

Matthew Lin

NGSS Big Idea LS4.C Adaptation

5th Grade Worksheet - Build Your Own Bird!

Introduction

Animals have **adaptations** to help them succeed in different environments. For example, most birds often live in the air, and have wings. Birds also live in different environments. Birds that fly in wide open spaces have long, skinny wings. Birds that live in environments with small spaces have short, fat wings.

Most birds fly using their wings. But what the birds do while flying varies enormously. Hummingbirds hover next to flowers and fly fast. Eagles swoop down on prey. Seagulls glide above the ocean. The shape of wings has evolved to help the birds do these kinds of flights. (and so on. My writing may not be quite simple enough, but you want to tell a short story and help them understand WHY the wings are shaped like this.)

Make predictions about what each bird does while flying, how lift works with this wing shape, and what kind of habits or habitats these birds live in.

	
Long Skinny Wings	Short Fat Wings
Ocean, Forest, City, Desert	

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 another piece of paper, 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!

For more information, go to: <https://academy.allaboutbirds.org/inside-birding-habitat/>

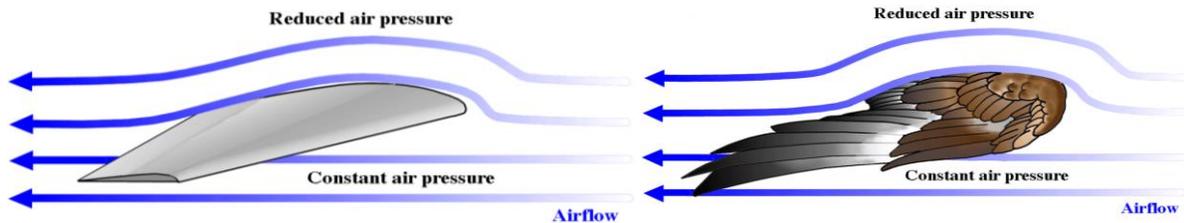
Matthew Lin

NGSS Practice 6. Constructing Explanations

5th Grade Worksheet - Defy Gravity!

Introduction

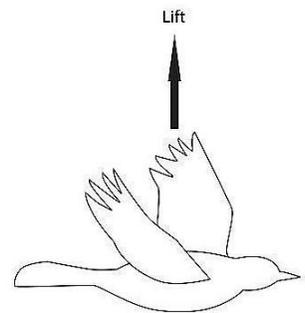
How are birds able to stay in the air? To answer this question, let's **model** a bird wing using an airplane wing:



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!