)**](#)
- [**World Without Food Science: Availability of Food \(2:44\)**](#)
- [**Canadians Concerned About Rising Food Prices \(2:00\)**](#)

DISCUSS:

The Marking Rubric for students’ clear understanding before they begin the assignment

STUDENT ASSIGNMENT

Food Security...Insecurity Lunch Bag Challenge



In Canada, it's common to find a grocery store, convenience store, or even a farmers-market in your area. How often have you visited with your family, pushed a cart around, and seen the variety of available food on the shelves. Maybe you've helped select the best fruits and vegetables from the stacks, or picked your favourite meat and dairy products from the refrigerated displays. But have you ever stopped to think about how it got there? Food goes through a cycle from production to waste management, and every step along the way, we must be thinking of ways to ensure that food is available, accessible, nutritious, affordable and stable. These five elements are vital to food security and the goal of eliminating hunger and malnutrition worldwide.

STUDENT CHALLENGE:

- With a group of 2 or 3 students prepare the contents and fill a “Lunch Bag” that would be the most popular choice amongst 10 - 12 year old students in your school.(Have fun being creative with the “Lunch Bag” you decide to use.)
- Your food choices must have been grown or produced in Alberta and must be nutritious.
- Be sure to consider Reduce, Reuse and Recycle with your packaging.
- Remember to include a beverage choice.
- Document your experience for presentation on Google Slides
- **Materials Needed:** Food items being used in your “Lunch Bag” and Found objects needed to complete your presentation
- For each item chosen for your “Lunch Bag” you must discuss:
 - **Availability:** Use products readily available in Alberta. Are unique things being done in Alberta to make your product available. (eg. was it grown using drip irrigation ... is the crop drought resistant)
 - **Accessibility:** Do people rely on grocery stores and farmers markets to provide access to your “Lunch Bag” items? Can you supply your own food items? Maybe you know of a sustainable practice on a farm that can reduce cost for the farmer to produce your food items?
 - **Nutritious:** Describe the nutrition value of your food choices.
 - Proper nourishment means having strong bodies and sharp minds. Nutrition education and access to healthy choices is vital to supplying us with the daily needs necessary to support a healthy lifestyle.
 - **Stability:** Where your food is grown or animals are raised is there a threat of a natural disaster...hail, tornado, flooding, blocked transportation routes, delivery costs. Can there be production waste ... spoilage, pests, availability of water issues, poor access to nutrient rich soil, soil erosion, or water pollution. These issues can affect the quantity and quality of produce or meat. Can you think of suggestions to reduce food waste?
 - **Affordable:** Are your food items affordable? If you had wanted an item that was too costly, do you have a strategy to solve this problem.
- Complete your presentation on Google slides (5-10 minutes in length, including time to play video links on your slides).
- You need to include a Title Slide as well as a Bibliography slide that documents all of your research sources including website URLs.

STUDENT ASSIGNMENT

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Lunch Bag Challenge



"LUNCH BAG" VOTING BALLOT - choose from 1 (Poor) - 5 (Excellent)

Group	1. Creative "Lunch Bag"	2. Content Choice	3. Content Nutrition	Total / 15	Rank entries in order of your preference

Criteria	Excellent	Proficient	Satisfactory	Limited
<p>Introduction - Title Slide</p> <p>Slide includes your group names and a catchy image</p>	Fully captures the attention of the audience. Topic has a clear focus.	Captures the attention of the audience. Topic is focused.	Few audience members seem interested. Topic focus is vague.	Audience is not captured. No topic focus.
<p>Organization</p> <p>Introduction (Title Slide), body content and bibliography</p>	Present findings in an organized manner, and interesting sequences that are easy to follow.	Presents findings with some degree of organization and logical sequence that the audience can follow.	Information and graphics are placed haphazardly and students jump around content.	Audience cannot understand the presentation because there is no sequence and information is disorganized.
<p>Content- Accuracy</p>	Covers topic completely and in depth. All content throughout the presentation is accurate. There are no factual errors. Students demonstrate full knowledge (more than required) with detailed explanations.	Includes essential information. Most of the content is accurate but there is one piece of information that might be inaccurate. Students demonstrate knowledge with content, but fail to fully explain.	Includes some essential information. The content is generally accurate but one piece of information is clearly flawed or inaccurate.	Includes little essential information. Content is typically confusing or contains more than one factual error.
<p>Presentation</p>	Includes 9- 10 slides. Information on slides is kept short and expands on information in attached videos	Includes 7-8 slides. Information on slides contains many sentences and has some difficulty explaining ideas beyond the slide information in attached videos	Includes 6 slides. Information on slides contains many sentences and has difficulty explaining ideas beyond the slide information in attached videos	Includes less than 6 slides. Information on slides contains many sentences and does not expand on information presented on slides in attached videos