

Take flight! Soar with the birds as you investigate how wing shape affects the flight patterns of the Wandering Albatross and Peregrine Falcon.

TEKS:

SCI 4.13: Organisms and environments. The student knows that organisms undergo similar life processes and have structures that function to help them survive within their environments.

SCI 4.13.A: The student is expected to explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

SCI 5.13: Organisms and environments. The student knows that organisms undergo similar life processes and have structures and behaviors that help them survive within their environments.

SCI 5.13.A: The student is expected to analyze the structures and functions of different species to identify how organisms survive in the same environment.

Materials:

- Cardstock wing model templates (attached):
 - Peregrine Falcon
 - Wandering Albatross
- Scissors
- Small binder clip

How To:

1. Print each wing model template on cardstock.
2. Cut out each wing model and follow the steps below for each bird model:
 - a. Fold the template in half.
 - b. Fold the wings and tail flaps down so that they lay flat.
 - c. Try throwing the bird model like you would a paper airplane. How did it fly?
 - d. Attach a binder clip to the front of the wing model and try throwing it again. Did it fly any better?
3. Which bird flew the farthest: the Wandering Albatross or the Peregrine Falcon?
4. Read the STEM explanation below to learn more about how birds fly!

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STEM Explanation:

Have you ever noticed that all bird wings are different? Have you watched the birds you see every day take flight? Birds have adapted many different ways to allow them to fly. The biggest one is that they have wings! These wings are bent and covered in feathers to allow for flight. Additionally, birds have adapted to have hollow bones and a lightweight beak and body, making it much easier to lift themselves off the ground!

Do all wings help birds the same way? No! The wing SHAPE and SIZE determine how a bird flies. Some birds need their wings to glide as they search for food, while others need them to maneuver quickly to catch their food/prey.

The Peregrine Falcon probably traveled the farthest distance. Its short wing span allows it to flap more than other birds and travel more distance quickly! The Wandering Albatross likely traveled more slowly and did not go as far in the same amount of time. The long wingspan allows it to save its energy and flap less.

The falcon is the fastest bird that scientists have discovered. It's able to flap its wings up to 4 times per second! The Peregrine Falcon is a hunting bird. When diving for its prey, it can reach speeds of up to 200 miles per hour.

In contrast, the Wandering Albatross has by far the largest wingspan of any bird. When you have much smaller wings, you can flap them a lot more. When your wings are bigger, you aren't able to flap them as much, but each flap generates more lift which allows you to glide in the air for longer. Albatrosses are sea birds! They spend most of their life flying over the sea where there aren't many spots for them to land. Because of this, their wings must help them stay in the air for a long time with the least amount of energy possible.

Career:

Ornithologists study different bird species to understand every aspect of bird life. They investigate how birds interact with their environment, find food, and other bird behaviors. Studying changes in bird populations over time helps us understand how birds might be affected by ecological change in the future.

Resources:

<http://www.allaboutbirds.org>

<http://www.pbs.org/lifeofbirds/champions/index.html>

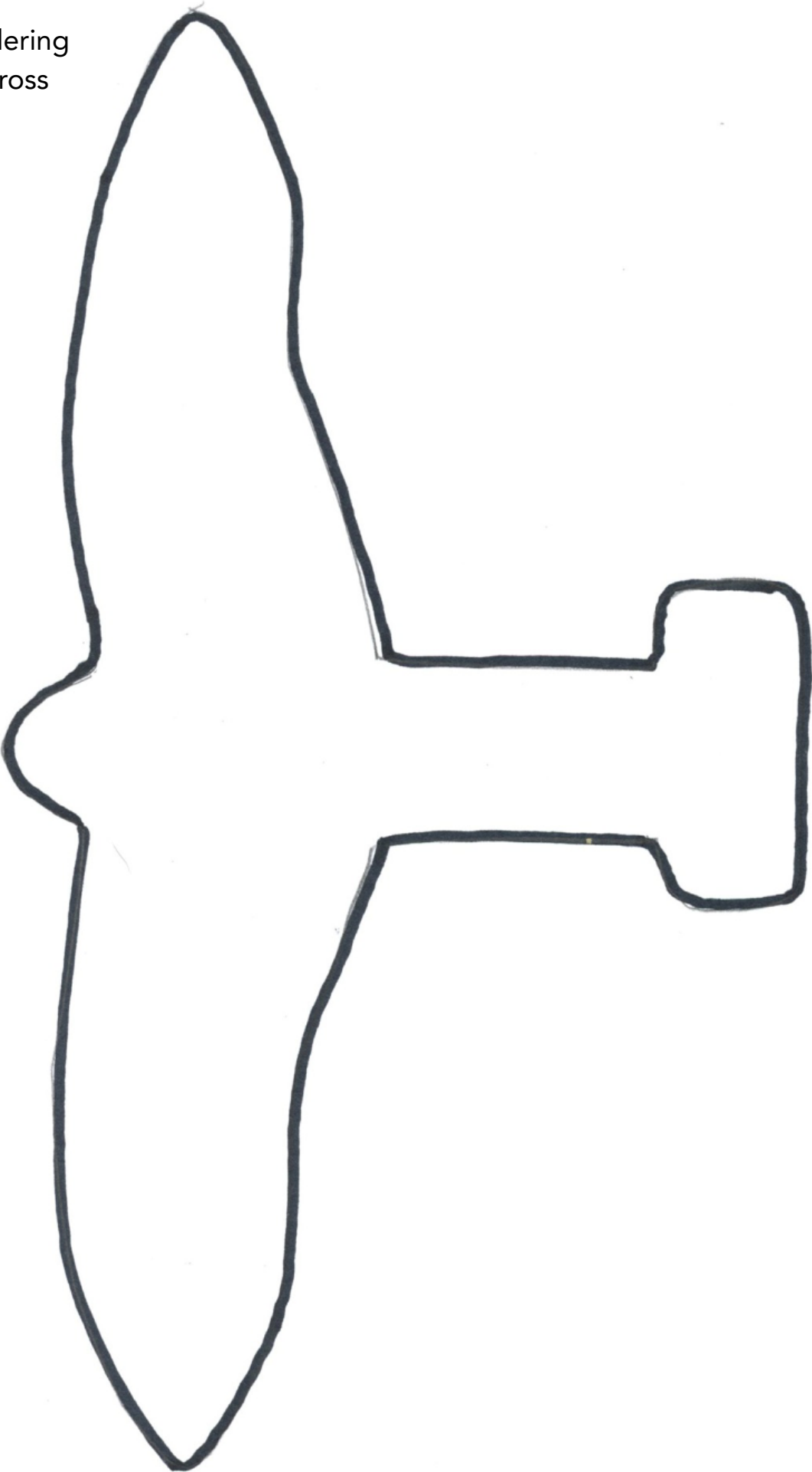
<http://www.birds.cornell.edu/physics/lessons/elementary/pdfs/tm>

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Wandering
Albatross



Peregrine
Falcon

