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NGSS Big Idea LS4.C Adaptation
3rd Grade Worksheet - Build Your Own Bird!

Introduction
What’s one trait that all birds have? Wings! Although a lot of birds can use their wings to fly, each bird uses their wings in different ways. For example, an albatross will spread its wings and glide long distances over the ocean. A hummingbird will beat its wings very quickly to navigate around different flowers.

Below are two birds, one with long skinny wings, and one with short fat wings. Can you make some predictions on:
- Habitat
- How the wings are used (do they beat fast or slow?)

<table>
<thead>
<tr>
<th>Long Skinny Wings</th>
<th>Short Fat Wings</th>
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<td>Predictions</td>
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What do you think would happen if someone released their pet Macaw (short fat wings, forest habitat), into the wild at the beach? How well do you think it would survive?

On the back side, design your own bird! Pick a wing shape and environment. Then, draw what you think it would look like, and where it would live! You can draw a real bird, or make up your own! Then, write about why your bird will succeed in its given environment, and how it will use its wings to fly.
One example might be that a hummingbird has short, fat wings. The hummingbird’s wings beat very fast, allowing the bird to fly around different flowers easily.

For more information, go to: https://academy.allaboutbirds.org/inside-birding-habitat/
Introduction
How are birds able to stay in the air? To answer this question, let’s model a bird wing using an airplane wing:

![Diagram of bird wing and airplane wing comparison]

Describe the wing. Which side is curved, and which side is flat?

Which side is longer?

Air on top, on the longer curved side, has to travel farther than the bottom, the short flat side. Therefore, air has to travel faster over the top, and slower over the bottom. This difference in airspeed creates lift, pulling the bird upwards.

Let’s simulate the bird wing using this sheet of paper! Get ready to hold the paper up to your mouth.

BEFORE YOU BEGIN, describe what you think will happen:

Now, blow on your “bird wing!” AFTER BLOWING ACROSS YOUR PAPER, describe what you saw happen. Why do you think that? Experiment with breaths that are long or short, or hard or soft!