

A decorative border composed of a grid of small, colorful squares in various shades including red, orange, yellow, green, blue, and purple, framing the central white area.

SOCIAL STUDIES

10

SUBJECT AREA: SOCIAL STUDIES

GRADE: 10



GENERAL LEARNER OUTCOMES

Key Issue: To what extent should we embrace globalization?

Key Outcome: Students will understand, assess and respond to the complexities of globalization.

Related Issue 3 (10-2)

Does globalization contribute to sustainable prosperity for all people?

Students will:

Understand the economic, environmental and other impacts of globalization.



STUDENT LEARNING OBJECTIVES

Students will:

- 3.7 - explore multiple perspectives on relationships among people, the land and globalization (spirituality, stewardship, sustainability, resource development).
- 3.9 - examine multiple perspectives on sustainability and prosperity in a globalizing world.





ASSESSMENT

Students will provide evidence of learning by:

- Presenting and explaining their research on an assigned topic, regarding technological advancements that have helped farmers improve water efficiency .



MATERIALS

- Computer for research and completion of the Google Slide assignment.
- [How Can we Feed 9 Billion People?](#) (6:38 minutes)
- [Sustainable Farming - TechKnow](#) (6:41 minutes)
- [A Day on a Produce Farm - Food 52](#) (3:18 minutes)



LEARNING

- Alberta Education Programs of Study
- Canadian Agriculture Partnerships - Connecting Agriculture to Alberta Senior High School Curriculum



**ZERO
HUNGER**

The Sustainable Development Goals (SDG)

In 2015, The United Nations' 2030 Agenda for Sustainable Development was adopted by world leaders.¹ This agenda included 17 Sustainable Development Goals (SDGs) created to improve peace and prosperity worldwide for all people. This blueprint, to be achieved by 2030, works to improve social, economic, and environmental factors, ensuring the current needs of the world are met, while safeguarding global resources and creating a better world for future generations.

Click [here](#) for more information.

Agriculture and Zero Hunger

The agriculture industry is at the heart of the 17 Sustainable Development Goals and is the driving force behind Goal 2: Zero Hunger. Globally, agriculture is the world's biggest employer, but it also has one of the largest environmental impacts. Agriculture is caught between needing to produce more food for a growing population and innovating to effectively utilize the resources required to meet the world's demand.

Click on the following links for more information:

<https://fscluster.org/sites/default/files/documents/i9900en1.pdf>

<https://insight.factset.com/decomposing-environmental-impacts>

Because the food we eat has to come from somewhere, this goal also directs attention to sustainable food production, resilient agriculture, and local and global cooperation when it comes to investing in agricultural productivity.

Click on the following link for more information:

[Manitoba Council for International Cooperation](#)



View and Discuss:

In preparation for the assignment, the following 3 videos present background on sustainability challenges, as well as some solutions.

Questions for discussion:

- What did you learn from the video?
- What do you still wonder about?
- What surprised you?

How Can We Feed 9 Billion People? (6:38 minutes)

Suggests a 4 part solution to follow, but beware of the drawbacks of each:

- Use of science and technology- partner with local farmers
- Distribution of food
- Support local food systems
- Stronger regulation and proactive government policy

Sustainable Farming - TechKnow (6:41 minutes)

This video discusses:

- Green energy from a dairy farm, with the use of science and technology, created sustainability.
- (Zero waste = sustainable farming) Milk + manure from cows = milk products + fertilizer for fields + renewable natural gas
- Sustainability + technology + innovation = no waste
- Message that is presented: "We need to adapt and evolve"

A Day on a Produce Farm - Food (3:18 minutes)

Sustainability efforts:

- Solar facility installed offsets power usage
- Old tractors replaced by clean burning diesel tractors in order to reduce pollution
- A variety of crops grown on the farm including conventional, organic, and GMOs (genetically modified organisms)
- Reduced water usage

Implementing numerous strategies to assist in successfully reaching the goal of Zero Hunger is an onerous task. This assignment will focus on water efficiency to grow crops, which was a focus in "A Day on a Produce Farm." Students will be exploring sustainable water solutions used by farmers and discovering how innovative technologies play an important role in the process.

Zero Hunger

Due to unpredictable weather patterns, drought conditions, and a growing demand for crops, farmers have had to adapt their practices with respect to how efficiently they grow crops. In this assignment you will explore sustainable water solutions used by farmers. You will also explore the role that innovative technology plays in improving water efficiency.

Your group assignment (2-3 students) will be completed on Google Slides. One of the following topics will be assigned to your group to research and present:

- Drip Tape Irrigation
- Soil Moisture Sensors
- Conservation Tillage
- Water Recycling Systems

Using the information your group uncovered, you will share your discoveries on a clear, concise Google Slide presentation.

Slide Outline

1. Title slide that fully captures the attention of the audience (include group names).
2. Explain how your sustainable water solution works.
3. Explore what you see as strengths and weaknesses of your assigned sustainable water solution.
Consider implications that are:
 - Environmental (how it affects nature and the environment)
 - Social (how it affects people, is it safe)
 - Economic (how expensive is it)



STUDENT ASSIGNMENT

Zero Hunger



Your sustainable water solution:	STRENGTH	WEAKNESS
Environmental (how it affects nature and the environment?)		
Social (how it affects people, is it safe?)		
Economic (how expensive; is it affordable?)		

4. Discuss why you (would / would not) recommend your solution to help influence the globalization needs of food sustainability and a growing population?

5. Bibliography

- Slide information must be in point form .
- You may need more than 1 slide to complete the slide outline points (maximum number of slides = 15)
- URLs must be collected for information and pictures. Use the Bibliography Slide to post URLs as your research progresses.
- Insert audio you have recorded to further explain slide content if you do not present live. (Maximum time for presentation = 15 minutes)

In a presentation, using your slides, you will explain how the process helps crops grow while conserving water. Be prepared to answer accurately any questions related to the facts presented on the slides. Each student in your group must have a speaking role. If you are unable to present live, insert audio your group members have recorded to further explain the slide content.



Zero Hunger

Marking Rubric

Objectives	Excellent	Proficient	Satisfactory	Limited
Title Page Slide includes your or your group names and a eye-catching image	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.
Organization Introduction (Title Slide), body content and bibliography.	Extremely well organized. Information is clearly represented and the project shows exceptional effort in appealing to the audience.	Well-organized. Information is well represented and the project shows good effort in appealing to the audience.	Somewhat organized. Information is fairly represented and the project shows satisfactory effort in appealing to the audience.	Poorly organized. Information is poorly represented and the project shows little effort in appealing to the audience.
Content/Accuracy	Covers topic completely and in depth. All content throughout the presentation is accurate. There are no factual errors. Students demonstrate full knowledge with detailed explanations.	Includes essential information. Most of the content is accurate but there is one piece of inaccurate information. Students demonstrate knowledge with content, but fail to fully explain.	Includes some essential information. The content is generally accurate but more than one piece of information is clearly flawed or inaccurate.	Includes little essential information. Content is typically confusing or contains more than one factual error.
Presentation	Includes 10-15 slides. Information on slides is kept short and clear. Group members further explain ideas very clearly.	Includes 7-9 slides. Information on slides contains some sentences. Group members have some difficulty explaining ideas clearly.	Includes 6 slides. Information on slides contains many sentences. Group members have much difficulty explaining ideas clearly.	Includes less than 6 slides. Information on slides contains many sentences. Group members cannot further explain ideas.

