

MINECRAFT EDUCATION

Mathematics with Minecraft Education

Minecraft Education provides a fun, game-like setting where students can practice math skills while solving problems, thinking critically, and being creative. Minecraft Education's pre-built worlds and lesson plans provide effective tools for students to strengthen and showcase their mathematical skills. See the recommended resources below to get started.

Resources – Worlds and Lessons to Get Started

Ratio Riddles

- Ages 8-14
- This pre-built world created with Cambridge Mathematics features three activities introducing students to the key concepts of ratio, proportion, fractions, and scale.

Mummy Mayhem

- Ages 8-10
- This pre-built world created with Cambridge Mathematics introduces students to the concepts of shape, symmetry, and spatial reasoning.

PiCraft

- Ages 8-14
- The PiCraft student workbook contains a series of four lessons created to help students build their understanding of pi using Minecraft.



Blocks of Grass World

- Ages 6-18
- Teachers can take a blank world and teach math concepts in a simple, controlled environment. Try [Lesson Crafter](#) to explore new lesson ideas!

Fractions

- Ages 8-13
- This collection of 24 lessons enhance students' understanding of fraction concepts including equivalent fractions, addition and subtraction of fractions, decimals, and more.

Multiplication and Division

- Ages 8-10
- This lesson collection includes a variety of pre-built worlds to help you engage students in the understanding of these core mathematics concepts.



MINECRAFT EDUCATION

How Minecraft Education Supports Mathematics Learning and Outcomes

Minecraft Education has hundreds of lesson plans and activities to engage learners in the areas below.

1

Spatial Reasoning and Geometry

Within Minecraft, students can explore and manipulate 3D objects, build structures, analyze shapes, measure distances, and calculate volumes and surface areas. In addition, they can learn about symmetry, angles, coordinates, and more.

2

Measurement and Data Analysis

The blocky nature of Minecraft allows students to easily count and measure distances, heights, and depths within the worlds. They can collect and analyze data with the in-game camera and then interpret by building graphs and charts.

3

Patterns, Functions, and Algorithms

Minecraft encourages students to recognize patterns and use them to predict outcomes and solve problems. It also teaches about variables, conditions, and automation in the game.

4

Problem Solving and Critical Thinking

Students develop strategies and make decisions to solve challenges in the game, using math in practical ways.

5

Collaborative Learning

Students can work together on math-related projects and puzzles, which helps them learn from each other. With various built-in assessment tools, educators can monitor students' progress and understanding of mathematical concepts.

Where can I learn more?

There is a wealth of online learning that can support you as you begin and/or move forward with Minecraft Education, as well as a community full of support.

- Additional [Mathematics Worlds and Lessons](#)
- To learn more about the training that is available to your district on how to get started with Minecraft Education, complete the [training request form here](#)
- Explore the wealth of self-paced courses available from [Microsoft Learn](#)
- Get involved with the Minecraft Community: [Community | Minecraft Education](#)

