



Computer Science

11 Lessons

Lower Primary | Grades K-2 | Ages 5-7

Storytelling in Minecraft

[EDUCATION.MINECRAFT.NET](https://education.minecraft.net)

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Getting Started with Minecraft

Install Minecraft: Education Edition

Minecraft: Education Edition can be installed on Chromebook, iPad, Mac, and PC. To ensure your experience with Minecraft: Education Edition is top-notch, make sure your devices meet the minimum system requirements. To check if your device supports Minecraft: Education Edition, see [System Requirements](#).

If you have questions about setting up Minecraft: Education Edition, the following link will provide you with some [frequently asked questions and additional information](#) about set-up. On this page, you will find assistance for:

- Get Started
- Purchase Licenses
- Administration and License Management
- Installation
- Troubleshooting

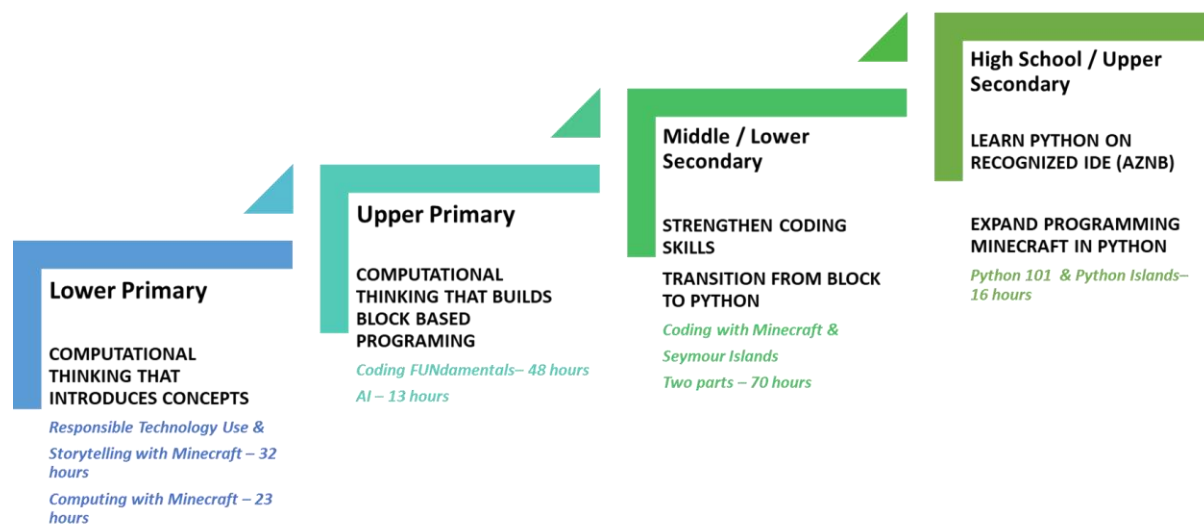
Preparing to Teach with Minecraft: Education Edition

Teachers do not need to have any prior computer science experience; however, they should familiarize themselves with a basic understanding of what is Minecraft: Education Edition. Support for building out teacher knowledge can be found here:

[Minecraft: Education Edition: Teacher Academy](#)

[Minecraft: Education Edition Webinar Series](#)

Computer Science Pathway Progression



Storytelling in Minecraft is a part of the Lower Primary (Grades K-2 | Ages 5-7) computer science progression. In this part of the progression, students are getting their first experience with Minecraft: Education Edition and learning critical computer science concepts such as how to follow an algorithm, how to use Minecraft to create a digital artifact, and how to use the in-game tools {chalkboards, camera, and book & quill) to effectively communicate ideas and thoughts.

Students will have multiple opportunities to explore the various types of inventory to help them characters, settings, and events in Minecraft.

Curriculum Summary

Storytelling in Minecraft is specially designed computer science content for students in Grades K-2/Lower Primary/Ages 5-7. Students will learn, practice, and apply relevant computer science skills and concepts as well as literacy skills in both unplugged and digital experiences. The lessons are designed to provide students with an opportunity to build knowledge of the concept(s) in an unplugged version (i.e., demonstrate the concept on paper), practice the concept with the direct support of their teacher in the Minecraft world, and then finally by completing the task independently.

Lesson Design

Each EDU guide contains multiple activities that are intended to be taught over the specified amount of sessions (explained in the **Instructional Sequence** part of this document); however, you should use discretion and modify/adapt the lesson activities based on your students' needs and abilities. Within the lessons, the instructional sequence will contain three parts correlating with the gradual release model:

Direct Instruction—Teacher-Directed, "I Do"	In the first step, the teacher introduces and models the appropriate way of performing the skills included in the new concept being taught.
Guided Instruction— Teacher Modeling, "We Do"	After the teacher models the correct way to understand or perform the new concept being taught, teacher will guide the students as they work through some examples together.
Independent Practice—Teacher Support, "You Do"	This step is where students demonstrate their initial level of understanding of the new concept being taught through independent practice.

Instructional Materials

Curriculum Overview	That is this document you are reading now! This will provide you with insight about the curriculum and what is taught within the curriculum.
Educator's Guides (EDU Guides)	An educator's guide is provided for each of the lessons. The guide provides a high-level overview of the lesson, learning goals, standards addressed, required preparation for the activities, the lesson plans for the activities, and any additional materials needed.
Classroom Presentations	Each unit is supported by its own PowerPoint presentation to provide structure and guide the educator through the activities for the lesson.

Formative Assessments	After each lesson in the EDU guide, there is an opportunity to check for student understanding of the concept taught within the lesson. These formative assessments are typically comprised of 2-4 questions directly related to the learning that just took place.
Summative Assessment	At the end of the entire lesson sequence, students will be provided with a performance-based task to demonstrate their new knowledge and skills learned throughout the computer science unit, Storytelling in Minecraft. This performance-based task can be assessed using the provided rubric.
Minecraft World Files	The specific world files needed to experience the instructional activities have been linked directly within the Educator's Guides.

Introduction

Level: Lower Primary/Grades K-2/Ages 5-7

Essential Question: How can we express thoughts and ideas through the use of technology?

Overview

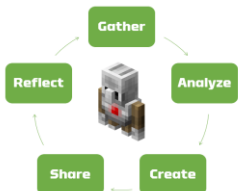
Digital storytelling is a powerful way to connect young learners to reading, writing, and digital literacy. Students will use digital tools in Minecraft to engage in authentic reading and writing opportunities. Emerging readers and writers will create and publish their own stories through a series of scaffolded lessons as they explore story elements (characters, setting, and plot {story events in sequential order}) in the construct of Minecraft worlds.

Pacing: 22 hours (could be more if tutorials and/or supplemental lessons are included)

Materials

Hardware	<ul style="list-style-type: none">• The teacher will need a laptop or tablet with a projector for the plugged-in coding lessons.• Internet access will be required for a portion of the lessons and activities.• Each student will need a device to complete the plugged-in coding activities.
Software	<ul style="list-style-type: none">• Minecraft: Education Edition needs to be deployed on the devices utilized within these lessons. Use this link to find information about Deploying Minecraft: Education Edition.• The teacher and students will need the relevant MCworld files downloaded for each lesson (or they can be accessed from the in-game library).
Other Materials	<ul style="list-style-type: none">• Grid Paper (for sketch plans)• Any additional handouts needed will be included within the individual EDU guides

Minecraft: Education Edition Teaching and Learning Framework

GOAL: Provide students with the necessary skills to become creative coders and content creators	
<p>Coding Mindset</p> <p>Although Minecraft: Education Edition provides rigorous and engaging academics, we also deliver a holistic education- providing instruction for the social, emotional, and physical needs for our students. We want to foster a distinctive set of attributes. These qualities prepare our students to make exceptional contributions both in school and outside of school.</p> <p>CURIOUS COMMITTED COOPERATIVE CONSIDERATE CONFIDENT</p>	<p>Computational Thinking Skills</p> <p>Computational thinking provides a vital skill set in which students must possess in order to fulfill the industry's needs in the jobs of tomorrow. Our ever-changing workforce creates a critical need for innovation. Our students need computational thinking skills not just to solve the problems within their educational journey, but to also meet the challenges of adapting to our constantly changing workforce.</p> <p>DECOMPOSITION PATTERN RECOGNITION ABSTRACTION ALGORITHMS</p>
<p>Computer Science Units of Study</p> <p>Minecraft: Education Edition provides meaningful, relevant, and engaging units of study. The units of study will possess a conceptual lens to allow for depth and complexity to develop conceptual understanding—knowledge which transfers through time, across cultures, and across situations.</p> <p>DIGITAL CITIZENSHIP PROGRAMMING CYBERSECURITY IMPACTS OF COMPUTING</p>	<p>Community</p> <p>As students gain and possess new knowledge and skills, we strive for them to find a greater purpose of “why do I need to know this” or more importantly, “how can I use this information?”.</p> <p>We aim to empower students, develop confidence and self-efficacy into a commitment to serve the community in which we live in and beyond.</p>  <pre> graph TD Gather --> Analyze Analyze --> Create Create --> Share Share --> Reflect Reflect --> Gather </pre>

This unit will focus on **Digital Citizenship**, as students will learn about the various online platforms and tools they can use to safely communicate their thoughts and ideas to tell stories in Minecraft.

This unit will focus on the coding mindset of being **committed**, as they learn new skills and concepts within Minecraft to help them create digital artifacts.

This unit will focus on **decomposition** as students explore the necessary and individual steps needed to complete a task and/or a problem.

This unit will provide students with the opportunity to consider how they can impact the greater good of the online **community**. Students can explore how their stories can be used to entertain and inform others. Students will learn how they can use storytelling to teach others ideas, messages, and new knowledge.

Instructional Sequence

This next section will provide you with an overview of the activities included in this lesson sequence. The lesson sequence is presented in chronological order—we suggest working in order, as the content will build upon skills presented in the previous session. A session is equivalent to one class period, or a 45-60 minute session. However, educators should feel empowered to modify and adapt the lesson sequence to best meet the needs of their students.

Lesson Sequence Overview

Session	Objectives	Teacher will	Students will	Resources
1*	<i>Students will understand story elements (characters, setting, plot {beginning, middle, end}) in a narrative text.</i>	<i>Lead students through an unplugged activity to model and articulate the different story elements of a narrative text</i>	<i>Students will identify and explain story elements in a narrative.</i>	<i>Understanding Story Elements</i>
2*	<i>Students will explain what a NPC in Minecraft is and how it relates to a character in a story.</i>	<i>Model and lead students through understanding what a NPC is in Minecraft</i>	<i>Students will complete the tutorial on NPCs in Minecraft: Education Edition.</i>	<i>Tutorial 6: NPCs</i>
3*	<i>Students will explain what the Camera, Portfolio, Book & Quill in Minecraft are and how it allows us to document images, ideas, and thoughts.</i>	<i>Model and lead students through understanding what are the Camera, Portfolio, Book & Quill features in Minecraft</i>	<i>Students will complete the tutorial on Camera, Portfolio, Book & Quill in Minecraft: Education Edition.</i>	<i>Tutorial 4: Camera, Portfolio, Book & Quill</i>
4*	<i>Students will explain what Chalkboards in Minecraft are and how it allows us to communicate ideas and thoughts.</i>	<i>Model and lead students through understanding what Chalkboards are in Minecraft and how to use them</i>	<i>Students will complete the tutorial on Chalkboards in Minecraft: Education Edition.</i>	<i>Tutorial 5: Chalkboards</i>
5*	<i>Students will be able to identify the story elements within a Minecraft story narrative.</i>	<i>Model and lead students through the unplugged activity of looking at various</i>	<i>Students will random select a NPC, Minecraft world, and inventory items to build out</i>	<i>"Build" A Minecraft Story</i>

		<i>NPCs, settings, and plots to “build” a story</i>	<i>the story elements of a narrative.</i>	
6*	<i>Students will describe characters in a story.</i>	<i>Model and lead students through the coding activity, Characters All Around</i>	<i>Students meet three characters and tour their houses to make inferences about the characters.</i>	<u>Characters All Around</u>
7-8*	<i>Students will create and label a character from a fictional story.</i>	<i>Facilitate the Minecraft challenge of building a character and designing a home for the character</i>	<i>Students will choose a fictional character and design the character in its home in Minecraft.</i>	<i>Character Study</i>
9-11*	<i>Students will recreate a setting from a fairy tale.</i>	<i>Model and facilitate the activity of creating a fairy tale setting</i>	<i>Students will recreate a fairy tale setting and include labels for their builds and take photos of their work using the camera tool.</i>	<u>Fairy Tale Settings</u>
12*	<i>Students will retell fairy tales in sequential order.</i>	<i>Read and discuss the story elements of each of the fairy tales</i>	<i>Students will verbally recount the fairy tales: Hansel & Gretel, The Three Little Pigs, and Jack and the Beanstalk.</i>	<u>Story Time (Lesson 1 of 3)</u>
13*	<i>Students will understand how story element changes can alter original stories.</i>	<i>Lead students through three fairy tales as guided through the Minecraft: Education Edition world</i>	<i>Students will plan to add a character, change the setting, or change the plot or code in the M:EE world and recount how it changes the story from the original version.</i>	<u>Story Time (Lesson 2 of 3)</u>
14*	<i>Students will build out an altered fairy tale in Minecraft.</i>	<i>Explain the task and ensure students use the camera and portfolio to take a picture of their build and write a few</i>	<i>Students will add a character, change the setting, or change the plot or code in the M:EE world and recount</i>	<u>Story Time (Lesson 3 of 3)</u>

		<i>sentences about how they changed the story.</i>	<i>how it changes the story from the original version.</i>
15-22*	<i>Students will collaborate with peers to create a computational artifact.</i>	<i>Explain the task and provide success criteria and guidance to collaborative groups.</i>	<i>Students will work in teams to create and build a fairy tale story in Minecraft.</i> <u>Fairy Tales Reimagined</u>

Educational Standards

CSTA Standards

- **1A-AP-11** Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.
- **1A-AP-08** Model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks.
- **1A-AP-13** Give attribution when using the ideas and creations of others while developing programs.
- **1A-AP-15** Using correct terminology, describe steps taken and choices made during the iterative process of program development.
- **1A-IC-17** Work respectfully and responsibly with others online.
- **1A-AP-10** Develop programs with sequences and simple loops, to express ideas or address a problem.
- **1A-AP-12** Develop plans that describe a program's sequence of events, goals, and expected outcomes.

ISTE Standards

- **1.5.c** Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.
- **1.3.a** Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.
- **1.4.a** Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.
- **1.5.d** Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.
- **1.6.a** Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.
- **1.6.d** Students publish or present content that customizes the message and medium for their intended audiences.
- **1.7.c** Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

Common Core ELA Standards

- **RL.K.3** With prompting and support, identify characters, settings, and major events in a story.
- **RL.1.3** Describe characters, settings, and major events in a story, using key details.
- **RL.2.1** Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

National Curriculum: Computing - Key Stage 1

- Recognise common uses of information technology beyond school
- Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- Create and debug simple programs

Australian F-10 Curriculum: Digital Technologies - Foundation to Year 2

- Participating in safe online environments (ACTDIP006)
- Experimenting with very simple, step-by-step procedures to explore programmable devices (ACTDIP004)
- Recognising that a digital system follows instructions or commands (ACTDIK001)
- Making ethical decisions when using images for public viewing and using the work of others (ACTDIP006)
- Planning and creating text, drawings and sound files to share online (ACTDIP006)
- Learning and safely practising a range of technical skills using tools and equipment (ACTDEP007)
- Identifying roles for each member of a group when working collaboratively (ACTDEP009)
- Writing and entering a simple set of instructions jointly to sequence events and instructions (ACTDIP004)

Computer Science Concepts: Storytelling in Minecraft

Lesson	Concept(s)
Understanding Story Elements	Sequencing
Tutorial 6: NPCs	Algorithms/Instructions/Commands Digital Communication Digital Content
Tutorial 4: Camera, Portfolio, and Book & Quill	Algorithms/Instructions/Commands Digital Communication Digital Content
Tutorial 5: Chalkboards	Algorithms/Instructions/Commands Digital Communication Digital Content
"Build" a Minecraft Story	Decomposition Sequencing
Characters All Around	Intellectual Property Attribution
Character Study	Intellectual Property Attribution
Fairy Tale Settings	Collaboration Digital Artifacts
Story Time (Lesson 1 of 3)	Intellectual Property Attribution
Story Time (Lesson 2 of 3)	Algorithms/Instructions/Commands Debugging
Story Time (Lesson 3 of 3)	Collaboration Program Development Testing
Fairy Tales Reimagined (Summative Task)	All concepts previously covered

MINECRAFT VISUAL GLOSSARY

Agent

personal robot in Minecraft



Biome

a Minecraft region with unique geography, plants, and other characteristics



Blocks

the basic units of structure in Minecraft that make up the game's world



Book & Quill

an item used to create written books in Minecraft



Camera

allows you to take screenshots and selfies in Minecraft: Education Edition



Chalkboards

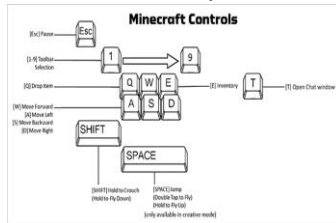
special blocks that allow you to write and display text in Minecraft



Controls

(keyboard)

keyboard buttons that help you move around and complete tasks



Controls

(touch)

the touch pad that helps you move around and complete tasks



Creative

game mode that gives you unlimited resources, ability to fly, and lets you destroy blocks instantly when mining



Hotbar

selection bar that appears on the bottom of the screen



Inventory

pop-up menu the player (or Agent) uses to manage the items they carry



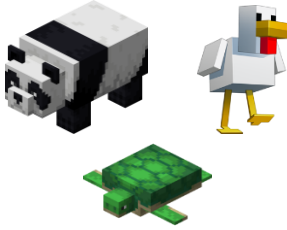
Minecraft: Education Edition

a game-based learning platform



Mob

game character resembling a living creature



Multiplayer

connect players so they can play together at the same time in the same Minecraft world



Portfolio

saves all of the photos that you have taken with a camera; allows you to add captions



NPC

non-player character



Spawn Point

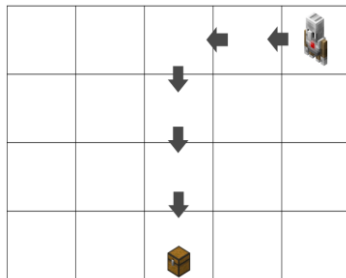
the location where a player begins game play



COMPUTER SCIENCE GLOSSARY

Algorithm

a sequence of defined steps



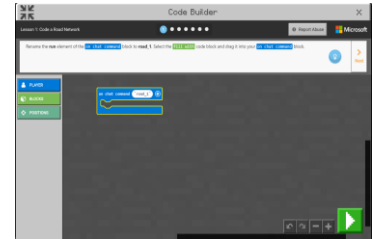
Attribution

giving credit to original authors who created artifacts, such as pictures, music, and code



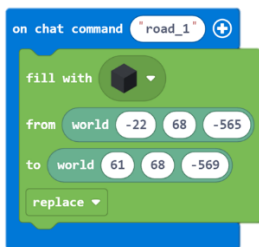
Code Builder

coding editor used to create programs



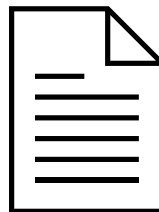
Code (Coding)

the method of giving a computer instructions to perform a specific task



Communication

the act of giving, receiving, and sharing information (talking, writing, listening, or reading)



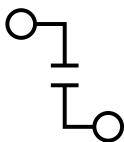
Debugging

process of finding and resolving errors within computer programs



Decomposition

breaking down a complex problem into smaller, manageable, and easy-to-understand parts



Intellectual Property

the original expression of an idea that later becomes something tangible



Program Development

process of creating a program with a description of the sequence of events, goals, and expected outcomes



Search Feature

allows you to search for specific items in the inventory by typing in the keyword



Sequence

instructions presented in a specific, correct order to a computer



Testing

the process of running the program to see if runs as intended

