

Climate and Habitat... Temperate forests and Barn Swallows... Human beings working together!! Begin a Learning Journey that takes us through across the globe!

Learn about our wild cousins and how they adapt to their ecosystems! Learn about our role in the animal kingdom.

In our eko-STEAM Animals and Adaptations program, learners will spend time exploring animal species and gaining an understanding of adaptive traits and behaviors that help animals survive in their local ecosystems. This one-time class helps 8-10-year-old learners begin to think critically about how animals interact with each other and their world, including our own species. Students will spend an hour discussing various animals and completing the Project Imo eko-STEAM MC Animals and Adaptations Workbook. After this, they'll spend time in guided reflection about their own human adaptations to life on Earth!

This is a virtual version of Lesson 1 of our full, nature-based eko-STEAM Building Bridges Middle Childhood curriculum currently in development. This virtual lesson connects to our Lesson 2- Ice Age Life lesson which focuses on ice age climate, animals, and our human evolution.

eko-STEAM Animals and Adaptations delves deeply into Next Generation Science Standards through an exploration of our natural world, the fauna that inhabits it, and the interactions between life and earth. We'll take a journey across climate and habitat and discuss our own traits and behaviors that help us survive.

This exciting journey will have the students use a variety of tools to explore:

- Guided instruction
- Group discussion
- Online Research
- Independent reflection
- FREE Downloadable Project Imo eko-STEAM: Animals and Adaptations Workbook
- FREE Downloadable Project Imo eko-STEAM: Bridges I Have Built Journal
- Access to Stone Age Man YouTube: "The Coniferous Forest Biome Explained" by Emmy winning documentary maker and television host, Rob Nelson https://youtu.be/R4SJeGFAI_0
- Access to Wikipedia for single word searches of personally selected animals https://en.wikipedia.org/wiki/Main_Page

Learners will need access to Zoom; a printer, paper, and writing implement if using workbooks; ability to link to supporting YouTube videos; a notebook; a camera and microphone for group discussion is encouraged. Our Project Imo facilitators will moderate chat content for learners not using cam & mic so everyone can lend their voice to the discussion.

Come take the journey with us!

Next Generation Science Standards

- NGSS 3-LS2-1. Construct an argument that some animals form groups that help members survive.
 - NGSS 3-LS3-2. Students will use evidence to support the explanation that traits can be influenced by the environment.
 - NGSS 3-LS4-2: Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
 - NGSS 3-LS4-3: Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
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Student Learning Outcomes

1. Students will identify physical traits and grouping behaviors of local animal species and understand how these help them to survive
 2. Students will correlate human success in gathering to animal groups and increased survival success. They will research local wildlife that exist in groups. Using the provided “Group Animals Worksheet”, they will identify survival adaptations of group living and animal’s physical traits.
 3. Students will understand basic human evolution as a series of traits and behaviors and be able to correlate this to animal evolution
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Essential Questions

What are different categories of climate?

What are different types of habitats?

What is a biome?

What are animal traits?

What are animal behaviors?

How do animal traits and behaviors help them survive in different climates and habitats?

Why does forming a group and working together help some animals survive?

What traits do humans have that help us survive?

How do human group behaviors like cooperation help us survive?

Introduction!

Activity 1- Animals and Adaptations

- We'll discuss the categories of climate and types of habitats as we explore the first workbook (p1-2)
- We'll briefly identify two animals we each know well, identify what they look like, and if we see them with others of their kind or alone. We'll make notes of these animals.
- We'll discuss animal traits and behaviors as we learn about two species of bird common to North America (American crows [*Corvus brachyrhynchos*] and barn swallows [*Hirundo rustica*] (workbook p 3-4)
- We'll discuss how traits and behaviors help animals survive in their environments and how the biome in which they live may impact their behavior and how they evolve.
- We'll circle back to our workbooks (p-5) and the two animals we each chose earlier. Learners will complete the workbook page 5 for each animal they chose!

We'll take a hop over to YouTube and visit our friends at Stone Age Man. Here we will watch an amazing video by behavioral ecologist Rob Nelson. This 3:41 second video, "Coniferous Forest Biome Explained" will help us understand how this unique environment works and who lives there.

We'll come back and talk about the difference between some differences between coniferous and deciduous trees. Everyone will get a link to more self-guided learning at The Wild Classroom (<https://thewildclassroom.com/biomes/coniferous-forest/>)

Activity 2- Human Traits

- We will explore humans as animals with traits and behaviors that have allowed us to adapt to almost every environment on the planet earth and beyond!
- Using our Bridges I Have Built Journal, we will identify traits that humans have that help make us successful in these areas:
 - How do humans communicate with each other?
 - What body organ do we use to think about solutions to problems?
 - Look at your hand. Grab something off of your desk and hold it up. How does your hand work to hold the item you grabbed?

Reflection

Using our Bridges I Have Built Journal, we will engage in this reflection.

Individual journal entry-

Think about a time you worked together with someone to accomplish a task. How did it feel to cooperate and have someone help you? How did it feel to help someone else? Was the task easier with people helping?

Optional Group Discussion (time dependent)

We will build a list of cooperation feelings from our journal.