

# Lesson Plan: Animal Architects - Build a Biome!

## Materials Needed:

- One shoebox per child
  - Small animal figurines (or modeling clay/play-doh to make them)
  - Craft supplies: construction paper, scissors, glue, tape, markers or crayons
  - Natural materials: twigs, leaves, small rocks, sand, soil, grass
  - Miscellaneous craft items: cotton balls (for snow/clouds), blue cellophane or paint (for water), pipe cleaners (for plants or trees)
  - Age-appropriate resources for animal research (picture books, children's encyclopedia, access to kid-safe websites/videos)
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## Lesson Details

**Subject:** Science (Biology, Ecology, Art)

**Ages:** 4 - 12 years

**Time Allotment:** 60-90 minutes

## 1. Learning Objectives

By the end of this lesson, each child will be able to:

- **(Ages 4-6)** Identify an animal and build a simple representation of its home using appropriate colors and textures.
- **(Ages 7-9)** Describe how their chosen animal is suited for its habitat by explaining one or two key adaptations (e.g., camouflage, diet, shelter).
- **(Ages 10-12)** Design a detailed biome that includes the animal, its food source(s), and shelter, and explain the interdependence of these elements.

## 2. Introduction: Animal Habitat Charades (10 minutes)

Let's get warmed up! The goal is to guess the animal and then its home.

1. Have the first child silently act out an animal (e.g., hopping like a kangaroo, swimming like a fish).
2. Once the other children guess the animal, ask everyone: "Where does this animal live? What does its home look like? Is it hot or cold there? Is it wet or dry?"
3. Repeat this for a few different animals (like a penguin in the Antarctic, a monkey in the jungle, a camel in the desert) to get them thinking about different environments, which are also called habitats or biomes.

## 3. Main Activity: Build a Biome Diorama (40-60 minutes)

This is where you become an "Animal Architect!" Your job is to build the perfect home for an animal inside your shoebox.

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### Step 1: Choose Your Animal

Each child selects an animal figurine or chooses an animal they want to create with modeling clay. This choice gives them ownership over their project.

### Step 2: Research Your Habitat (Differentiated)

Before you can build, you need a plan! Find out about your animal's home.

- **For ages 4-6:** Look through a picture book or watch a short, engaging video about the animal. Ask simple questions together: "Do we see sand or snow? Are there lots of trees? What color is the water?" The focus is on visual recognition of the habitat's main features.
- **For ages 7-9:** Read a short article online (e.g., from National Geographic Kids) or in a children's encyclopedia. Help them find answers to these questions: What does this animal eat? Where does it sleep or hide? What is the weather like?
- **For ages 10-12:** Conduct more independent research. They should aim to identify the specific biome (e.g., Tundra, Tropical Rainforest, Coral Reef). Their goal is to understand the food chain. They should find out: What does my animal eat (prey)? What tries to eat my animal (predator)? What plants are essential to its survival?

### Step 3: Construct the Biome

Turn your shoebox on its side to create a stage. Now, use all the materials to build the habitat you researched.

- The back wall of the box is the sky or background. Draw or glue on paper for a sunset, a dark jungle, or an underwater scene.
- Cover the floor of the box. Use sand for a desert, blue paper or cellophane for an ocean, soil and leaves for a forest floor, or cotton balls for an arctic tundra.
- Add details! Use twigs for trees, green pipe cleaners for jungle vines, small rocks for a mountain, or crumpled tissue paper for coral.
- Finally, place your animal (and any other creatures, like its food source) inside its new home!

## 4. Closure: Museum Tour (10-15 minutes)

Line up the completed shoebox biomes like exhibits in a museum. Each child will act as a tour guide for their creation.

- **(Ages 4-6)** Ask them to simply point to different parts of their box: "Show me the animal. Where does it sleep? Where is the water?"
- **(Ages 7-9)** Ask them to explain **why** they made certain choices. "Tell me about this animal's home. Why did you add these rocks? What does it eat from that bush?"
- **(Ages 10-12)** Ask them to present their biome as a complete system. "Explain the food web in your biome. How does your animal's camouflage help it survive? What would happen if those plants disappeared?"

This is a wonderful opportunity for everyone to learn from each other's work and to practice their presentation skills in a supportive, fun way.

## 5. Extension Ideas

- **Creative Writing:** Write a short story about a day in the life of the animal in its new biome. The younger children can narrate the story to you while you write it down.

- **Biome Map:** Get a world map and have the older children place a pin or sticker on the parts of the world where their animal's biome is found.
- **Documentary Day:** Watch a nature documentary (like *Planet Earth* or a DisneyNature film) that features one of the biomes created. See if you can spot the animals and habitat features from your projects!