



Minecraft: Education Edition Lesson Template

Please use the following template as a workspace for your Minecraft: Education Edition lesson plan. When you are ready, you can submit your lesson to the community site by heading to education.minecraft.net/create-lesson and don't forget to create your educator profile. Thank you for your contribution to Minecraft for learning.

Lesson Overview

Lesson Photo (accepted file types are JPG or PNG. Minimum dimensions are 750px by 368px. This image will be cropped slightly in some views on the site. Please make sure that you center your area of focus in this image.)

Title (30 characters)

Sustainable Food Production

Short Description (50 characters)

Students will explore sustainable food production.

Student Ages

All ages

Subjects

<input checked="" type="checkbox"/> Math	<input type="checkbox"/> Government and Politics	<input checked="" type="checkbox"/> Technology
<input checked="" type="checkbox"/> Science	<input type="checkbox"/> Art and Design	<input type="checkbox"/> Geography
<input type="checkbox"/> World Languages		

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- Reading and Writing
- Animals
- Business & Entrepreneurship
- Climate & Environment
- Digital Literacy
- Dramatic Arts/Theater

- Gaming
- History
- Music
- Physical Health & Wellness
- Religion & Philosophy
- Safe & Civil Schools

- Service Learning & Social Good
- Social and Emotional Health
- Computer Science
- Careers and Management
- Special Education
- Leadership

Skills

- Character
- Citizenship
- Collaboration
- Communication
- Creativity
- Critical Thinking
- Project Based Learning

Lesson Plan

Learning Objectives (3000 characters)

Students will...

- begin at a grocery store where farm products are bought and sold.
- explore a sustainable farm and learn about soil conservation, crop rotation, and water pollution.
- visit a waste facility and learn how fertile soil is created from waste products.
- walk through a recycling facility and learn how old packaging is recycled into new packaging.

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- visit the shop where the farm products are being packaged and sold back to the grocery store.

Guiding Ideas and Questions (3000 characters)

Introduction

Beginning at the town's grocery store and ending at a honey stand, students will explore sustainable practices for every step of food production. They will learn that food as a product is made up of multiple products and services, each of which should be sustainable. This lesson also includes stops at a farm, waste facility, and recycling plant. Students will understand that when they buy a product, they are buying the entire process of its production and encouraging that process to continue.

Guiding Questions

- What is a **producer**?
- What is a **consumer**?
- What does **sustainable** mean? Why is it important?
- How does your food get from the farm to your local store?
- Why is it important to consider what you are purchasing from the store?
- How can we promote and live a sustainable lifestyle in regard to food production and consumption?

Teacher Preparation & Notes

- Possible NGSS standard(s):
 - **MS-LS2-3:** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
- If possible, the teacher should bring in a glass jar of honey (*local*). If that cannot be done, an image on a PowerPoint or the like will work just fine.
- The following vocabulary will be used in this lesson and the teacher may want to introduce these to the students beforehand.
 - producer
 - consumer
 - sustainable

Student Activities

Note: Performance expectations (PE) are mentioned in parentheses throughout the activities and connected to the expectations listed after the activities.

Introduction:

- The teacher will introduce or review the terms **producer** and **consumer** with students and ask for examples to ensure they know what each means. This could be done with discussion or a simple sorting activity, depending on the age of students (PE1).
- Next, the teacher will have students watch a video that explains sustainability ([here is an example](#)). The students can watch it as a class, in small groups, or individually as assigned in OneNote or Teams. Once the video has been watched, students will share out what sustainable means, some examples, and why it is important (PE2).
- To conclude the introduction, the teacher will present honey from a local farm (*as local as one can get!*) and in a glass container. The teacher will ask students how they think the honey and its container got from the farm to the grocery store and how each step could have exemplified sustainability. Have students write their predictions before opening the Minecraft world.

Minecraft World Exploration:

The students will follow a path from the grocery store to the honey stand (PE3). The world can be distributed through OneNote or Teams. Students should keep notes on what they learn at each stop (NPC); their notes should both examine the process of farm to grocery store and which practices are sustainable. They will compare these to their prediction notes.

- Students will enter the world in the school, right-click on the teacher, and choose Lesson 1. They will begin by heading to the grocery store entrance. They will need to address the first NPC's question: *Where does your food come from?* After they have thought about this and referred to their written predictions, they can right-click on him to see what he says. They will then explore the grocery store until they get to the Produce Clerk in the back.
- After leaving the door behind the Produce Clerk, the students will cross the street, speak to a farmer, and then head to the back of the large house. Here they will take some time to explore the farm workers. They will first seek an NPC that talks about run-off, and then meet someone who explains irrigation techniques on a farm. If desired, the teacher can share the video about center pivot irrigation systems listed in the External References. Next, students will meet someone who explains cover crops. The last farm

worker the students will meet will be an NPC that shares the importance of crop rotation. Students should click the button and think about what they notice happening.

- The next stop will be heading past the farm to an area where students will learn about composting. First, they will learn about compost spreading, compost, finished compost, and biosolids. **NOTE:** Be forewarned that if the students click on the link on the biosolids NPC, they will be transported and will need to return to continue the path.
- Once they have learned about composting, students will make their way through the back alley with the trucks to the recycling center. Within this space, they will learn what recycling is and about recycled glass, cardboard, plastics, etc. Students will continue up the stairs to learn all about how recyclable materials are sorted and gathered. After this, an NPC downstairs will share what molten glass is. If they want to see the molten glass, they will need to go down the stairs. Once they have learned about molten glass, students will make their way toward where recycling is bailed and stored. This is the last stop in the recycling plant before heading toward the beekeeper and honey store.
- Once the students leave the recycling plant, they will end up at the back of the farm where they will see a beekeeper. The beekeeper will lead them into the local honey store where it is produced and placed in recycled glass jars.
- To finish the world exploration for this lesson, the students will head back to the grocery store and see if they can find the honey jars!

Closing:

- Students will gather in small groups to discuss the lesson. In those groups, students will share their predictions about how food gets from the farm to a local store, their notes from the world exploration, and how the exploration helped them to understand sustainability. Once small groups are done discussing, the class will come together to share out. The teacher will record student answers.
- As a class, the students and teacher will have an informal discussion about the importance of considering what they are purchasing from local stores (*PE4*). They should understand that they are consumers who have power to drive how producers can become more sustainable in their practices.
- To conclude the lesson, students will need to consider how they can promote sustainable lifestyles in regard to food production and consumption. To do this, the teacher will have students create posters (*by hand, in PowerPoint, or on Adobe Spark, etc.*) encouraging students in the school to maintain sustainable lifestyles as well.

Performance Expectations

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Students will be able to...

- explain the roles of producers and consumers (PE1).
 - define the term sustainable and explain its importance (PE2).
 - understand how food gets from the farm to the grocery store (PE3).
 - consider the importance of what they are purchasing from local stores (PE4).
 - promote sustainable lifestyles in regard to food production and consumption (PE5).
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External References

- [How Apples Go from the Orchard to the Store](#) (video)
 - [What is a Center Pivot? Pivot 101](#) (video on the center pivot irrigation system)
 - [Understand Goal 12: Responsible Consumption and Production](#) (intro video on SDG 12)
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Supporting Files

Supporting File (recommend no more than five, file formats supported are DOC/DOCX, GIF, JPG, MP3, PDF, PNG, PPT, PPTX, TXT, WMA, XLS/XLSX, XPS, and ZIP)

- Make PDF rubric