



# Bird Beak Adaptation Activity

Teacher Directions  
Grades K-1

# Overview



***Lesson products for Shorebird Scientists will:***

**•Embrace the practices of science and engineering by:**

- Asking questions (for science) and defining problems (for engineering)
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using math and computational thinking
- Engaging in an argument stemming from evidence
- Obtaining, evaluating, and communicating information

**•Recommend some literacy (ELA) connections**

**•Provide “Follow-up” activities**

# Overview



## ***Desired Student Outcomes:***

- Students will understand that birds have beaks that are different sizes and shapes and use those beaks in different ways to obtain food.
- Students will learn that birds live in specific habitats in order to obtain the food they need.

## ***NGSS Performance Expectations***

NGSS Disciplinary Core Idea – K-ESS3-1

NGSS Science and Engineering Practices – Developing and Using Models

NGSS Cross Cutting Concepts – Systems and System Models

ELA Connections: W.K.8; SL.K.1

NGSS Disciplinary Core Idea – LS1.A

NGSS Science and Engineering Practices – Developing and Using Models

NGSS Cross Cutting Concepts – Structure and Function

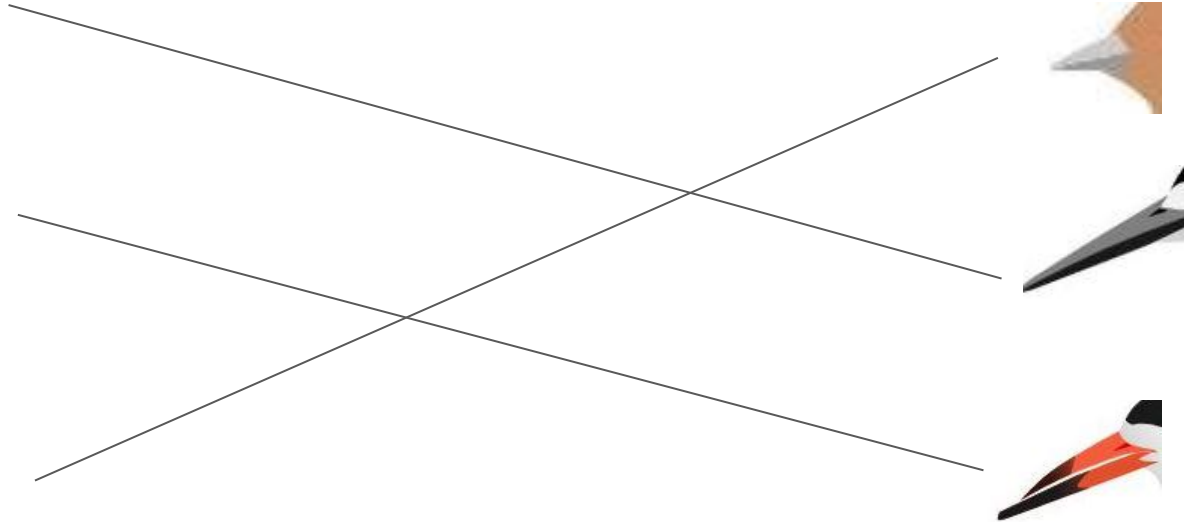
ELA Connections: W.1.8; SL.1.1

# Teacher Directions



Matching the Bird to the Beak Activity :

- Have students draw a line connecting which beak shape looks most similar to which bird
- Ask: “How can you tell?” “ Why do you think they have different beaks?”
- Explain: Beak shape is very important to birds as it helps them catch the food they best like to eat!



# Teacher Directions



How much food can you collect? Activity:

- Now we are going to do an activity to explore how a bird's beak shape can help it catch its food.

Materials Needed:

- Student worksheets and pencil
- Three bird "beaks" Tweezers (Piping Plover), Tongs (Great Egret) Strainer (Black Skimmer)
- Three bird "foods" Rubber bands in sand ( marine worms - Piping Plover); Gems or large beads in mud (frogs - Great Egret); (Cut sponge in water (Herring - Black Skimmer)
- Tray or plate for sand and "worms", container with mud for "frogs", container with water for "Herring"
- "Stomach" container
- Timer or stopwatch

Setup:

- This activity can be done with individually or in small groups depending on classroom needs. If being done individually each student will need a set of materials and a flat surface. If activity is being done in small groups set up can include one or two sets of each "beak" and "food" depending on class size and students can rotate through stations (Great Egret station, Black Skimmer station and Piping Plover station).

# Teacher Directions



How much food can you collect? Activity:

- Have students start with their first bird and “food”. Explain that they will have 30 seconds to collect as much food as they can using their “beaks” and putting it into their “stomach” cups.
- Remind students that they can only use their beaks as birds do not have hands!
- Have students start with their first beak and time them for 30 seconds.
- After their 30 seconds are up have students count how many pieces of food they were able to collect and mark it on their worksheet.
- Depending on time, students can share out how many pieces they collected and if collecting the food was hard or easy.
- Have students add their food back from their “stomach” and repeat the activity with the remaining two beaks.
- Have students have tried all three “beaks” have them share which beak worked the best in collecting the food.
- Repeat above steps for remaining two bird species.
- Have students share what beaks they think work the best for which bird and why.

# Teacher Directions



- Explain: Birds have different beaks that are different sizes and shapes. Their beaks help them eat the types of food they like best. It might have been hard for you to use “beaks” that were not the right shape to eat the food you were trying to collect and that is because that bird’s “beak” is not made for eating that type of food.
- Ask “ Where do you think each of these birds might prefer to live?”