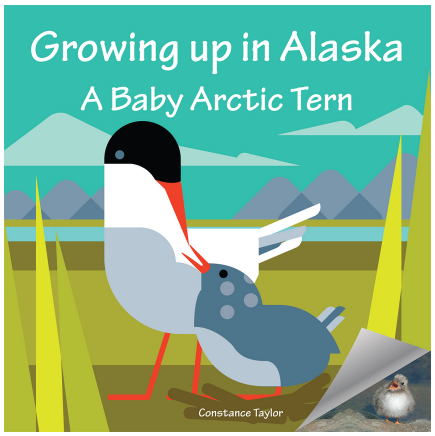
Growing Up in Alaska: A Baby Arctic Tern
Teacher's Guide



Summary: *Growing up in Alaska: A Baby Arctic Tern* by Constance Taylor is the photographic story of a baby Arctic Tern as he grows up in Alaska's Potter Marsh near Anchorage. With fanciful dialogue, the tern tells his story and children follow along as he hatches, then learns to eat, swim and care for his feathers. After many days of practice, trial and failure, he gains the joy of flying with his parents.

Objectives: This book is a fun way to begin teaching children about the arctic tern species. In addition, it can support lessons about growth and development, determination, and the importance of perseverance when learning new skills.

Teaching Activities: Supplement learning with these fun classroom or at-home activities designed to be adapted for use from PreK through 3rd grade to promote the following:

- **creativity**
- **social-emotional development**
- **physical activity**
- **scientific exploration**
- **critical thinking**
- **environmental awareness**

➢ Printable **worksheets** and **crafts** also available at www.arctictern.fathompublishing.com/activities.

Social-Emotional Activities

Emotional Expressions

Help the children practice emotional expression and empathy with this activity. Call out a situation that might happen to an Arctic Tern, and encourage them to make an emotional face to demonstrate how they think the Tern would feel (smiling, frowning, surprised, afraid, etc.).

➢ **Suggested situations:**

- You are a baby Tern hiding in your nest and you see big boots stomping by.
- You are a father Tern and you see a big Canada goose approaching your baby.
- You are hiding in the grass and you don't know where your parents are.
- You just ate a tummy full of krill.
- You just ate a spiny fish and it did not taste good.
- You are trying to fly but you keep falling back into the water.
- You have just learned how to fly and you are soaring with your mother high above the ground.

Physical Activities

Arctic Tern Life Cycle Role Play

Change the pace in the classroom and get the children moving with this activity. Designate two or more children to be Arctic Tern parents. The rest of the children will be baby Arctic Terns with a designated "nest" space. Another variation is to pair children together as one baby and one parent. Call out directions for children to follow and act like Arctic Terns.

- Baby Terns, you are in an egg in a cozy nest …… *curl up as tight as they can*
- Parents are flying around keeping watch ….. *flap arms and fly around the room*
- It's time to hatch! Start pecking at your shell ….. *bob heads in pecking motion*
- You hatched! ….. *sit up, remind them they are not strong enough to move yet*
- You're hungry ….. *cheeping sounds*
- Your parents will bring you food ….. *parents fly and pretend to drop food to babies*
- Now you can walk ….. *babies and parents walk like birds*
- Watch your parents fly and practice flapping your wings ….. *parents fly, babies flap in place*
- Now you can fly! ….. *all children fly around room*
- Now fly back to your nests for a rest!

Migration Relay

Set up: Mark a starting line on one end of the play area to be Alaska, and another line at the other end of the play area to be Antarctica. Divide children into two or more teams lined up behind the Alaska line.

Play: The goal is to be the first team to have all its players migrate to Antarctica and back to Alaska. When the teacher yells "Migrate!" the first player on each team flaps their arms and runs to Antarctica and back again. Once a player crosses the Alaska line, the next one on their team goes, and so on until all players have migrated.

Science Activities

Anatomy of a Feather

Give each child a feather (colored ones sold at art supply stores work fine) or gather around to study a feather. Discuss the function and design of feathers.

- Feathers keep birds warm, protect them from injury and are essential to help them fly.
- Compare the soft down feathers that keep birds warm, and the flight feathers.
- Discuss the stiff center shaft of flight feathers. Observe how it is hollow, and compare that to birds' hollow bones. Encourage the children to brainstorm about why bird bones and feather shafts are hollow. (Hollow bones and feather shafts make birds light enough to be able to fly.)
- If possible, study the feather through a magnifying glass or microscope to examine the hooks and barbs that fit together like Velcro to create a smooth, flexible surface that supports flight and sheds water.

Comparing Beaks

Arctic Terns have long pointed beaks that are perfect for snatching small fish from the water and catching insects. They will often hover over the water searching for food near the surface, then dive into the water to catch it. Once they have their catch, they gulp it down whole. Look at pictures of Arctic Tern beaks and then compare with other types of bird beaks. Encourage the children to brainstorm how different beaks might function.

- **Suggested comparisons:**
  - Eagles and Hawks – Curved beaks with sharp tips that tear prey into smaller pieces
  - Ducks – Flat beaks that strain water from the sides while eating
  - Sparrows and Cardinals – Conical beaks that can crack open seeds
  - Hummingbirds – Probing beaks that are long and slim to reach into flowers for nectar
  - Pelicans – Long beak with large throat pouch that can scoop up food and water, then drain the water before swallowing

Longest Migration of All

Use a map, a globe or an interactive digital map to visualize and discuss the impressive migrations of Arctic Terns.

Set the Stage: Use local landmarks to compare distances in a format to which children can relate. For example, choose two familiar locations (perhaps the school and a favorite park) and let the children guess how far it is between them. Then, measure the actual distance with your map or digital map. You can then compare that distance and the time it takes to travel with the distance Arctic Terns fly every year.

- **Interesting Arctic Tern migration facts:**
  - Arctic Terns are considered to have the longest yearly migration of any animal.
  - They travel every year from their Arctic breeding grounds in Europe, Asia and North America, down to enjoy summers in Antarctica, and then back again.
  - The shortest migration route is 12,000 miles one way. That would be a round trip journey of over 24,000 miles if they flew direct. Rather than flying directly north and south, Arctic Terns meander across the oceans to take advantage of prevailing winds.
  - The longest migration routes have been tracked to Arctic Terns in northern Europe. They fly south along the coastlines of Europe and Africa, then head east toward Australia and south to Antarctica. Some of these Terns have been tracked to travel nearly 60,000 miles in one year, which is a distance more than twice the circumference of the earth.
  - They see two summers every year and more daylight than any other creature.
  - Terns can live on average 30 years, and based on current studies, that means they could fly 1.5 million miles in their lifetime… which is equivalent to making 3 round trip flights from the Earth to the Moon.
  - Young Terns make their first long migration flight south when they are just a few months old.

Small but Mighty

Help the children visualize the size of Arctic Terns, so they can better understand the wonder of such a small creature able to fly so far. Use a yard stick and ruler, other objects, or cut a poster board to demonstrate the dimensions of an Arctic Tern.

- Body length from tip of beak to tip of tail: 11 - 16 inches
- Wingspan: 25 - 30 inches
- Weight: 3.0 - 4.5 ounces
- Make note of the light weight and how much longer the wings are than the body.

Environmental Dangers

Although Arctic Terns are not classified as an endangered species yet, they do face environmental dangers and threats to their survival. Discuss these with your class.

- **Climate Change**
  - Climate change is being documented with increasing temperatures, melting glaciers and polar ice caps, rising sea levels, and precipitation pattern changes, all of which affect the ecosystems Arctic Terns rely on.
  - Arctic Terns rely on Arctic and Antarctic ecosystems, which are impacted by climate change.
  - Arctic Terns could lose significant percentages of their habitat due to temperature changes.
  - Increasing sea temperatures can affect krill population that Arctic Terns rely on for food, as well as causing storms that impact migration and breeding schedules.
- **Pollution**
  - Oil spills, chemicals, and trash pollution in our oceans are threats to all marine animals, including Arctic Terns.

Student Engagement Activities

The following activities are suggestions to give individual students or groups of students the opportunity to engage further with what they have learned about Arctic Terns.

- **Turn and Talk to a Friend**
  Share with each other three facts that you learned about Arctic Terns.
  What was your favorite part of the story?
  If you were a character in the story, who would you want to be, and why?

- **How can you help?**
  Now that you have learned new information about environmental dangers for Arctic Terns, what part can you play to help keep them safe? Draw a picture of what you can do, and write a sentence to go with your picture.

- **Write a letter**
  - Write a letter to a friend or family member, and tell them about the story of the baby Arctic Tern. Include 3 details from the story.
  - Write a letter to one of the characters in the book. Tell them what you liked best about them, and ask them 3 questions you are curious about (that weren't answered in the book).

- **Use your imagination**
  The book ends with the baby Arctic Tern thrilled to be flying at last. What do you think happened after that? Write a short story about it.

- **Interview with an Arctic Tern**
  Prepare a skit with a partner. One of you is an Arctic Tern who has just returned from the long migration. The other is a news reporter interviewing the Arctic Tern about the journey. Use the facts learned about the long migration as part of your skit.

Helpful Websites

- https://kids.kiddle.co/Arctic_tern
- https://en.wikipedia.org/wiki/Arctic_tern
- https://www.nwf.org/Educational-Resources/Wildlife-Guide/Birds/Arctic-Tern
- https://www.nationalgeographic.com/animals/birds/a/arctic-tern/
- https://www.nationalgeographic.com/news/2010/1/100111-worlds-longest-migration-arctic-tern-bird/
- https://www.allaboutbirds.org/guide/Arctic_Tern/lifehistory
- https://www.birds.cornell.edu/k12/beaks
- https://academy.allaboutbirds.org/features/all-about-feathers

Teacher's Guide written by Wendy Kenny