

In an effort to make learning about animal adaptations more meaningful and engaging, I would like students to design a non-existent animal to survive in a habitat the student was given. This will require students to synthesize their learning about not only adaptations different animals have, but also biomes that provide the habitat. Including visual arts into this unit will enhance students' abilities to share their understanding and ideas to a broader audience through the creation of their art and its incorporation into their websites which will be presented to other students in the school. Please see the standards below.

## **Designing an Animal: Adapting to Habitats**

**Grade Level:** 4th Grade

**Subject:** Science

**Unit Topic:** Animal Adaptation - Structural and Behavioral

### **Lesson Overview:**

In this lesson, students will explore animal adaptations by designing a unique animal that can survive in a specific habitat. Students will engage in research, creativity, and teamwork to create a website showcasing their animal's adaptations.

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### **Engage (10 minutes):**

- Begin with a brief discussion about animal adaptations. Ask students what they think adaptations are and why they are important for survival.
- Show images of various animals and their habitats (e.g., desert, rainforest, tundra).
- Introduce the spinning wheel activity where students will spin to determine their habitat and animal class (mammal, bird, reptile, amphibian, or fish).

### **Explore (20 minutes):**

- In pairs, students will research the habitat they landed on. They will find information about the challenges animals face in that habitat.
- Provide resources such as books, articles, and safe internet sites for research.
- Have students take notes on key features of the habitat and potential adaptations needed for survival.

### **Explain (15 minutes):**

- Discuss the difference between structural adaptations (physical features) and behavioral adaptations (ways animals act).
- Ask students to share their findings about the habitat and brainstorm possible adaptations for their animals.

**Elaborate (30 minutes):**

- Students will design their animal using a variety of materials (drawing, modeling clay, etc.).
- They must include at least six different structural and behavioral adaptations, clearly labeling each one.
- Next, students will create a website page that includes:
  - A description of the habitat and its challenges (2-3 images to complement the text).
  - Descriptions and labels for their animal's adaptations.
  - A unique name for their animal.

**Evaluate (15 minutes):**

- Students will present their websites to the class, showcasing their animals and explaining how their adaptations help them survive in their habitat.
- Use the **Design an Animal Rubric** to assess their work based on content, creativity, research, and effort.

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**Materials Needed:**

- Spinning wheel or spinner (for habitats and classes)
- Research materials (books, articles, internet access)
- Art supplies (paper, colored pencils, modeling clay, etc.)
- Computers/tablets for website creation

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**Aligned Standards:**

- **Next Generation Science Standards (NGSS):**

- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- **Common Core State Standards for English Language Arts (CCSS ELA):**
  - W.4.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
  - SL.4.4. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes.
- **National Core Arts Standards (NCAS):**
  - **Creating:**
    - VA:Cr1.1.4a Generate and conceptualize artistic ideas and work.
    - VA:Cr2.1.4a Organize and develop artistic ideas and work.
  - **Presenting:**
    - VA:Pr4.1.4a Select, analyze, and interpret artistic work for presentation.
    - VA:Pr5.1.4a Develop and refine artistic techniques and work for presentation.