Biodiversity and Conservation with Minecraft: Education Edition

About the Crate

This Cobblestone Crate, designed for Grade 4 to 6 teachers, will help you integrate Minecraft: Education Edition activities to supplement your Science units on ecosystems, habitats, or biodiversity. Additionally, these activities will pair well with your study of UN Sustainable Development Goals 11-15. These activities are general enough that they will fit with science or social studies topics that deal with conservation issues yet are specific enough that they will meet curricular objectives as well.

Our team of Cobblestone educators will help guide you and your students through each of the activities, providing options for differentiation and student reflection and sharing, leaving room for you to determine your own assessment techniques. The activities are designed for Grade 4 to 6 classes, but can easily be adapted for other grade levels by modifying the level of difficulty of the tasks.

The 5 Activities included are:

➔ Extinction! Safari
➔ Endangered Species Biodiversity Lab
➔ Biome Exploration, Documenting Native Species
➔ Causes of Biodiversity Loss
➔ What can we do to Maintain Biodiversity?

Guide for Implementation

Plan to begin your study of ecology the way you always have and then when the timing is right for you, add a dash of Cobblestone Crate to your lesson plan. You may choose to sprinkle the activities throughout the unit, or save them all until the end. That's totally up to you.

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It is recommended, however, that the activities are completed in order as they build upon each other, but if you don't have time for all 5, no problem! The earlier activities use Minecraft as a conduit for research and exploration of species and habitat; the last 3 activities will have students building and modifying existing Minecraft biomes to show their knowledge of species, habitats and conservation.

Refer to the following detailed descriptions of each activity.

Introduction

Video Length: 8m47s | Suggested Additional Class Time required: none
Suggested Materials (in addition to M:EE): various website research
In this video students will meet the team of co-teachers that will be working with them throughout the Conservation Lessons and be introduced to the submission form that will allow them to share their thinking. Students will also learn more about each of the 5 activities that will be covered.

Activity 1 - Extinction! Safari

Video Length: 22m 16s | Suggested Additional Class Time required: 30-40 minutes
Suggested Materials (in addition to M:EE): The Teacher's Guide from:
https://education.minecraft.net/lessonsupportfiles/Teacher-Guide-Extinction-Safari-v2.docx will provide sample student work and extention questions depending on grade level.
In this video students will tour through the Extinction Safari World and will explore animals that have been lost to extinction. Students will learn how to use the Minecraft Book and Quill and camera to document their findings, paying specific attention to the underlying causes of extinction. Students will find that animals have gone extinct due to some similar causes and that the rate of extinction is increasing. At the end of the lesson, students will download a PDF copy of their research about extinct animals.

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Activity 2 - Endangered Species Biodiversity Lab

Video Length: 18m 40s | Suggested Additional Class Time required: 20-30 minutes
Suggested Materials (in addition to M:EE): various website research

Students will continue to tour the biodiversity world, specifically the "Bio-domes". Students can tour and learn about the biomes that endangered species such as the Philippines Eagle live in, and what some of the threats are to their existence. Students will learn about slates (information boards) then add at least 3 slates per biome-dome to help improve awareness of some of the threats to the species in this lesson. Slates allow students to create quick information posts in their world for all to see.

Activity 3 - Biome Exploration

Video Length: 27m | Suggested Additional Class Time required: 20-30 minutes
Suggested Materials (in addition to M:EE): various website research

Students will choose a biome template from the world library and document which species are native to that biome in Minecraft. Students will then try and match where in the real world the biome could possibly exist. Students will add samples of biodiversity not included in the default biome to make it more closely match it's real world location. Through this activity students will have a deeper understanding of how biomes provide habitats and how species are connected to each other through their location. Student learning will be shared through the use of a board which can allow students to visually display their evidence for all to visitors to their world to see.

Activity 4 - Causes of Biodiversity Loss

Video Length: 27m | Suggested Additional Class Time required: 20-30 minutes
Suggested Materials (in addition to M:EE): Various Website Research

Students will be given a tour of the Extinction! Safari - Deforestation zone to show the effects of human habitation, and to formally introduce students to the 4 major causes of biodiversity loss - climate change, human activity and construction, invasive species, and pollution. After the video tour, students will make a copy and return to their previous biome world and show some impacts of human construction and how it can threaten and damage biodiversity in the area.

Activity 5 - What can we do to maintain biodiversity?

Video Length: 23m 46s| Suggested Additional Class Time required: 30-40 minutes
Suggested Materials (in addition to M:EE): Various Website Research

Students will learn about ways to offset and limit damage from human development and pollution, as well as promote habitat resettlement for species such as bees and butterflies to help encourage biodiversity. Students will return to the world that was damaged by human development and help create solutions to each of the major causes of biodiversity loss. Students will use all the skills they learned from earlier lessons, and also be introduced to NPCs (non-player characters) that they can create to inhabit their world. Using the npc students will share a weblink to a resource that helped educate them on protecting and nurturing biodiversity.