

**MINECRAFT**  
**EDUCATION**

**Classroom Build  
Challenges**

# CLASSROOM BUILD CHALLENGE

Build a Treehouse

**TIME** 20-30 min

**SKILLS** Creativity, Collaboration, Problem Solving

**WORLD** <https://aka.ms/meetree>

## OBJECTIVES

Work individually or in teams to create your own treehouse. Try to create a functional shelter within the branches of a nearby tree. Challenge yourself by setting a time limit. Don't forget a ladder or stairs to get in!

## EXTENSIONS

- Take a pictures of your creation with the camera and share with your class.
- Consider the pros and cons of your treehouse from a real-world perspective and as a shelter in Survival Mode.



# CLASSROOM BUILD CHALLENGE

Build a Mars Rover

**TIME** 20-30 min

**SKILLS** Creativity, Collaboration, Problem Solving

**WORLD** <https://aka.ms/MarsRoverWorld>

## OBJECTIVES

The Perseverance rover is equipped with an extraordinary set of tools including a robotic arm and a rotary percussive drill to collect core samples of Mars rock. Once returned to Earth by a future mission these samples will help us better understand the Red Planet's geology, history, and climate.

## EXTENSIONS

- -Learn about the four science objectives of the Perseverance rover and NASA's Mars Exploration Program.
- -View examples of the scientific instruments the rover is equipped with for the mission.



# CLASSROOM BUILD CHALLENGE

Bee Creative!

**TIME** 20-30 min

**SKILLS** Creativity, Collaboration, Problem Solving

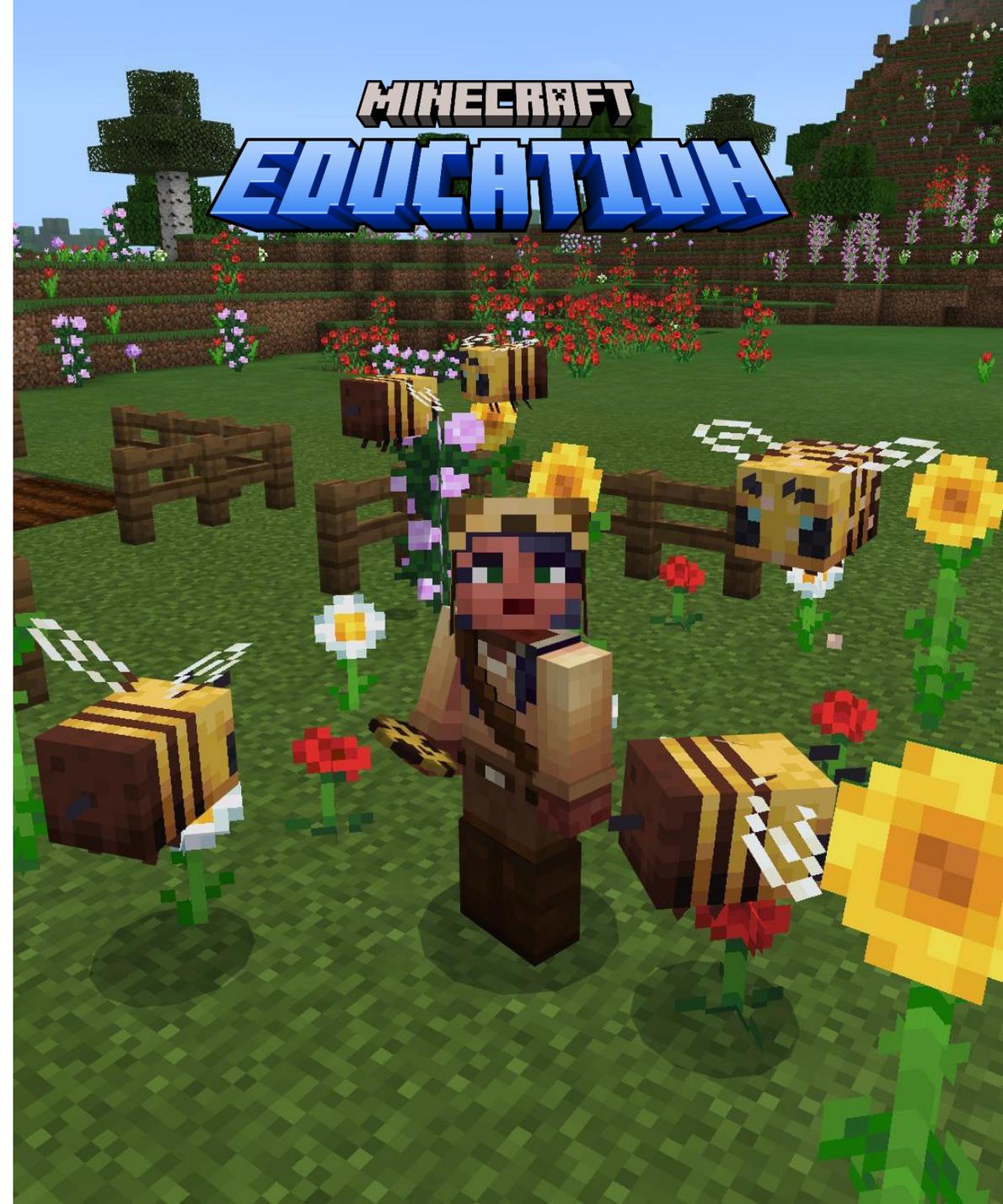
**WORLD** <https://education.minecraft.net/challenges/bee-creative>

## OBJECTIVES

Honey bees have landed in Minecraft: Education Edition! Did you know that bees pollinate approximately one third of the food we eat? Pollination is an important part of the life cycle of many plants that allows them to produce fruit. Your challenge this month is to build a pollinator garden in Minecraft. Plant some crops nearby and watch what happens!

## EXTENSIONS

- -Learn about bee species that live in your area and build a real life pollinator garden.
- -Continue your build by using the new beekeeping tools and NPCs to create a sustainable apiary and farm.



# CLASSROOM BUILD CHALLENGE

## Block Biography

**TIME** 20-30 min

**SKILLS** Creativity, Communication, Problem Solving

**WORLD** <https://aka.ms/BiographyWorld>

### OBJECTIVES

History is full of famous faces. Bring your biography project to life with an interactive quiz. Your challenge this month is to research a famous figure and convey this information in Minecraft. Create a quiz to share with a partner that features biographical facts and a creative representation of your chosen figure. This could be a statue, a portrait, or a symbol.

### EXTENSIONS

- -Take screenshots or make a video of your world to use as part of a presentation.
- -Share your work with the class and see if they can guess your subject.



# CLASSROOM BUILD CHALLENGE

Build a Better Bedroom

**TIME** 20-30 min

**SKILLS** Creativity, Communication, Problem Solving

**WORLD** <https://aka.ms/BedBuildWorld>

## OBJECTIVES

Have you been spending a lot of time inside recently? Give this build challenge a try to flex your creativity and maybe your body as well. Your challenge this month is to design your ideal bedroom that includes at least one way to get exercise indoors. Slime block bed bouncing? Indoor balloon archery range? Racing pig track? Let your imagination run free.

## EXTENSIONS

- -After you've created your new bedroom in Minecraft, use your build as inspiration for a creative writing project. Try to write a short story about how your creation would work.



# CLASSROOM BUILD CHALLENGE

## Minecraft Book Covers

**TIME** 30-60 min

**SKILLS** Creativity, Collaboration, Problem Solving

**WORLD** <https://aka.ms/meebook>

### OBJECTIVES

Use this book themed world to create your own Minecraft book covers. Your designs could be 2D or 3D.

### EXTENSIONS

- Use the camera to take pictures and share with your class.
- Choose a book to create a cover for or design a cover for your own original story!
- Start a new world or use the space around the book to build more scenes from the story. Choose a scene from each chapter, or to represent the Aristotelian story structure.



# CLASSROOM BUILD CHALLENGE

What would you bring to a desert island?

**TIME** 20-30 min

**SKILLS** Creativity, Collaboration, Problem Solving

**WORLD** <https://aka.ms/meeisland>

## OBJECTIVES

Use this desert island world as a setting to build an object in Minecraft representing the one thing you would want to have on a desert island.

## EXTENSIONS

- Take pictures of your creations with the camera and share back with the class.
- Write a paragraph about what you built and why. Was your choice driven by necessity or comfort? Use as a writing prompt, what would happen next if you were stranded on an island with this item?
- Once you are done, switch to survival and see how long you can survive on the island with only the resources provided!



# CLASSROOM BUILD CHALLENGE

Agent to the Rescue!

**TIME** 20-30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/mee-csrescue>

## OBJECTIVES

Interact with patterns in this world to give yourself a coding workout and use the Agent to save the day!

## EXTENSIONS

- Plan out patterns on graph paper then create your own patterns by coding the Agent.
- Use the camera to take pictures and share with your class.
- Look at architectural patterns on real world buildings for inspiration.
- Use code to have the agent create an entire building.
- Try to complete the patterns using as few lines of code as possible.



# CLASSROOM BUILD CHALLENGE

## Design A Vehicle

**TIME** 20-30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/meevehicle>

### OBJECTIVES

Use this creative world to have design your own vehicle. Will it drive, float, fly? What type of fuel does it use? How many people can it carry? How would it move?

### EXTENSIONS

- Use the camera to take pictures and share with your class.
- Write a paragraph about your vehicle describing its key design features.
- Use your vehicle design to create a marketing poster or even a TV commercial advertising a product.
- Use the structure block to export your design to Windows 10 Mixed Reality Viewer and snap a picture of yourself next to your creation.



# CLASSROOM BUILD CHALLENGE

## Design An Animal

**TIME** 20-30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/aotw-animals>

### OBJECTIVES

Use this forest setting to design their own animal in Minecraft. Is it a herbivore or a carnivore? How has this animal adapted to its surroundings? Does it have camouflage or other defenses?

### EXTENSIONS

- Sketch first, then build based on your idea.
- Take pictures using the camera and share back with your class.
- Fly to a different biome, or use a world seed code. Create an animal adapted to live in the taiga, desert, ocean, etc.
- Write a paragraph about your creature and its adaptations to the environment.



# CLASSROOM BUILD CHALLENGE

## Build A Moat

**TIME** 20-30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/meemoats>

### OBJECTIVES

Protect the castle! Use your creativity to build an effective moat around the structure. When you are ready, change the gamemode to survival and see if you can survive the night.

### EXTENSIONS

- Create a sketch or blueprint before building.
- Add to the challenge by choosing a specific threat to protect against.
- Challenge yourself to use at least one redstone circuit.
- Use the camera and portfolio to share yourr creations with your class.



# CLASSROOM BUILD CHALLENGE

## Blackjack Challenge

**TIME** 15 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/meeblackjack>

### OBJECTIVES

Sometimes constraints can actually make us more creative. Think about what constraints affect the daily work of different jobs and how they may creatively work around them. Challenge yourself to set a time limit and use this world to create a build using only twenty-one or fewer blocks.

### EXTENSIONS

- Choose a theme based on your current lesson.
- Look at pixel art for inspiration.
- Use the camera and portfolio to share your creations with your class.



# CLASSROOM BUILD CHALLENGE

Vexillology 101

**TIME** 20-30 min

**SKILLS** Creativity, Collaboration, Problem Solving

**WORLD** <https://aka.ms/meevexillology>

## OBJECTIVES

Vexillology is the study of flags! Use this Minecraft world to learn how to craft banners and begin a conversation about elements and principles of design. Create your own banner that reflects something about yourself.

## EXTENSIONS

- Research the imagery and symbolism of local, state, and national flags.
- Design a flag for your class or school.
- Use the structure block to export your flag design to Windows 10 Mixed Reality Viewer and snap a picture of your flag flying high above your school.



# CLASSROOM BUILD CHALLENGE

Community Landmark

**TIME** 30-60 min

**SKILLS** Creativity, Collaboration, Communication

**WORLD** <https://aka.ms/meelandmark>

## OBJECTIVES

Work individually or in groups to research a local, state, or national landmark. Using the world provided, recreate this landmark within Minecraft.

## EXTENSIONS

- Take your own pictures of the chosen landmark from different angles or find images online.
- Use the camera and portfolio to create a plaque detailing the purpose and history of the landmark.
- Based on the countries you are studying in class, view examples of famous landmarks created within Minecraft.



# CLASSROOM BUILD CHALLENGE

## Spaceships

**TIME** 20 - 30 min

**SKILLS** Creativity, Critical Thinking, Problem Solving

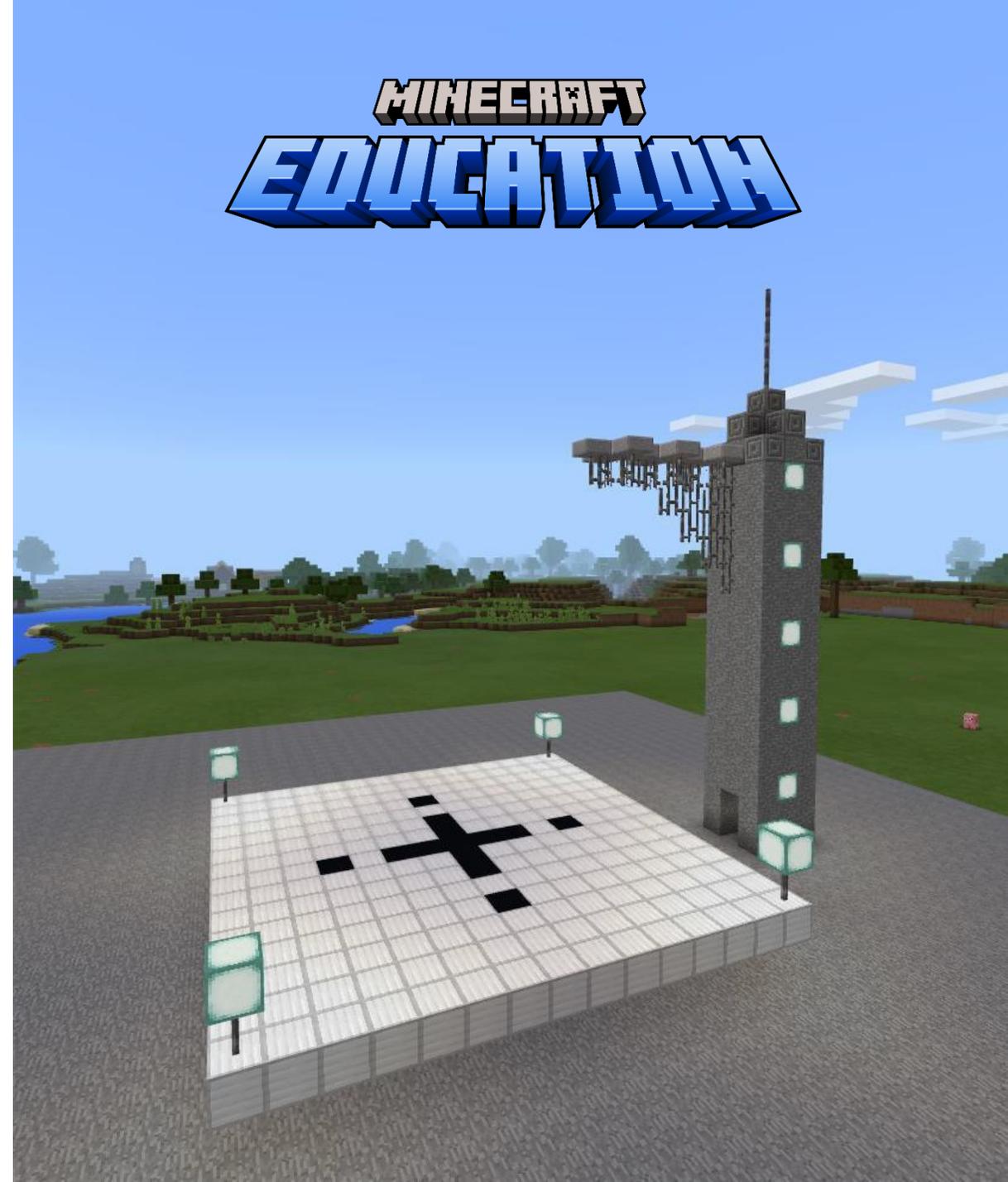
**WORLD** <https://aka.ms/aotwspaceship>

### OBJECTIVES

Look at examples of real and fictional spacecraft. Build your own spaceship, give it a name, and take a picture using the camera.

### EXTENSIONS

- Write a story about where the spaceship will go.
- Include chests in your spaceship and plan how much food and water your crew will need based on the length of their journey.
- Use the structure block to export your designs and use a 3D printer to create models of each.



# CLASSROOM BUILD CHALLENGE

## The Labyrinth

**TIME** 20 - 30 min

**SKILLS** Creativity, Collaboration, Problem Solving

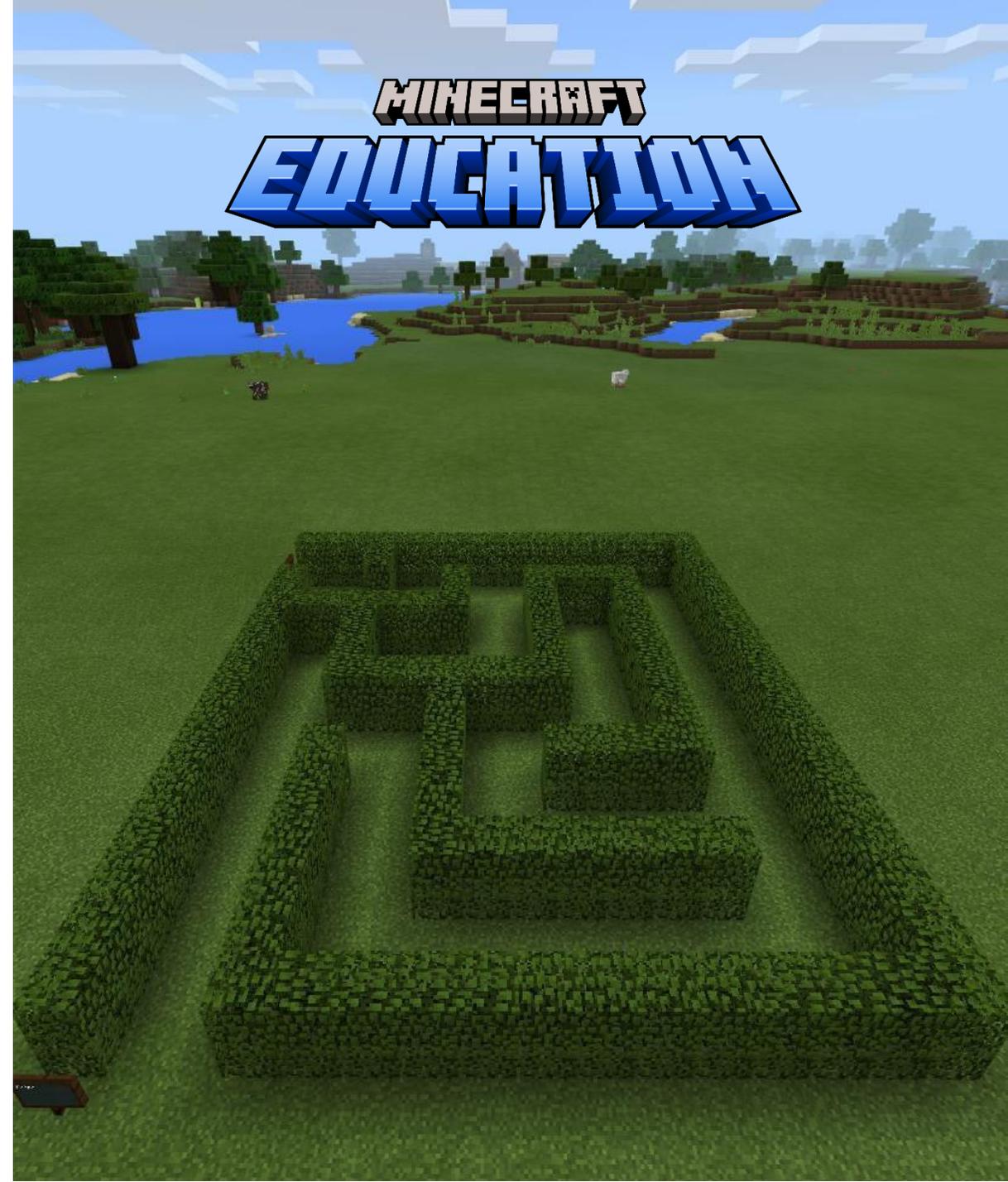
**WORLD** <https://aka.ms/mcworldlabyrinth>

### OBJECTIVES

Look up examples of labyrinths. Work with a partner. Each create your own labyrinth in Minecraft. Switch to survival and have your partner try to navigate their way through.

### EXTENSIONS

- Explore the importance of labyrinths as a symbol in pop culture, literature, and folklore.
- Plan out the maze on graph paper before building. Add unique features to dead-ends or create a picture from the walls.
- Write a program using Code Connection that allows the agent to navigate the maze.



# CLASSROOM BUILD CHALLENGE

## Element Scavenger Hunt

**TIME** 20-30 min

**SKILLS** Critical Thinking, Collaboration

**WORLD** <https://aka.ms/elementhunt>

### OBJECTIVES

Did you know the most common element on Earth's surface is oxygen? In this scavenger hunt world, use the material reducer to find as many materials as you can that contain oxygen! Found as many as you can? Choose another element and make your own scavenger hunt for a partner.

### EXTENSIONS

- Discuss techniques scientists use to determine the elemental composition of materials in the real world.
- Conduct an experiment such as making "Elephant Toothpaste" or mixing vinegar and baking soda to demonstrate the presence of oxygen in various materials.
- Research an element and create a build in Minecraft of an object that contains that element.



# CLASSROOM BUILD CHALLENGE

Area and Volume

**TIME** 20 - 30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/areaandvolume>

## OBJECTIVES

Use this Minecraft world as a visual representation to help study area and volume. Find the solutions for each build and write the answers on the slate.

## EXTENSIONS

- Create your own builds and have a partner try to solve.
- Use the camera and portfolio to export your project.
- Use CodeBuilder to have the agent to create the shapes for you!



# CLASSROOM BUILD CHALLENGE

## My Machine

**TIME** 20 - 30 min

**SKILLS** Creativity, Critical Thinking, Problem Solving

**WORLD** <https://aka.ms/aotwmachine>

### OBJECTIVES

Investigate cause and effect relationships. Explore and dissect the machines in this world then create your own project, stating your goal and creating a machine to achieve the intended result.

### EXTENSIONS

- Use the camera and portfolio to create an instruction manual for how your machine works.
- Use code connection to investigate cause and effect relationships in programming by using events and event handlers.



# CLASSROOM BUILD CHALLENGE

## Physics Coaster

**TIME** 20 - 30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/AOTWphysicscoaster>

### OBJECTIVES

Demonstrate the first law of thermodynamics by using the transfer of potential energy to kinetic energy with a minecart roller coaster! Create your own track and identify points at which a car has maximum kinetic energy and maximum potential energy.

### EXTENSIONS

- Work with a partner and have them find the key points of maximum energy on each other's track.
- Use the camera and portfolio to export your project, or record a video of riding the roller coaster.
- Work as a class to create a physics theme park.



# CLASSROOM BUILD CHALLENGE

Architecture

**TIME** 20 - 30 min

**SKILLS** Creativity, Collaboration

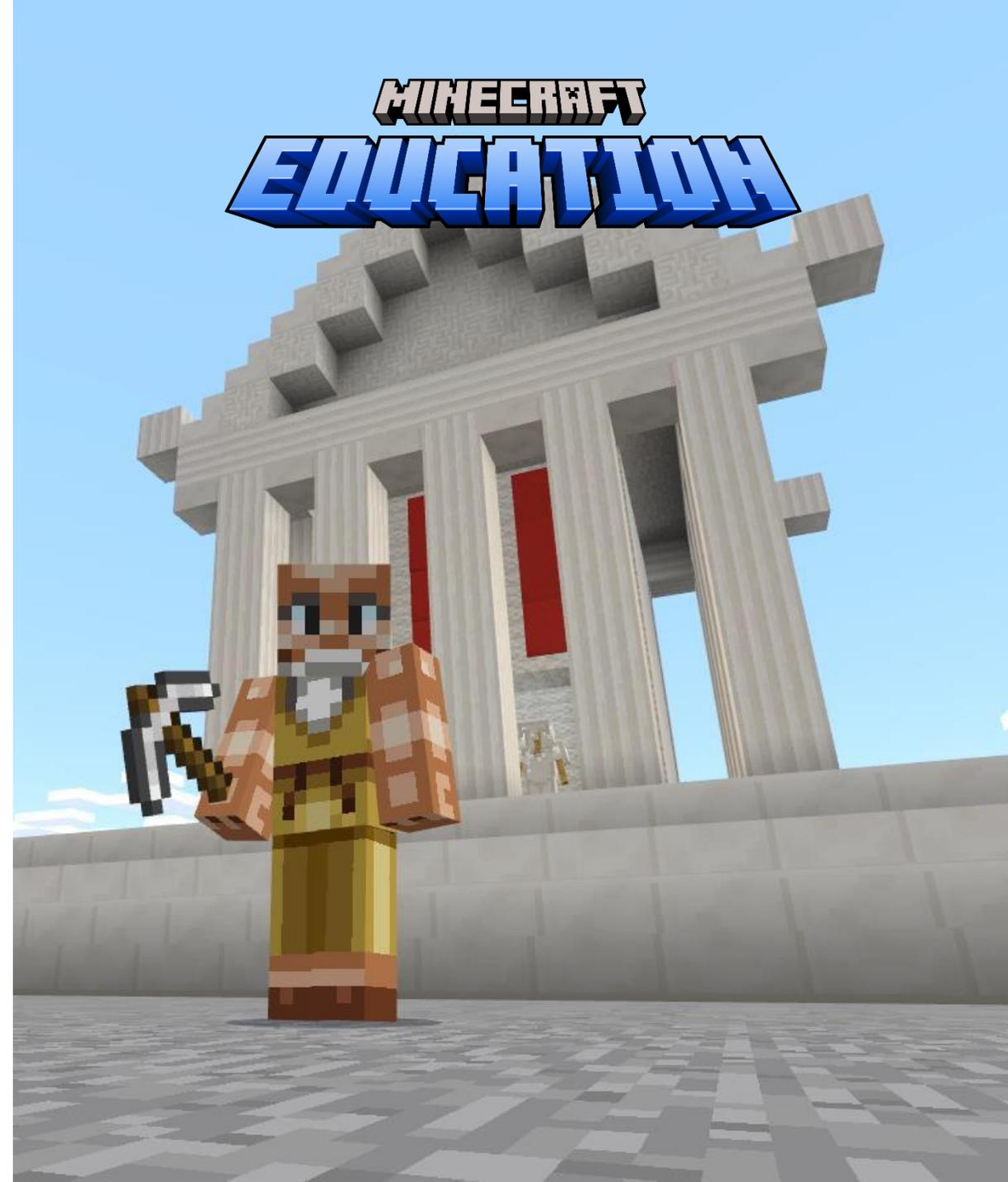
**WORLD** <https://aka.ms/aotwarchitecture>

## OBJECTIVES

In this build challenge with a partner to choose a style of architecture from history to emulate. Examples could include classical, gothic, brutalist, medieval, etc. Research examples and create your own building in Minecraft using similar elements.

## EXTENSIONS

- Look at your school or other local buildings and discuss the architectural style and elements.
- Use the camera and portfolio to export your project and share back with your class.
- Work in the same world as you classmates to create a small town featuring different types of buildings in the same architectural style.



# CLASSROOM BUILD CHALLENGE

Story Setting

**TIME** 20 - 30 min

**SKILLS** Creativity, Collaboration

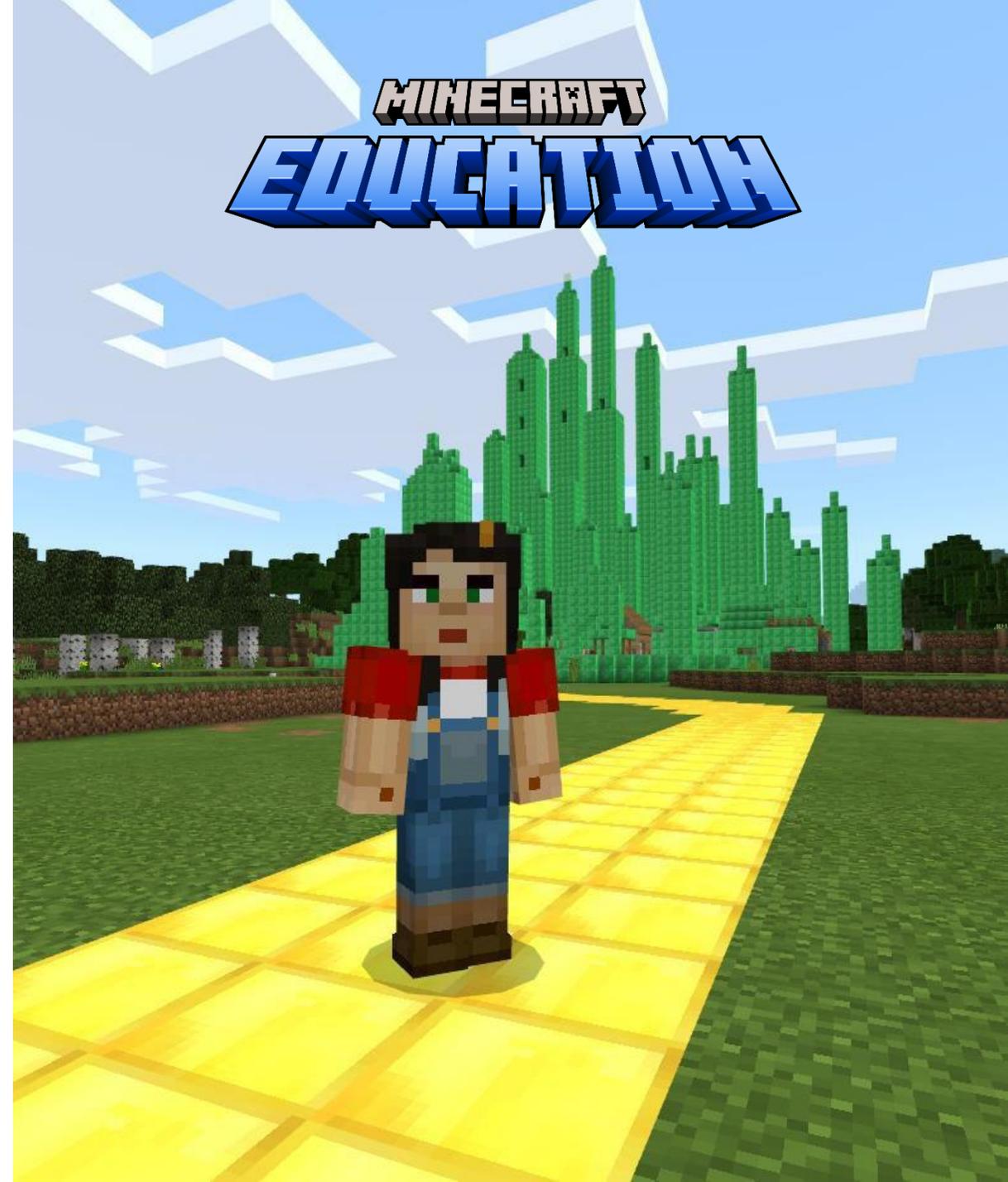
**WORLD** <https://aka.ms/aotwstorysetting>

## OBJECTIVES

In this build challenge, choose a book you have read and use Minecraft to create a setting found in the work. Choose a biome that best fits the book or use the supplied world which features a flat area for students to get started building right away.

## EXTENSIONS

- Work in a group to create several different settings from the same book.
- Do a Minecraft book report. Do a walkthrough of your world with you class.
- Use the camera and portfolio to export your project and share with your class.



# CLASSROOM BUILD CHALLENGE

## Pixel Portraits

**TIME** 20-30 min

**SKILLS** Creativity

**WORLD** <https://aka.ms/aotwpixelpics>

### OBJECTIVES

Create a self portrait in Minecraft! Review examples of pixel art in Minecraft and classic video games. Use a laptop or phone camera to take a selfie. Use the provided world to transform the selfie into a 16x16 or 32x32 pixel portrait.

### EXTENSIONS

- Record and share challenges you faced in creating a small and large portrait.
- Create portraits of famous people as part of a biography project or book report.
- Use the grid method to enlarge their image and create a painting or drawing.

**MINECRAFT**  
**EDUCATION**



# CLASSROOM BUILD CHALLENGE

## Green Building

**TIME** 20 - 30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/AOTWGreenBuilding>

### OBJECTIVES

Investigate innovations in building that help to save energy and protect the environment. In a group, build a new home that uses some of these techniques.

### EXTENSIONS

- We don't all live in green buildings. Help out the family by making a list of things they can do to be more environmentally friendly!
- Look at a list of common items that are compostable, recyclable, then help the family sort their trash.
- Do a home audit of common ways you can help to save energy and conserve water.
- Use Minecraft to make a plan for new school garden.



# CLASSROOM BUILD CHALLENGE

## Campsite

**TIME** 20 - 30 min

**SKILLS** Creativity, Problem Solving, Collaboration

**WORLD** <https://aka.ms/AOTWCampsite>

### OBJECTIVES

Choose an open area and build your own campsite! Plan ahead and make a list of all the things you might need on your trip.

### EXTENSIONS

- Work together with your classmates to build additional buildings or resources you might need at the campground.
- Choose a different biome to camp in and talk about how elevation and locale affects climate.
- Research Leave No Trace and the ethics and implications of outdoor conservation efforts.
- Determine the numeric details of the food, water, and other supplies you would need for one day camping. Multiply the necessary amounts based on the length of the trip.



# CLASSROOM BUILD CHALLENGE

Patterns, Repetition, and Rhythm

**TIME** 20 - 30 min

**SKILLS** Creativity, Problem Solving, Collaboration

**WORLD** <http://aka.ms/AOTWpatterns>

## OBJECTIVES

Patterns are all around us, both in the designed and natural world. Consider how patterns affect our daily lives then use Minecraft to create their own repeating pattern.

## EXTENSIONS

- Look at artwork from around the world that incorporates patterns, repetition, and rhythm.
- Use your Minecraft design as a draft for an art and design project.
- Work with a partner. Start a pattern and have your partner try to figure out the pattern and complete the design.
- Use your favorite coding program to have the Agent create a pattern for you.



# CLASSROOM BUILD CHALLENGE

## Minecraft Color Wheel

**TIME** 20 - 30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <http://aka.ms/AOTWcolorwheel>

### OBJECTIVES

Study the color wheel and identify primary, secondary, and tertiary colors. Using the Color Wheel world, find objects from Minecraft to fill out a color wheel. Use the creative menu, or for a challenge find things from the world around you to complete the task.

### EXTENSIONS

- Snap a picture of your color wheel with the in-game camera and share with your class.
- Use the nearby cauldron to experiment with mixing colors. Do they behave the same way in our world?
- Try completing the color wheel by dyeing sheep different colors and shearing their wool.



# CLASSROOM BUILD CHALLENGE

## Comic Books

**TIME** 20 - 30 min

**SKILLS** Creativity, Communication

**WORLD** <https://aka.ms/AOTWComics>

### OBJECTIVES

Use the world provided to help build your own visual narratives. Before building, create story boards for each panel and write out a the dialogue. Build the scenes in Minecraft then take a screenshot to share with your class.

### EXTENSIONS

- Work with a group to create multiple panels.
- Print out the screenshots of your work and collect into a comic book.
- Use a digital art program to create word bubbles, or write by hand and combine on a photocopier.



# CLASSROOM BUILD CHALLENGE

Dragon!

**TIME** 20 - 30 min

**SKILLS** Creativity, Communication

**WORLD** <https://aka.ms/AOTWdragon>

## OBJECTIVES

A dragon has appeared near the village. Why is it here? Is it a friend or foe? Should we build defenses or try and talk it out? Explore the featured world. Discuss what you discover and use it as a prompt to write and build to finish the story.

## EXTENSIONS

- Use the camera to take pictures in Minecraft to illustrate your story.
- Share your stories with the class by reading your story and showing pictures of your build.
- In pairs, create your own Minecraft world to use as a prompt for a partner to write a story.



# CLASSROOM BUILD CHALLENGE

Gone Fishing!

**TIME** 20 - 30 min

**SKILLS** Problem Solving, Critical Thinking

**WORLD** <https://aka.ms/AOTWfishing>

## OBJECTIVES

Grab your fishing rod and head out onto the water! Use this Minecraft world to get started tracking your fishing successes. Record what you caught, then combine the your numbers with your classmates to determine the probability of catching fish, junk, or treasure.

## EXTENSIONS

- Learn to express probability numerically as a fraction, decimal, and percentage.
- Develop and test your own hypothesis in Minecraft. Does the weather affect fishing? Does the type of biome change what you'll catch?



# CLASSROOM BUILD CHALLENGE

## Sculpture Garden

**TIME** 20 - 30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/AOTWSculpture>

### OBJECTIVES

Minecraft is all about breaking and placing blocks. Try your hand at sculpting in Minecraft. Use the supplied world and chip away at the blocks of stone to reveal the sculpture beneath.

### EXTENSIONS

- After you're comfortable chipping away, create and hide your own sculpture for a classmate to reveal.
- Look at famous examples of sculptures in different artistic styles.
- Work in a shared world, to create a sculpture garden with you class.



# CLASSROOM BUILD CHALLENGE

## Museum of Me

**TIME** 20 - 30 min

**SKILLS** Communication, Character, Citizenship

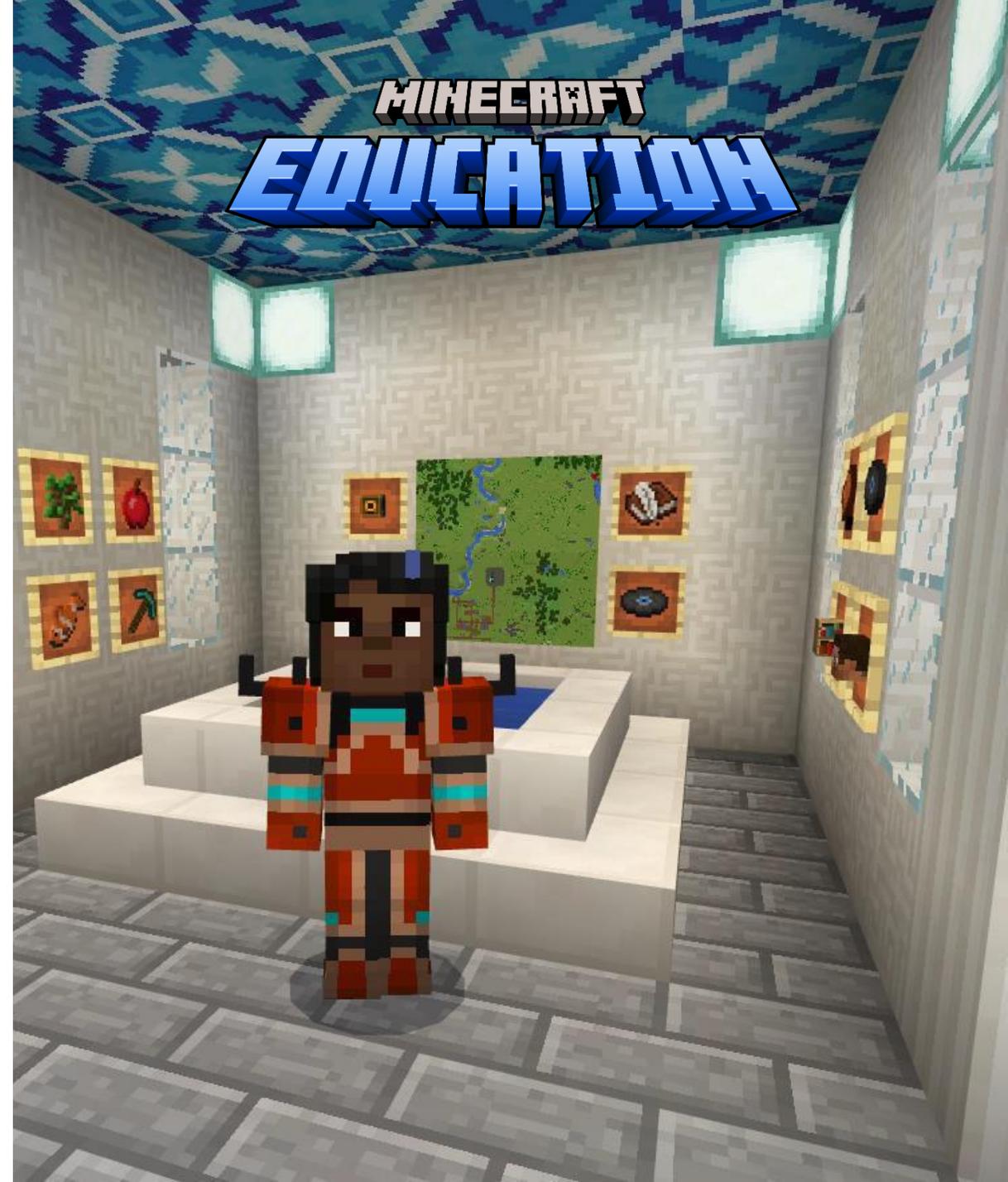
**WORLD** <https://aka.ms/AOTWmuseum>

### OBJECTIVES

Create your own museum in Minecraft! Write a list of important events in your life and think about what objects you could build in Minecraft to represent these events. Use the supplied world as a base to build your museum. Plan the layout on graph paper before building, and consider the materials and colors used in each room.

### EXTENSIONS

- Act as a curator and give a tour of your museum to your class to create your own personal narrative.
- Think about and research what was happening in the world during these times of your life.



# CLASSROOM BUILD CHALLENGE

## Shipwreck Narrative

**TIME** 20 - 30 min

**SKILLS** Creativity, Communication

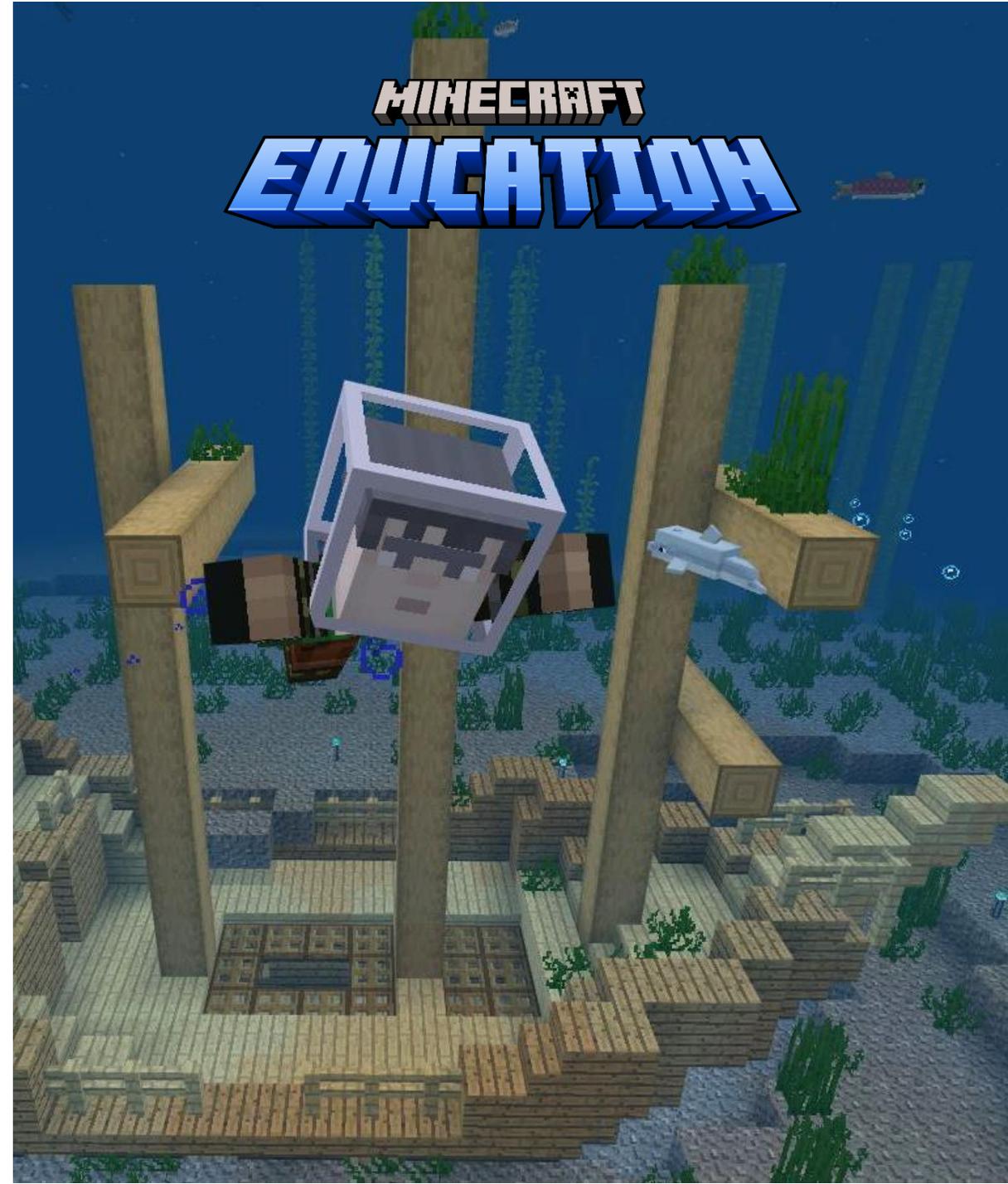
**WORLD** <https://aka.ms/AOTWShipwreck>

### OBJECTIVES

Load the supplied shipwreck world. Observe the details and take notes on what you see. Write a narrative about how this ship ended up in this condition. Who might have been on this ship? Where might the ship have been headed?

### EXTENSIONS

- Build onto the ship to add details and evidence to your narrative.
- Use the camera and portfolio to document your discoveries.
- Use the slash command `/locate` to find your own shipwreck in Minecraft.



# CLASSROOM BUILD CHALLENGE

## Pumpkin Carving

**TIME** 20 - 30 min

**SKILLS** Creativity, Problem Solving

**WORLD** <https://aka.ms/MEEpumpkin>

### OBJECTIVES

Carve a pumpkin in Minecraft! Use grid paper to plan out the face, then build your creation in the game. Use the pumpkin in the provided world to get started or create your own.

### EXTENSIONS

- Use Redstone to create a lighting system for your pumpkin so it glows at night.
- Code the agent to add effects to your display.
- Carve a real pumpkin based on your design.



# CLASSROOM BUILD CHALLENGE

## Minecraft Monster Mashup

**TIME** 20 - 30 min

**SKILLS** Creativity, Collaboration

**WORLD** <https://aka.ms/MEEMonsters>

### OBJECTIVES

Work in a group of three to collaboratively build a monster in Minecraft. Each student begins by creating the lower half of the body, students switch, then create the torso, then switch once more and create the head.

### EXTENSIONS

- Write a short story about your creature.
- Research and build creatures from ancient myths.
- Export your build with a structure block and take a selfie with Windows Mixed Reality viewer.



# CLASSROOM BUILD CHALLENGE

## Solar Model

**TIME** 20 - 30 min

**SKILLS** Critical Thinking, Collaboration

**WORLD** <https://aka.ms/MEESolar>

### OBJECTIVES

The Sun is 286 times the size of the smallest planet in our solar system, Mercury. If Mercury were the size of one Minecraft block, try to build a scale model of Mercury and the rest of the planets. You may have to round up or down to the correct number of blocks. To get you started, we've created a world with a Minecraft block scale sun!

### EXTENSIONS

- Research each planet and create a build of something that represents each one.
- Use Code Builder commands to help build the planets. Search for the “sphere” command, set the radius, and location to start building.
- Label part of the sun such the corona and convection zone.



# CLASSROOM BUILD CHALLENGE

## Character Study

**TIME** 20 - 30 min

**SKILLS** Creativity, Communication

**WORLD** <https://aka.ms/MEECharacters>

### OBJECTIVES

Choose a character from a story you have read. Create a home for this fictional character in Minecraft. Decorate the home with items and build objects that represent their character traits.

### EXTENSIONS

- Take pictures of your creations to illustrate a written character study.
- Use the Book & Quill to create a diary the character may have written and place it in the house.
- Make a pixel portrait of the character.



# CLASSROOM BUILD CHALLENGE

## Time Machine

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

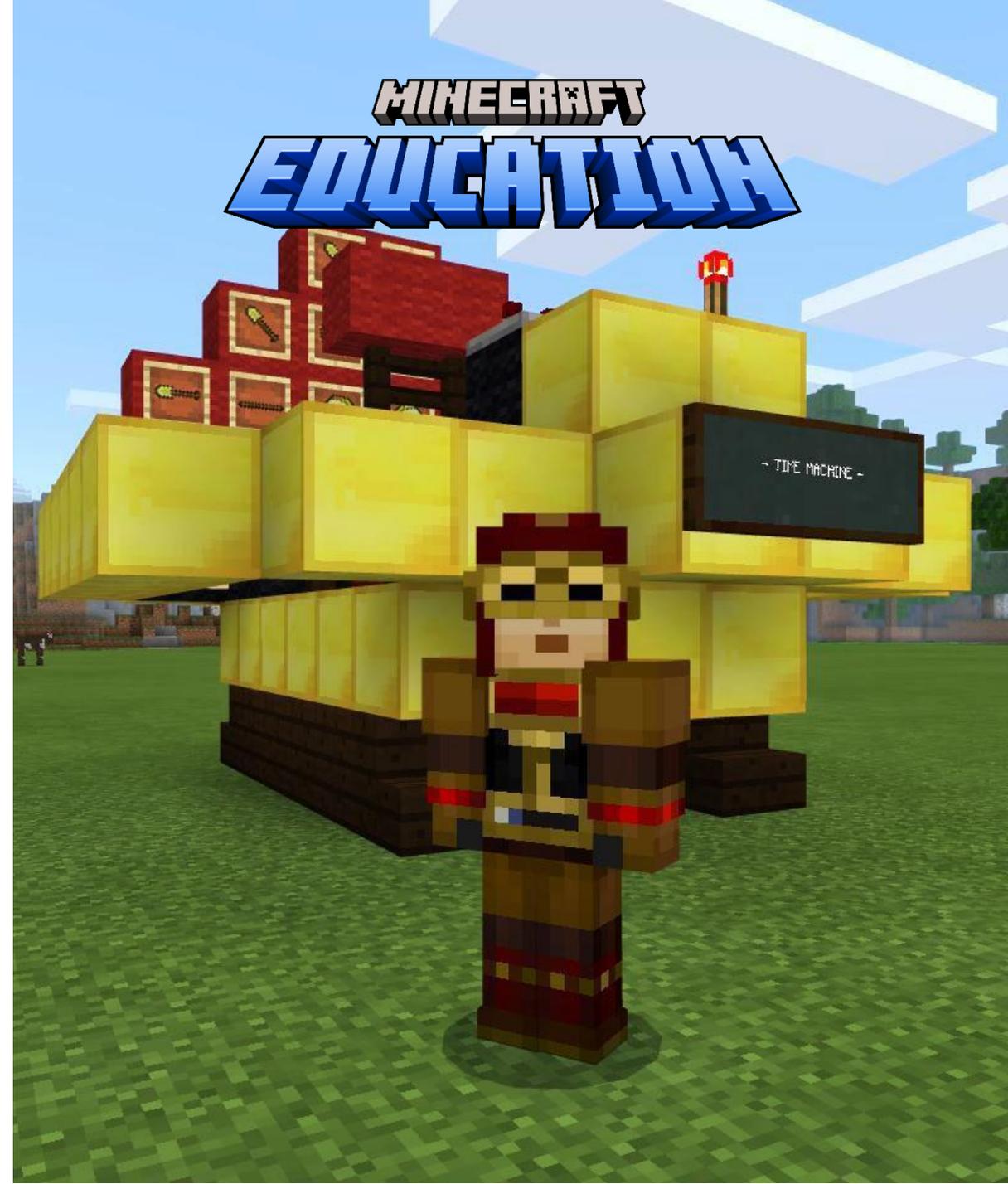
**WORLD** <https://aka.ms/TimeMachineChallenge>

### OBJECTIVES

Choose a space in your community, school, or home then use Minecraft to reimagine the space. What will the space look like 100 years in the future? What did the space look like 100 years ago? How can the space change to meet a current or future need? What necessitated the changes over time?

### EXTENSIONS

- Use the Book & Quill to write a short essay to accompany your build about the changes you foresee or those you researched.
- Use the structure block and mixed reality viewer to photograph your creation next to the real location.
- Share your project with us! @playcraftlearn #timemachine



# CLASSROOM BUILD CHALLENGE

Teacher Appreciation

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/TeacherAppreciateWorld>

## OBJECTIVES

Now more than ever great teachers are going out of their way to create engaging learning experience for their students. Your challenge this month is to show appreciation for one of your teachers through a creative build in Minecraft.

## EXTENSIONS

- Take a picture of your build and send it to your teacher.
- Try working together with a partner or your whole class to build a room full of things that show how great your teacher is.
- Continue building and use Minecraft to show how much you appreciate a parent or family member. A field of flowers? A castle in their favorite color? A chest full of diamonds?



# CLASSROOM BUILD CHALLENGE

## International Space Station

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

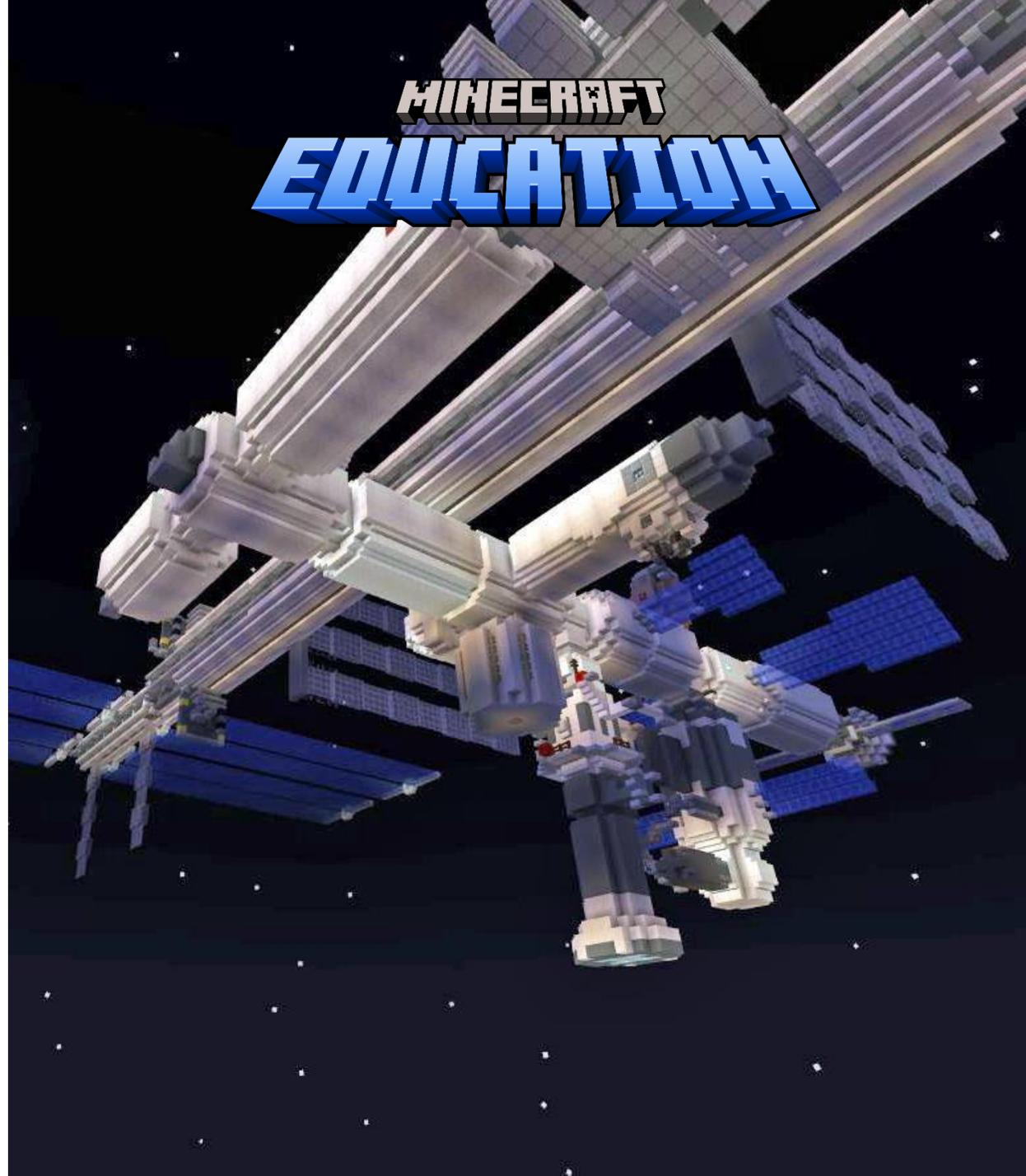
**WORLD** <https://aka.ms/ISSBuildChallenge>

### OBJECTIVES

Did you know that humans have been living in space for almost 20 years? Minecraft: Education Edition is celebrating this historic milestone in partnership with NASA with a new International Space Station world for you to explore! The station has been continuously occupied since November 2000, and orbits Earth every 90 minutes.

### EXTENSIONS

- Go on a scavenger hunt, find and label each of the station's parts and modules then write a description about how each is used.
- Research facts about the station using the NASA website and tools like Eyes on the Solar System.



# CLASSROOM BUILD CHALLENGE

## Creative Classroom

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/CreativeClassroomsWorld>

### OBJECTIVES

It seems like things are changing all the time. Playgrounds, supermarkets, restaurants. As many students return in fall, school will look different as well. Your challenge this month is to build creative solutions to make a traditional classroom environment more suitable to prevent the spread of Covid-19. Should we have class outside?

### EXTENSIONS

- Research classrooms throughout history and from around the world. Consider how they are similar and how they differ.
- Use your newly designed classroom to meet virtually with your classmates in multiplayer
- Share your work the community using the hashtags #minecrafteu, #buildchallenge



# CLASSROOM BUILD CHALLENGE

## Coding Coral

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/coding-coral-world>

### OBJECTIVES

Coral reefs are often called the rain forests of the sea because of the amazing biodiversity found within them. Sadly, many of the world's reefs have been destroyed due to climate change, pollution, and coastal development. Your challenge this month is re-build a coral reef in Minecraft by using code!

### EXTENSIONS

- Research the different types of coral reefs and the factors affecting them. Illustrate a report using screenshots from your Minecraft world or export a model of your reef with a structure block.
- Once you finish your reef, try building a submarine you would use to explore the ocean or build an underwater research station.



# CLASSROOM BUILD CHALLENGE

Zero Waste

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** [aka.ms/ZeroWasteChallenge](https://aka.ms/ZeroWasteChallenge)

## OBJECTIVES

Did you know that every year roughly one third of the food produced in the world for human consumption gets lost or wasted? That's 1.3 billion tons of food! Use this starter world and challenge yourself to build and document ways you can reduce food waste in your home, school, and community. Let's build a better world together!

## EXTENSIONS

- [Research the problem](#) and proactive steps you can take.
- Use tools like the board and camera or take a video to document your work.
- Share images of your plan with the community at #minecrafteu or with a video on Flipgrid and encourage others to do the same!



# CLASSROOM BUILD CHALLENGE

## Indigenous Stories

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/StoryChallenge>

### OBJECTIVES

November is Native American Heritage Month in the United States. Wherever you may live, we hope you will take the time to celebrate the rich and diverse culture, tradition, and history of native people in your country by participating in this month's build challenge. Your challenge this month is to research a story told by the native people of your region and illustrate this story using Minecraft.

### EXTENSIONS

- Use the camera, book and quill, to take pictures in Minecraft and create a story book.
- Native American stories vary greatly across the country but have some common themes. Discover and share different types of stories that express symbolism, life lessons, or descriptions of natural processes.



# CLASSROOM BUILD CHALLENGE

## Signifying Seasons

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/SeasonsWorld>

### OBJECTIVES

Earth's orbit and axis affects us all. Discuss climates around the world and how they are driven by these systems. Your challenge this month is to create a representation in Minecraft to signify one of the seasons.

### EXTENSIONS

- Write a paragraph about your creation explaining what you built and why.
- Discuss how patterns, such as temperature and precipitation can be used to make predictions about weather.
- Explore climates from around the world, investigating how and why they differ.



# CLASSROOM BUILD CHALLENGE

## Modeling Gratitude

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/GratitudeWorld>

### OBJECTIVES

Close your eyes, and visualize a time another person did something to benefit you. How did it make you feel? Use Minecraft to build a scene with images and words to express this episode. Use the camera, portfolio, and book and quill to capture your work and share your thoughts about who and what you appreciate.

### EXTENSIONS

- Write a short narrative or poem to accompany your creation.
- Pair with an activity to recall acts of kindness you performed yourself.
- Instead of a scene, build an object to represent your experience.
- Share your work with the community using the hashtags #MinecraftEdu and #BuildChallenge



# CLASSROOM BUILD CHALLENGE

## A Case For Biodiversity

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/BiodiversityChallengeWorld>

### OBJECTIVES

Explore the delicate balance of ecosystems with this Minecraft Student Build Challenge! Launch the starter world and teleport to a Minecraft biome. Build an aquatic or terrestrial ecosystem including plant and animal species. Document your ecosystem with the Book & Quill. Then remove one type of plant or animal. Rebuild the area to illustrate how the ecosystem would be affected by the extinction of one critical species.

### EXTENSIONS

- Choose an animal from your biome and describe its ecological niche.
- Use the Book & Quill as a science journal to document the energy transfers that occur in your ecosystem.
- Research your chosen biome. Show on a world map where this biome exists in real life.



# CLASSROOM BUILD CHALLENGE

## Minecraft Micro Models

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/MinecraftMicroModelWorld>

### OBJECTIVES

Your challenge is to construct a model in Minecraft of something too small to be seen by the human eye. Research images of structures or organisms such as atoms, proteins, viruses, cells, or micro-animals then work to accurately construct your own three-dimensional model in Minecraft.

### EXTENSIONS

- Write a short narrative or poem to accompany your creation.
- Pair with an activity to recall acts of kindness you performed yourself.
- Instead of a scene, build an object to represent your experience.
- Share your work with the community using the hashtags #MinecraftEdu and #BuildChallenge



# CLASSROOM BUILD CHALLENGE

Harvest Time

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/HarvestTimeWorld>

## OBJECTIVES

As the world population grows, optimizing food production is becoming increasingly more important. Your challenge this month is to code the Agent to improve the efficiency of growing and harvesting crops through automation. Just like in the real world, crops in Minecraft have special requirements to successfully grow. Use the book and quill to take notes on the choices you made to automate your farm and about the variety of crops you chose to grow.

## EXTENSIONS

- Write a short narrative or poem to accompany your creation.
- Pair with an activity to recall acts of kindness you performed yourself.
- Instead of a scene, build an object to represent your experience.



# CLASSROOM BUILD CHALLENGE

## Mapping Our World

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/MappingWorld>

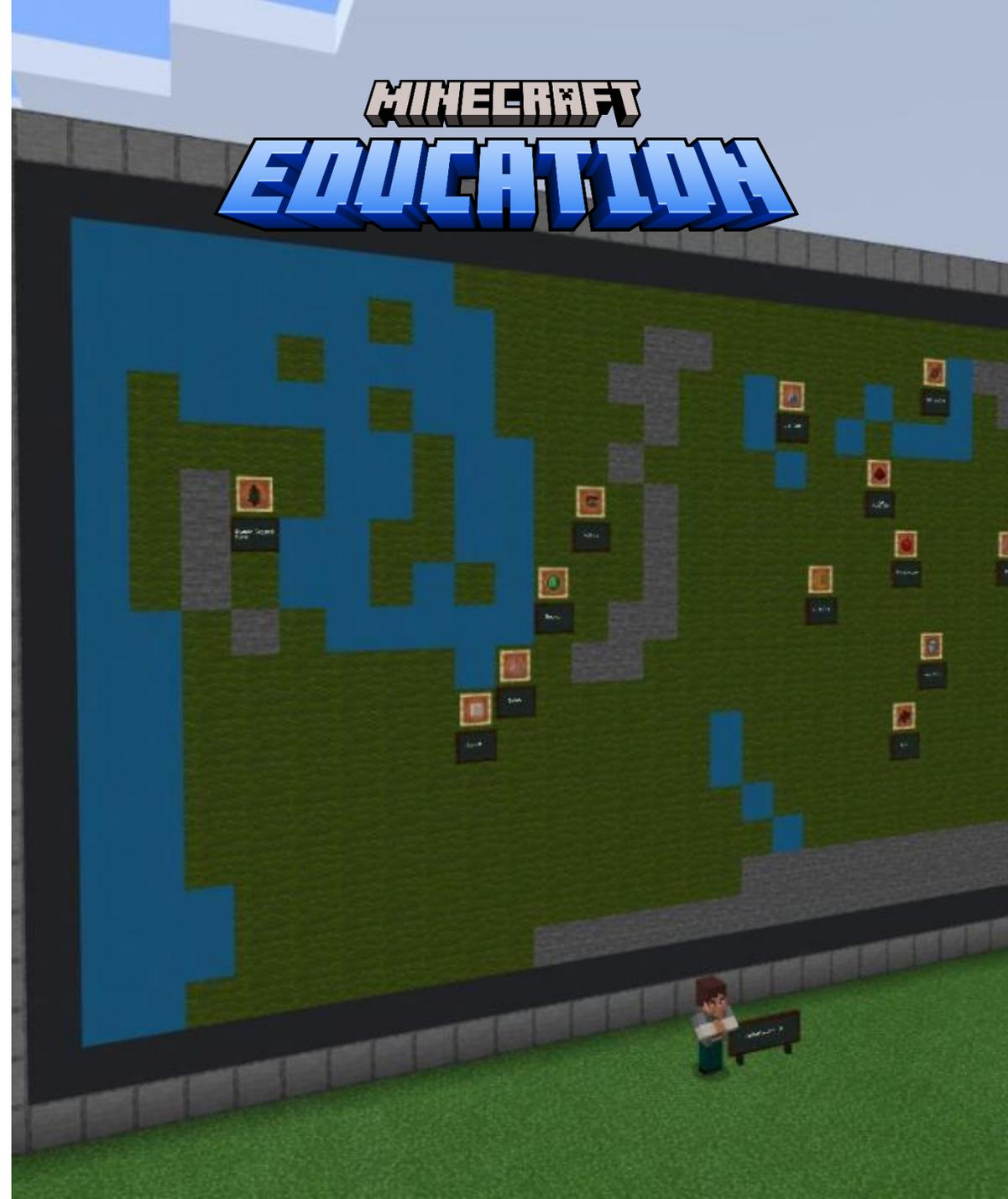
### OBJECTIVES

Being able to read maps is an important skill used to understand the world around us. Your challenge this month is to create a map of your region in Minecraft. Be sure to include key features and highlights about the area being mapped.

Before you begin, examine a variety of maps and take note of the details included in each one.

### EXTENSIONS

- Create map of your school, city, or state.
- Use frames and Minecraft blocks to mark locations of interest such as city hall, physical characteristics such as mountains, human created location, or the state capital. Identify these markings in a legend.



# CLASSROOM BUILD CHALLENGE

## Instruction Book

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration

**WORLD** <https://aka.ms/InstructionBookChallengeWorld>

### OBJECTIVES

Your challenge this month is to create an instruction book in Minecraft. Choose a task or activity then build, photograph, and write the steps necessary to complete your goal. How do you craft a pickaxe? How do you reach the Nether? How do you get to school in the morning? Work with a partner and see if they can follow your directions and achieve success!

### EXTENSIONS

- Use the export feature of the book & quill to create a printable PDF of your work.
- Support reading skills and English language learning with the built-in Immersive Reader functionality. Turn on the picture dictionary for Minecraft terms!
- Use Minecraft to create a social story for an upcoming event with words and pictures.



# CLASSROOM BUILD CHALLENGE

## Save The Ocean

**TIME** 30-60 min

**SKILLS** Creativity, Communication, Citizenship

**WORLD** <https://aka.ms/OceanChallengeWorld>

### OBJECTIVES

Did you know that in the very near future scientists predict that there will be more plastic in the ocean than fish? Your challenge this month is to help our oceans by using your imagination to design a vehicle able to eliminate plastics from the ocean. Create your build along the waterline and watch it sail away!

### EXTENSIONS

- Research the impact of human activity on the oceans.
- Develop and implement solutions for your school, or as individuals to reduce the impact of plastic pollution.
- Think about where the plastic will go when it is out of the ocean. Using the Book & Quill, come up with a solution to how to reuse the plastic being collected.



# CLASSROOM BUILD CHALLENGE

Build Your Emotion

**TIME** 30-60 min

**SKILLS** Creativity, Communication

**WORLD** <https://aka.ms/EmotionBuildChallengeWorld>

## OBJECTIVES

Emotions can be a challenging subject to talk about. Still, no matter how you feel good or bad, it helps to put your feelings into words or, now, into a Minecraft build! Build your skills in the area of self-awareness with this social emotional learning challenge.

## EXTENSIONS

- Use the book and quill to write a paragraph about what is affecting your mood today.
- Build something for each emotion, and write a short story about a time you felt this way.
- Share with a classmate, friend, or family member and see if they can guess how you are feeling from what you built.
- Explore more social emotional learning lessons in Minecraft with our [SEL Subject Kit](#)



# CLASSROOM BUILD CHALLENGE

## Build A Molecule

**TIME** 30-60 min

**SKILLS** Creativity, Communication, Critical Thinking

**WORLD** <https://aka.ms/MoleculeBuildChallengeWorld>

### OBJECTIVES

Your challenge this month is to build a molecule in this chemistry themed world and learn about its form and structure. Use the space inside the dome to build in a 3D environment, create different atoms and molecules, or go through a variety of pre-build molecules and try to identify all of them.

### EXTENSIONS

- Create physical model of the molecules in Minecraft
- Develop an atomic model. Label and describe each element using posters and signs.
- Use the molecules students have created in a class experiment.
- Explore even more Chemistry concepts in Minecraft: <https://aka.ms/labjournal>



# CLASSROOM BUILD CHALLENGE

## Accessibility Park

**TIME** 30-60 min

**SKILLS** Character, Community, Creativity

**WORLD** <https://aka.ms/AccessibilityParkWorld>

### OBJECTIVES

Imagine that everyone, regardless of their ability level could find something to enjoy here that meets their needs and interests. Your challenge is to build that space! Create within Minecraft an accessible playground space that offers a wide range of experiences for children of varying abilities to enjoy and play.

### EXTENSIONS

- Investigate your school or community playground. Write down a list of ways it could be improved to be more inclusive.
- Use the build challenge arena to plan what your ideal school playground would look like.
- Explore Minecraft's [BuildAbility](#) world and learn about five types of accessibility barriers



# CLASSROOM BUILD CHALLENGE

## Build A Rainbow

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking

**WORLD** <https://aka.ms/RainbowWorld>

### OBJECTIVES

A parabola is a graph or drawing of a quadratic equation. They could arch up like a mountain, down like a valley, or even curve to the left or right. You can draw parabolas on paper or a computer, but you can also see them in everyday life. Bridges, buildings, even a rainbow!

### EXTENSIONS

- Use the book and quill to take pictures of parabolas in Minecraft.
- Use blocks to graph a parabola for a quadratic function within Minecraft. Choose the blocks you will use and try to make it into a structure.
- Look for and record examples of parabolas in your school, on the playground, or in the community.



# CLASSROOM BUILD CHALLENGE

## Build A Power Source

**TIME** 30-60 min

**SKILLS** Creativity, Citizenship

**WORLD** <https://aka.ms/PowerSourceBuildChallengeWorld>

### OBJECTIVES

Your challenge is to design a sustainable energy solution to power a new data center. As you plan your build, consider factors such as waste, water use, and resource consumption.

### EXTENSIONS

- Use the book and quill to write a paragraph about what your power solution is and why it is sustainable
- Use a structure block to export a model of your build to use in a presentation about renewable energy
- Learn about SDG 13, Climate Action and explore ways you can be an agent of change in your school and community



# CLASSROOM BUILD CHALLENGE

## Redstone Vault

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking

**WORLD** <https://aka.ms/RedstoneVaultChallenge>

### OBJECTIVES

Explore the 7 fundamental logic gates that make all computers work and see how they can be used in Minecraft. See examples of the logic gates, pistons, extenders and even a fully functional 3x3 redstone gate! Make a simple lockable door, or a complex gate with sticky pistons and observers while learning about the basics of computer science!

### EXTENSIONS

- Research two-factor authentication and see if you can add to your build
- Learn about the logic gate symbols and how they are used in real life circuit diagrams
- Learn how logic gates are used to perform basic math operations



# CLASSROOM BUILD CHALLENGE

## Defend the Village

**TIME** 30-60 min

**SKILLS** Creativity, Collaboration

**WORLD** <https://aka.ms/WallChallengeWorld>

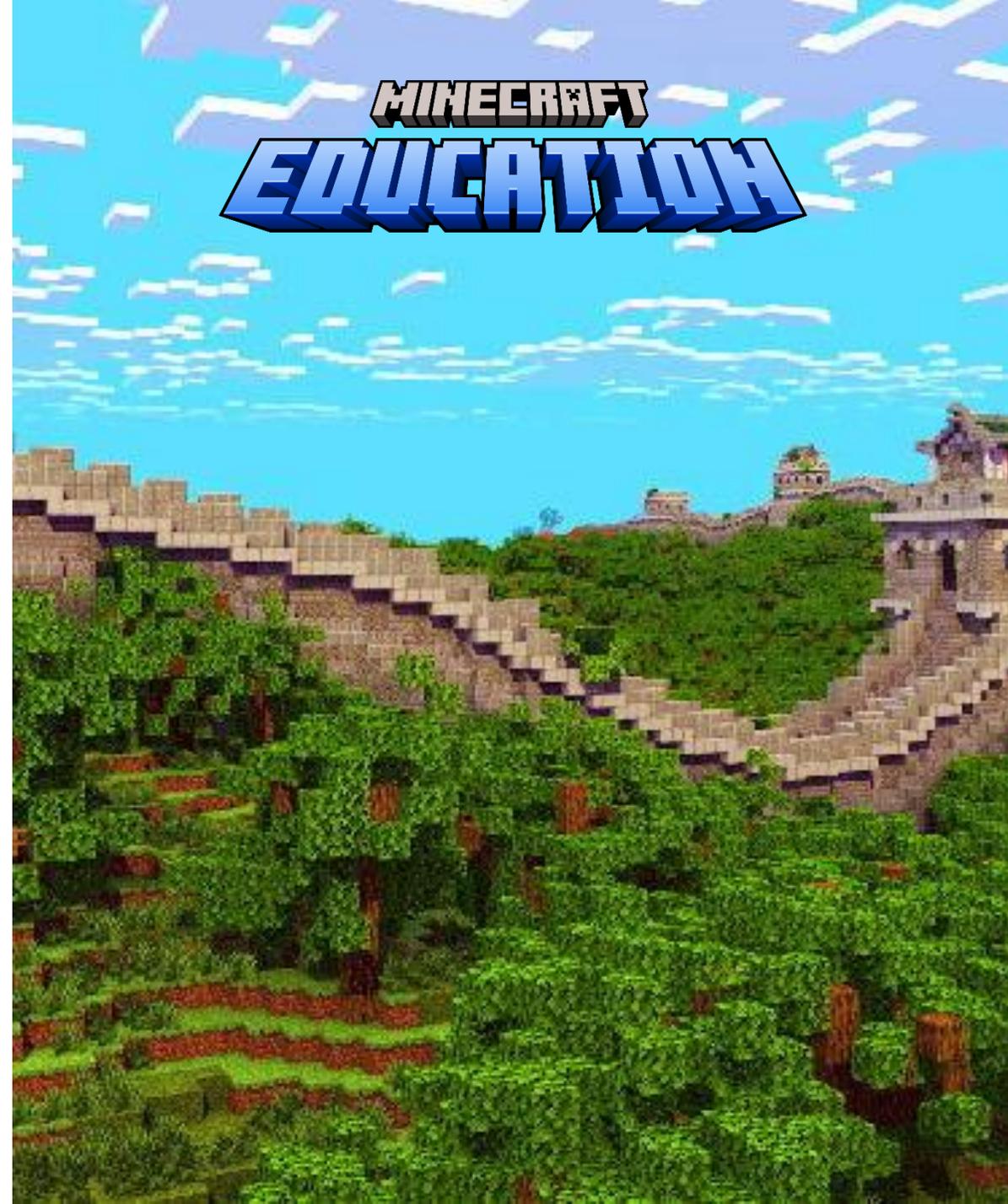
### OBJECTIVES

The illagers are preparing a raid! Build a wall to protect the village from a future raid by constructing a city wall and add at least two watch towers and a gate.

In this build challenge learn about two different types of historic walls which have been used to defend civilizations from invaders.

### EXTENSIONS

- The player is tasked to expand on the defensive wall by adding at least 1 or 2 other defensive mechanisms (a moat and/or a ditch)
- Research other historic walls used for defense.
- Join forces with another student and upgrade your defenses even more!



# CLASSROOM BUILD CHALLENGE

## Building Community

**TIME** 30-60 min

**SKILLS** Creativity, Collaboration, Citizenship, Critical Thinking

**WORLD** <https://aka.ms/BuildingCommunity>

### OBJECTIVES

How do you build community? In this map you will find a city that needs your ideas help it grow. The map contains a lot of useful buildings, but some could be transformed for a better purpose. Your challenge is to make this place into a home for all residents by adding what you believe will improve the area.

### EXTENSIONS

- Discussion questions for your classroom:
  - What makes a thriving community?
  - Why will your ideas benefit society?
  - How do you create happy places?
- Choose a building from your own community and create it Minecraft.



# CLASSROOM BUILD CHALLENGE

## The Hall of Inventions

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking

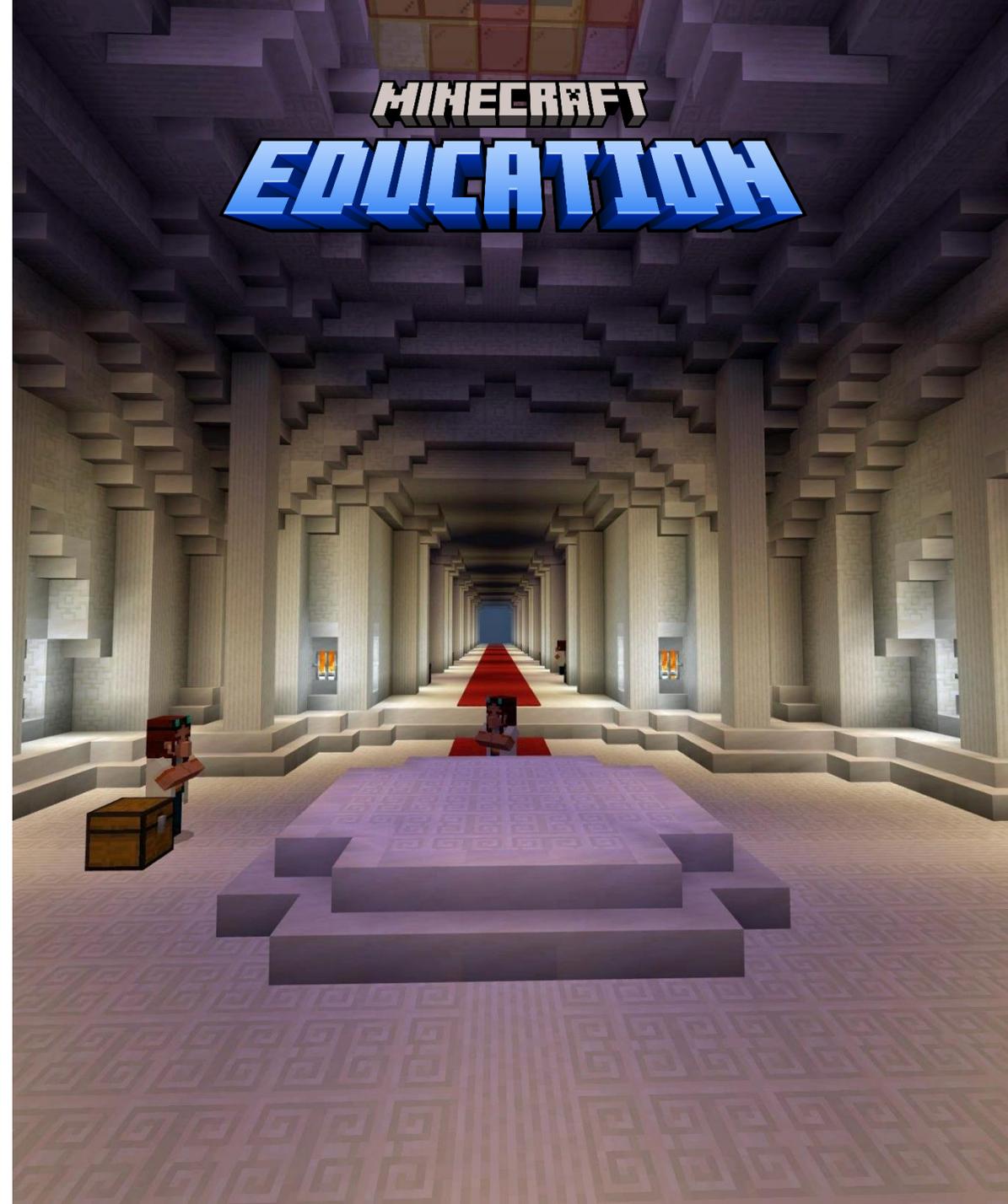
**WORLD** <https://aka.ms/HallOfInventionsWorld>

### OBJECTIVES

What are the most important inventions of all time? Explore this museum that features key innovations from history. However, there are blank spaces across time. This is where you come in. Consider what you think are the most important inventions, and then use the build plots to build them yourself.

### EXTENSIONS

- In class, answer these questions:
  - What will be this generations defining innovation?
  - What are the most recent world changing innovations?
- Build an invention from a time period you are studying.
- Build an invention that you think will come in the future!



# CLASSROOM BUILD CHALLENGE

## Greening Our City

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking, Collaboration, Citizenship

**WORLD** <https://aka.ms/GreeningOurCity>

### OBJECTIVES

Learn about green spaces, heat islands and urban greening and the impact it has on people who live in urban areas. Explore ways to help increase wellbeing for people and their urban environments, and then use your amazing Minecraft building skills and creativity to help green the city.

### EXTENSIONS

- Use the Agent to green one of the buildings
- Take pictures and research what plants you might use in your local area
- Write a proposal to your school for 'greening' their buildings

**MINECRAFT**  
**EDUCATION**



# CLASSROOM BUILD CHALLENGE

## Empathy Train

**TIME** 30-60 min

**SKILLS** Character, Citizenship, Communication

**WORLD** <https://aka.ms/EmpathyTrainWorld>

### OBJECTIVES

Use the automatic building tools inside the Minecraft world to quickly build a diorama that represents your understanding of what the other person is thinking or feeling. Share your build with the other person to see how they feel about it!

### EXTENSIONS

- Try to use colors and basic shapes to build an abstract diorama to show feelings
- Explore one of the example dioramas. Take turns sharing what feelings, memories, or ideas it brings up for you
- Build a diorama and then write a story to go along with it



# CLASSROOM BUILD CHALLENGE

## Build A Satellite

**TIME** 30-60 min

**SKILLS** Collaboration, Creativity, Critical Thinking

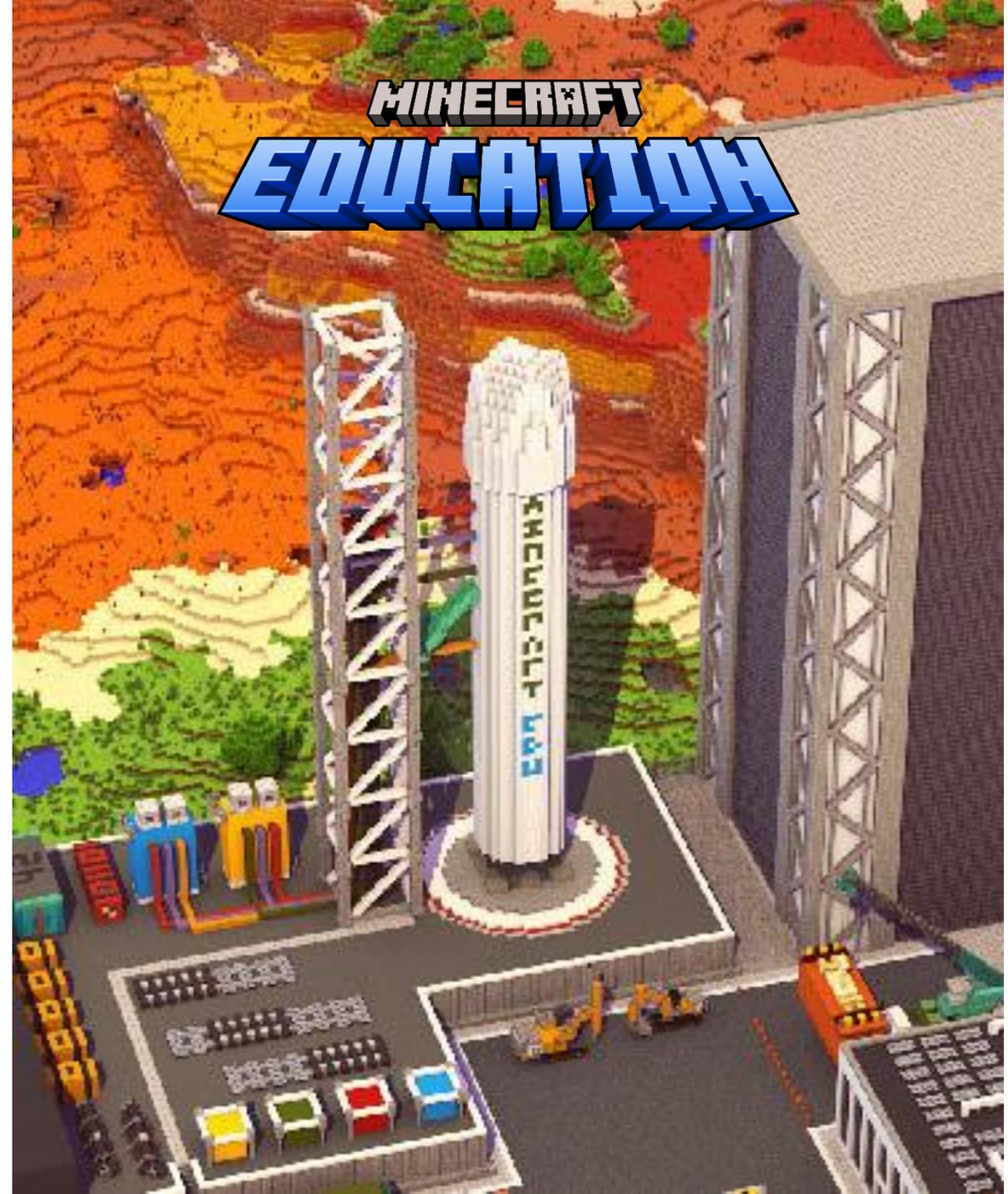
**WORLD** <https://aka.ms/BuildaSatelliteWorld>

### OBJECTIVES

Your challenge is to create a satellite of any shape or size within Minecraft. Choose what purpose your satellite will serve and include details in your build to help the satellite achieve its task. Some examples could be a Communication, Weather, GPS or Research Satellite.

### EXTENSIONS

- Write a paragraph about what your satellite will do then present to your class or a partner.
- Using reference materials, build a scale model of a spacecraft found in the real world. Add it to the museum inside the Minecraft world.
- Open real-time satellite maps showing what's currently flying overhead in your area of the world.



# CLASSROOM BUILD CHALLENGE

## Super Schools

**TIME** 30-60 min

**SKILLS** Collaboration, Creativity, Citizenship

**WORLD** <https://aka.ms/SuperSchools>

### OBJECTIVES

Explore the town and speak with students about what they think would make a super school. Design a school in Minecraft that meets the needs of your community!

### EXTENSIONS

- Work in a group, with each member choosing a different part of the school to design.
- Write a small essay about the improvements you planned in your new school.
- Decorate the surroundings of the school and create stores, cafes, and study places for students to enjoy.



# CLASSROOM BUILD CHALLENGE

## Orbital Outpost

**TIME** 30-60 min

**SKILLS** Collaboration, Creativity

**WORLD** <https://aka.ms/OrbitalOutpostWorld>

### OBJECTIVES

Use the orbital platform to build new modules and attach them together within Minecraft. Will your creation be used to conduct scientific experiments? To build spaceships? As a new home for humans? Make a plan, consider your goals, and use your imagination to build your new space station.

### EXTENSIONS

- Write a short essay about what you think it would be like to live in space or write a poem about what you think when look at the stars
- Make a list of things you would bring with you to space. What if you could bring only one?
- Take photos using the camera of your favorite parts of the space station you built and talk about them using the book and quill



# CLASSROOM BUILD CHALLENGE

## Historical Homes

**TIME** 30-60 min

**SKILLS** Citizenship, Creativity

**WORLD** <https://aka.ms/HistoricalHomesChallenge>

### OBJECTIVES

Travel through time in this build challenge and explore architecture from ancient, medieval, and modern times. Your challenge is to research and build a home within Minecraft in a specific historical style.

### EXTENSIONS

- Write a short essay about a different time period in which you would like to live
- Take pictures of your favorite parts of the houses you built with the camera tool and talk about them using the book and quill
- Look at houses near your school, look at their architectural features and guess when they were built



# CLASSROOM BUILD CHALLENGE

## Sports Spectacle

**TIME** 30-60 min

**SKILLS** Collaboration, Creativity

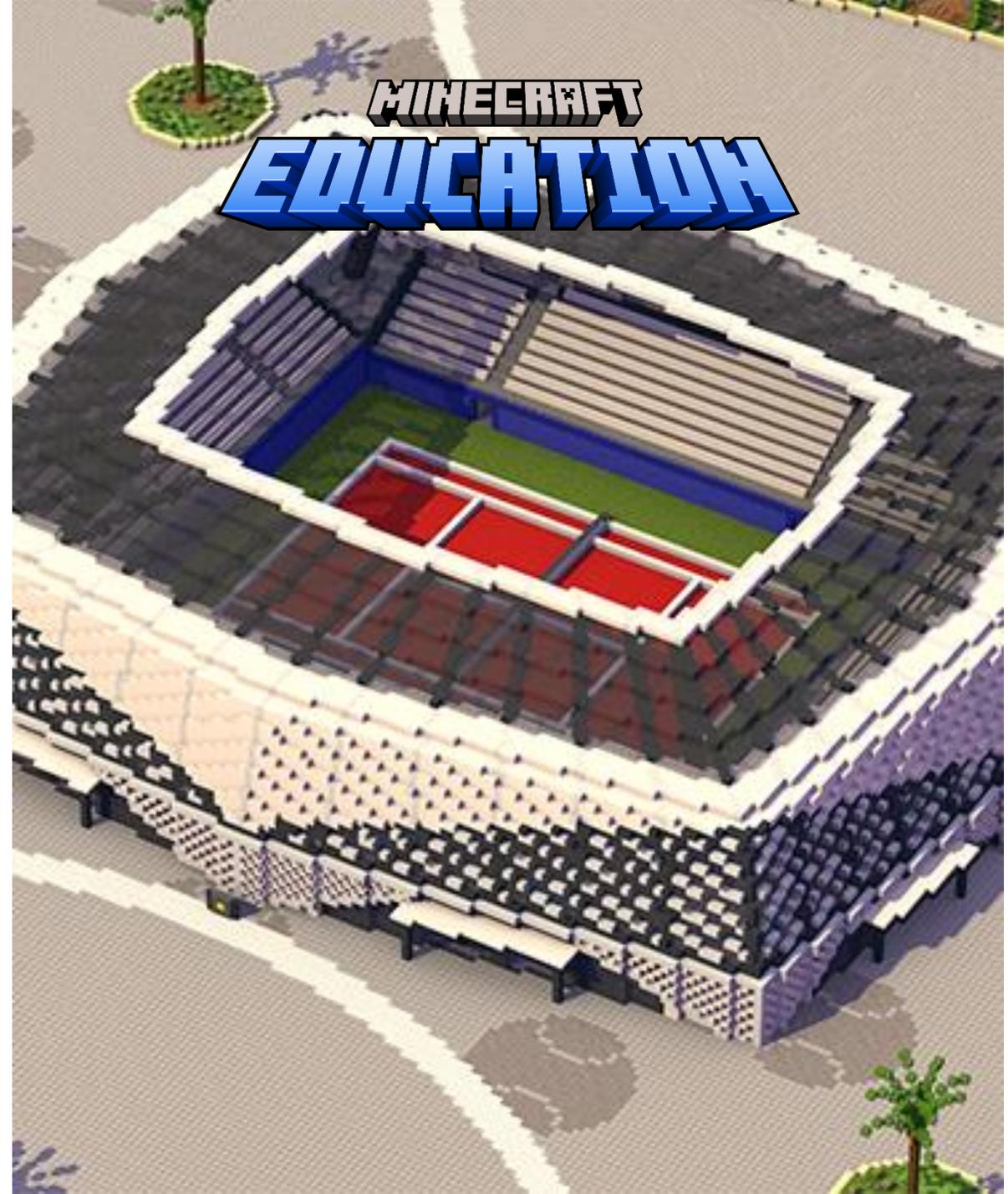
**WORLD** <https://aka.ms/SportsSpectacleWorld>

### OBJECTIVES

Your challenge is to choose a stadium and modify the playing ground to represent your community! Fill the area with grass, change the colors of the lines or create fun pixel art inside of the area. Let your creativity run wild!

### EXTENSIONS

- Decorate another sports field within the world
- Look at the architecture of sporting stadiums around the world
- Redesign the stadium to add additional features to benefit your community



# CLASSROOM BUILD CHALLENGE

## Dynamic Dioramas

**TIME** 30-60 min

**SKILLS** Collaboration, Creativity

**WORLD** <https://aka.ms/DynamicDioramasWorld>

### OBJECTIVES

Your challenge is to create a new diorama for a museum within Minecraft. Will it be dinosaurs roaming a jungle, microscopic cells inside your body, astronauts exploring the moon? You can create anything you can dream of!

### EXTENSIONS

1. Write a narrative that accompanies your diorama, detailing the world you built and the story it tells.
2. Present your diorama to your class, discuss and participate in a peer review by sharing insights of your creative process, and the theme you have explored.
3. Research a famous artist or art movement that resonates with your creation, then present your findings.



# CLASSROOM BUILD CHALLENGE

Trapped in Trappist

**TIME** 30-60 min

**SKILLS** Collaboration, Creativity, Critical Thinking

**WORLD** <https://aka.ms/TrappistWorld>

## OBJECTIVES

Explore the far reaches of space in Minecraft! Become a scientist and take on the challenge to explore three new planets, build a base, and determine if each one is suitable for sustaining life (and growing potatoes).

## EXTENSIONS

Research one of planets in the Trappist-1 system. How long is year on this planet compared to Earth?

Discuss what resources humans, plants, and animals need to survive.

How much food and water would one person need to survive during that time?

Switch to creative mode and design a base on your chosen planet. Use the book and quill to document the various



# CLASSROOM BUILD CHALLENGE

## Data Dash

**TIME** 30-60 min

**SKILLS** Creativity, Critical Thinking

**WORLD** <https://aka.ms/DataDashWorld>

### OBJECTIVES

Enhance your skills by practicing mathematics operations. Demonstrate your knowledge of math facts and quick building skills to complete a timed game or create your own math model in free build mode.

### EXTENSIONS

1. Answer ten questions in a row, then record your score to see who can get the most points and fastest time.
2. Create your own math problems and solve them in freebuild mode by creating a math model to represent the answer.
3. Use the book and quill to create flash cards to help you remember difficult math facts.

