Week 4

TEKS Science Standards: TEKS.b.2.A, TEKS.b.2.B, TEKS.b.2.C, TEKS.b.2.D, TEKS.b.2.E, TEKS.b.2.F, TEKS.b.3.A, TEKS.b.3.D, TEKS.b.4.A, TEKS.b.4.B, TEKS.b.10.A, TEKS.b.10.B
TEKS ELA Standards: TEKS.b.9, TEKS.b.11.B, TEKS.b.13.B, TEKS.b.15.A, TEKS.b.15.B, TEKS.b.18.A.ii, TEKS.b.18.A.iii, TEKS.b.18.B, TEKS.b.21.B, TEKS.b.22.D, TEKS.b.26, TEKS.b.27.A, TEKS.b.28, TEKS.b.29

Literature Links

"A Journey into Adaptation with Max Axiom, Super Scientist" by Agnieszka Biskup and Barbara Shulz
"Animalogía: Analogías de Animales" by Marianna Berkes
"Extreme Animals: The Toughest Creatures on Earth" by Nicola Davies
"Darwin and Evolution for Kids: His Life and Ideas with 21 Activities" by Kristan Lawson
"Survival at 40 Below" by Debbie S. Miller

Words to Know & Building Academic Vocabulary (BAV)

adaptation	hover	pipette
camouflage	inherited	planetarium
characteristic	magnetic field	predator
colleague	migrate	soar
emotionally	muffle	species
habitat	naturalist	webbed
hollow	nectar	
homing	ornithologist	

Page 1 Cover Story
Wings, Beaks, Legs, Tails and Feet
TEKS Science Standards: TEKS.b.2.B
TEKS ELA Standards: TEKS.b.15.B, TEKS.b.15.B, TEKS.b.18.A.ii, TEKS.b.18.B, TEKS.b.27.A, TEKS.b.29

Lesson Suggestions: Using "Think, Pair, Share," ask students to think about the questions in the article (Can you think of any other animals that have adapted to their environment? What do you think would happen to these animals if their environment changed suddenly? How do you think this change affects the animals' survival?). Assign pairs of students to take turns sharing their answers and thoughts on these questions. After the discussion, call on students to share their thoughts to each question.

- Add these standards if students complete the activity above: TEKS ELA Standards: TEKS.b.15.B, TEKS.b.18.A.ii, TEKS.b.18.B, TEKS.b.27.A, TEKS.b.29

Teacher Questions, (Answers) and Cognitive Complexity Level/Relevance Level

- Compare behavioral adaptations and physical adaptations. (Behavioral adaptations are the way animals act or behave. Physical adaptations are the way animals' bodies look and work.) MODERATE/2
- How does the title of this article relate to the topic being discussed? (Wings, beaks, legs, tails and feet are all physical adaptations that animals have acquired to function and survive in their environments.) HIGH/2-4
- Do you think an animal's adaptations can change over time? (Accept reasonable answers.)

MODERATE/2&4

Differentiated Instruction: Students can write an explanatory text that explores their knowledge of the topic of physical and behavioral adaptations. In their text, students should develop the information with concrete details, link ideas within categories of information using words and phrases and use precise language.

- Add these standards if students complete the activity above: TEKS ELA Standards: TEKS.b.15.B, TEKS.b.18.A.ii, TEKS.b.18.B

Pages 2 and 3 Lesson
Wings, Beaks, Legs, Tails and Feet
TEKS Science Standards: TEKS.b.2.B
TEKS ELA Standards: TEKS.b.9, TEKS.b.18.B, TEKS.b.29

Lesson Suggestions: Using the article, create a graphic organizer web of the different physical and behavioral characteristics of the birds in the southeastern United States.

- Add these standards if students complete the activity above: TEKS Science Standards: TEKS.b.2.B; TEKS ELA Standards: TEKS.b.18.B

Teacher Questions, (Answers) and Cognitive Complexity Level/Relevance Level

- What are ornithologists and what do they do? (Ornithologists are scientists who study birds to learn about their physical design and their behaviors.) LOW/2
- Why do some birds have webbed feet? (Birds that have webbed feet live in or near water and the webbed feet allow them to swim.) LOW/2&4
- What kind of physical characteristics do birds have or need in your area? (Accept reasonable answers.) HIGH/2-4

Differentiated Instruction: Using the article and with a partner, students should discuss the different physical and behavioral characteristics of the birds in the southeastern United States.

- Add these standards if students complete the activity above: TEKS Science Standards: TEKS.b.2.B; TEKS ELA Standards: TEKS.b.9, TEKS.b.29

Page 3 In the Lab
Beak Breakfast Bonanza
TEKS Science Standards: TEKS.b.2.B, TEKS.b.3.A
TEKS ELA Standards: TEKS.b.11.B, TEKS.b.18.A.ii, TEKS.b.18.A.iii
Lesson Suggestions: After students have completed the activity and recorded their findings, lead a discussion on their findings. If students disagree, stage an informal debate in which students must rely on their observations and recorded data to attempt to prove their case. Remind students that it is important to be respectful to others, even when they are in disagreement.

- Add the following standards if the students complete the activity above: TEKS Science Standards: TEKS.b.2.B, TEKS.b.3.A; TEKS ELA Standards: TEKS.b.11.B, TEKS.b.18.A.ii, TEKS.b.18.A.iii

Teacher Questions, (Answers) and Cognitive Complexity Level/Relevance Level

- Why do birds who live in or around water have bigger beaks/bills than land birds? (The birds that live in or around water have beaks/bills that allow them to catch fish or other aquatic animals.) MODERATE/2
- If a bird's environment is devastated by a natural disaster, what adaptations might it have to make? (Accept reasonable answers: Adaptations to its living habitat and what it eats.) HIGH/2-4

Page 4 Activity
Avian Designer: Build the Bird of Your Dreams
TEKS Science Standards: TEKS.b.2.B, TEKS.b.4.A
TEKS ELA Standards: TEKS.b.13.B, TEKS.b.15.A, TEKS.b.26, TEKS.b.28
Lesson Suggestions: Have students practice public speaking by presenting their documentation of their bird species to the class. Display clay or papier mâché models, if they were created.

- Add the following standards if the students complete the activity above: TEKS Science Standards: TEKS.b.2.B; TEKS ELA Standards: TEKS.b.13.B, TEKS.b.15.A, TEKS.b.26, TEKS.b.28

Teacher Questions, (Answers) and Cognitive Complexity Level/Relevance Level

- Are birds the only species that have adaptations? (No, all animals, including humans, have adaptations.) LOW/2
- What did you learn about animal adaptations? (Accept reasonable answers.) LOW/2

Writing and Technology
Let's Write

- Birds are not the only species that have physical or behavioral adaptations. Write a descriptive text about a different animal's structural and behavioral adaptations. Show how that animal's adaptations are helpful to survival. Remember to introduce and format the topic clearly, develop your writing with concrete details and use precise language.

ELA/Literacy Standards Covered: TEKS ELA Standards: TEKS.b.15.B, TEKS.b.18.A.ii, TEKS.b.18.B

- **Digital Developments:** The teacher may use this as a student product assessment and/or replacement for weekly assessment. MODERATE to HIGH/3 and 4

Web 2.0 Publishing Technology Suggestion(s)

- This week, students have learned about animal adaptations. Using the website Audioboo, have students write and record a podcast that tells about the creature they created for the Avian Designer activity. During the podcast, students should share descriptive facts and details and speak clearly at an understandable pace.
- Add these standards if students complete the activity above: TEKS ELA Standards: TEKS.b.13.B, TEKS.b.15.A, TEKS.b.26, TEKS.b.28

Web Surfers:
switchzoo.com/games/habitatgame.htm ready.gov/kids/know-the-facts
nps.gov/anch/upload/ourWildNeighbors.swf
ecokids.ca/pub/eco_info/topics/climate/adaptations/adaptations.swf