

# Lesson Plan: Dinosaur Habitat Designer

## Materials Needed

- A shoebox or other small cardboard box
- Modeling clay (various colors like green, brown, blue)
- Craft supplies: small rocks, twigs, leaves (from outside!), construction paper, pipe cleaners, glue, scissors, markers/crayons
- A small toy dinosaur figure (for the dinosaur Jimmy chooses)
- Paper and a pencil for sketching the design
- Access to kid-friendly dinosaur resources (books like the "National Geographic Little Kids First Big Book of Dinosaurs," or websites like DK Find Out! or the Natural History Museum's Dino Directory)

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## Learning Objectives

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

- Apply research about a specific dinosaur to solve a creative problem.
- Design and construct a 3D model of a prehistoric habitat that meets the dinosaur's basic needs (food, water, shelter).
- Verbally explain how the features of his habitat model support the life of his chosen dinosaur.

## Alignment with Standards (Example: Next Generation Science Standards)

- **Interdependent Relationships in Ecosystems:** Students will understand that animals need specific environments to survive. (LS2.A)
- **Engineering Design:** Students will define a simple problem, generate and compare solutions, and build a model to solve it. (K-2-ETS1)

## Lesson Activities

### Part 1: The Paleontologist's Mission (15 minutes)

#### Introduction & Engagement:

"Hello, Paleontologist Jimmy! I have a top-secret mission for you from the World Dinosaur Preserve. They are creating new, comfortable homes for dinosaurs, and they need the help of a top expert—that's you! Your mission is to design and build the perfect habitat for one dinosaur. To do this, you need to think like a scientist and an artist. First, you must choose your dinosaur 'client'."

1. **Choose a Dinosaur:** Let Jimmy choose his favorite dinosaur to focus on for the project. This gives him ownership and increases his motivation.
2. **Ask Guiding Questions:** Spark his curiosity. "What do we need to know about a dinosaur to build it a perfect home? Do you think a T-Rex would live in the same place as a Stegosaurus? Why not? What would happen if we put a Brachiosaurus in a desert with no tall trees?"

## Part 2: The Research Phase - Gathering Clues (20-30 minutes)

### Instructional Strategy: Guided Research

"Excellent choice! Now, to build the perfect home for your [Dinosaur's Name], you need to gather some clues about its life. Let's look in our research books and on our trusted websites to fill out our 'Dinosaur Fact File'."

On a piece of paper, create a simple chart for Jimmy to fill in:

- **Dinosaur Name:** \_\_\_\_\_
- **Diet:** What did it eat? (Was it a **herbivore** - plant eater, or a **carnivore** - meat eater?)
- **Environment:** What did its world look like? (Were there lots of trees, volcanoes, swamps, or plains?)
- **Water Source:** Where would it get water? (Rivers, lakes, ponds?)
- **Fun Fact:** What is something special about this dinosaur? (Did it have armor? A long neck? Was it a fast runner?)

**Differentiation:** If Jimmy is a strong reader, he can research independently. For support, you can read the information together and help him pull out the key facts.

## Part 3: The Design Phase - The Blueprint (15 minutes)

### Instructional Strategy: Planning & Visualization

"Great research, paleontologist! Now, before we start building, all great designers draw a blueprint. Let's sketch a plan for your shoebox habitat. Where will the water go? Where will you put the plants for your herbivore to eat? If it's a carnivore, what will its prey be? Where is a good place for it to rest or find shelter?"

1. Give Jimmy a piece of paper and a pencil.
2. Have him draw a top-down view of his shoebox, labeling where each key feature will go (e.g., "Blue clay river here," "Tall pipe cleaner trees here," "Rock cave for shelter"). This step encourages planning and critical thinking before construction.

## Part 4: The Construction Zone (45-60 minutes)

### Instructional Strategy: Hands-On Creation & Kinesthetic Learning

"Blueprint approved! It's time to bring your design to life. Here are all your building materials. Let's get to work and build the best dinosaur habitat ever seen!"

- Using the shoebox as the base, Jimmy will use the clay, rocks, twigs, and other craft supplies to construct his model based on his blueprint.
- **Encourage creativity:** Let him experiment! A twisted brown pipe cleaner can be a tree trunk. Ripped green construction paper makes great leaves. Blue clay is perfect for a river. Small rocks can become a cave or a mountain.
- This is the core of the "application" part of the lesson, where he physically represents the information he learned.

## Part 5: The Grand Opening - Habitat Tour (10 minutes)

### Assessment Method: Oral Presentation & Explanation

"Welcome, everyone, to the grand opening of the new [Dinosaur's Name] exhibit, designed by our lead paleontologist, Jimmy! Can you please give us a tour and explain your amazing creation?"

1. Jimmy presents his diorama.
2. You can ask questions to assess his understanding:
  - "Tell me why you put this river here." (To show he knows it needs water).
  - "What are these plants for?" (To show he knows its diet).
  - "Why did you build this rocky cave?" (To show he thought about shelter).

This verbal explanation is a fantastic, low-pressure way to see if he met the learning objectives. The assessment is based on his ability to justify his creative choices with the facts he researched, not just on memorizing the facts themselves.

## Extension Ideas (Optional)

- **Creative Writing:** Write a short story titled "A Day in the Life of My Dinosaur" set in the habitat he just built.
- **Add a Friend:** Research another dinosaur that lived in the same time period and environment and add it to the habitat. Discuss how the two dinosaurs would interact.
- **Scale and Measurement:** Use the toy dinosaur to estimate how big the real trees or rivers would have to be. For example, "If this 3-inch toy is a 40-foot-tall T-Rex, how tall would this twig-tree be in real life?"