Lesson Plan

A Day on the Farm

Grade: 1-2 | Subject: Science & Technology / Social Studies | Duration: 30 Minutes



Dairycraft Overview

Learning Objectives

This Minecraft world supports the following main achievement objectives:

- Teach students about the versatility of milk, as well as concepts such as states of matter and chemical/physical changes.
- Teach students about the nutritional benefits of milk.
- Teach students about life on a working farm, career options associated with dairy farming, and the layout and machinery used in modern farms.
- Teach students about waste management and renewable energy production on dairy farms.
- Teach students about how technology is transforming dairy farming.
- Teach students about the relationship between crop farming and milk production.

How to Use Dairycraft

Dairycraft is a fully automated Minecraft educational world, so there is no need for teacher input once students are in-game. Additional teacher input or guidance may be beneficial for students below the set lesson grades.

- Dairycraft has been designed as a single-player educational game. When completing most lessons, extensions, and sub-activities, each student should be in their own Minecraft world.
- Dairycraft can function on any device compatible with Minecraft: Education Edition.
- For collaborative play, students can be grouped into teams to complete the major extension task: building their own farm based on the knowledge they have learned.
- If you are new to Minecraft: Education Edition, the '[Support Center]' on the Education Edition website provides all the information you will need to get started.

Activities for Students

Dairycraft contains six main activities for students, each of which can be played independently of the others. It will benefit students to have completed Lesson 2 before proceeding with other lessons, in order to have a basic understanding of the farm's layout. Each lesson has an extension task, and after all six lessons are completed there is one major

extension activity in which students are encouraged to build their own farm using the information they have learned from the lessons.

At points in the game, students may be given external links to videos that explain certain processes or concepts in more detail. Everything else they need to learn and interact with is contained within the game.

Dairycraft Map Layout



Lesson 2: Overview

This Minecraft-based lesson provides an engaging way for students to experience the intricacies of dairy farming while promoting critical thinking about sustainability and environmental responsibility.

This lesson introduces students to dairy farming in Ontario, Canada, through an interactive Minecraft experience. Students will explore various aspects of dairy farming, interact with key farm personnel, interact with NPCs (non-playable characters), and learn about sustainable farming practices.

Learning Objectives

Students will learn how to:

- Understand the roles of different workers on a dairy farm.
- Identify sustainable farming practices used in Ontario dairy farms.
- Recognize the importance of animal care and its impact on milk production.
- Appreciate the connection between dairy farming and environmental conservation.

Curriculum Alignment

Designed for Grades 1 and 2 in the Ontario school curriculum:

- Identify local jobs and services.
- Explain how people and animals affect each other and the environment, and describe ways to reduce negative impacts on animals and their habitats.
- Grade 1: Social Studies B1.2
- Grade 2: Science and Technology B1.1 & B1.2

Overall Expectations

Students will learn how to:

- Demonstrate an understanding of sustainable agricultural practices.
- Identify how technology and innovation improve farm operations and sustainability.
- Describe the roles and responsibilities of various farm workers in the dairy industry.

Specific Expectations

Students will learn how to:

- Explain how dairy farms in Ontario contribute to local and global food systems.
- Identify sustainable energy practices such as solar energy and biodigesters.
- Analyse the care provided to animals and its connections to food quality.

Student Expectations

Demonstrate an understanding of the purpose of different areas of the farm, what life on a working farm entails, career options associated with dairy farming, as well as a general understanding of the layout and machinery used in modern farms.

Activity and Extension Task Overview

During this lesson students will:

- Watch an introductory video about dairy farming in Ontario (optional).
- Interact with 18 non-player characters (NPCs) to learn about different roles and areas of the farm.
- Take notes as they learn, and complete a randomized knowledge test at the end of the lesson.
- Complete an extension task involving rounding up and herding different cow breeds.

Activity: Dairy Farm Exploration and Knowledge Test

Student will spawn outside the main freestall barn, opposite the storage barn.

STEP 1 | Introduction

- Begin in front of the freestall barn. NPC ‘Sandy’ welcomes student and offers an optional video to watch.
- Student chooses to watch the video or proceed directly with exploring the farm and talking with each NPC.

STEP 2 | Exploring How a Dairy Farm Works

- Student visits 18 NPCs who explain either what their role on the dairy farm is, or how each area of the farm operates.

- Student is encouraged to take notes for the knowledge test later.

STEP 3 | Knowledge Test

- After visiting all NPCs, student interacts with NPC ‘Sandy’ again for a knowledge test based on the information they have just learned.
- Student must answer two randomized questions successfully in order to proceed. Incorrect answers prompt a review and retest.

STEP 4 | Reward and Feedback

- On successfully completing the test, student is awarded a pail of speed-boost milk and the choice to continue to the extension task or return to the spawn room to choose the next lesson.
- If student decides not to continue with the extension, the exclamation point above the Lesson 2 NPC in the spawn room turns amber, indicating student has yet to complete the lesson’s extension task.

Extension Task: Identifying Cow Breeds

Student spawns at the back of the freestall barn, adjacent to the heifer field.

STEP 1 | Introduction

- Student is introduced to the activity challenge by NPC ‘John’. They need to head into the pasture and herd one cow of each breed into the holding pen in the freestall barn.

STEP 2 | Identifying Cows

- With the help of their notes and information in the farm office, student identifies and collects one of each breed of cow (seven in total).
- Student leads each cow into the enclosure.

STEP 3 | Completion and Reward

- NPC ‘John’ congratulates student for completing the task and extension task, and gives them the lesson-specific trophy.
- Student places their trophy in the spawn room trophy display cabinet for teacher verification. (The trophy and display cabinet demonstrate that student has completed the lesson in full.)

Miscellaneous

If you are experiencing technical problems or bugs with this lesson, please report them directly through our website's bug report form: crackedcubes.co.uk/report-a-bug.

For general information about Minecraft: Education Edition, including additional information on how to play and set up lessons, please head to the dedicated Minecraft Education support center: edusupport.minecraft.net/hc/en-us.