¿Qué es un ave, de todos modos?
What is a bird, anyway?

Grade 4 | Week 2

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LEARNING OUTCOMES:

By the end of this 45-minute lesson, 4th grade students will be able to...

- Identify the five key characteristics shared by all birds.
- Label five parts of a bird (beak, tail feathers, breast feathers, wings, eyes).

OVERVIEW

This lesson includes a species spotlight on the Western Tanager and introduces fourth-graders to the five key characteristics shared by all birds through a true or false activity.

TIME: 45 MINUTES

- Introduction: 5 minutes
- Species Highlight: 10 minutes
- True/False activity: 25 minutes
- Wrap up: 5 minutes

MATERIALS

- ☐ Field Guide Booklet
- ☐ Corresponding Google Slides Presentation
- ☐ Example bird characteristics worksheet (completed)
- ☐ Whiteboard (if inside) or flipchart (if outside)
- ☐ Pen/pencil
- ☐ Markers and colored pencils
- ☐ Clipboards (if outside)
- ☐ Their Species Highlight booklet
- ☐ True/False papers
- ☐ Bird characteristic worksheet

BACKGROUND

The Western Tanager or Piranga Capucha Roja is slightly larger than the Yellow Warbler. They are bright yellow with black wings and a distinctive flaming orange-red head. Their wings have two bold wingbars, an upper yellow one and a lower white one. They spend their summers in the United States and Canada (they travel further north than any other species of Tanager!) and they spend the winter in Mexico. This species primarily eats insects, however, they also eat fruit. When they are foraging they do so slowly and methodically.

There are **five characteristics** shared by all birds. Firstly, **all birds have feathers**. Birds are the only animals that have feathers! Feathers help birds fly; muscles are attached to the base of each feather so they can be moved when needed and feathers are flexible but rigid enough to withstand flight. In addition to flight, there are many other reasons why feathers are beneficial. This includes keeping birds warm by trapping air close to their bodies (like a blanket or clothing) and keeping birds dry because feathers are water-resistant. Feathers are made out of keratin (the same thing our hair and nails are made of!). Secondly, **all birds have beaks but no teeth**. Birds do not have teeth because the teeth and jawbones would be too heavy for efficient flight. Because birds do not have teeth, they cannot chew on their food so they must rely on their stomach muscles to crush their food. Many birds have notches or spikes on the inside of their beaks, however, these do not act as teeth and are only used to grip onto prey. Thirdly, **all birds lay eggs,** although birds are not the only animals that lay eggs. Birds lay eggs because they would not be able to fly with the weight of a baby inside of them. Fourthly, **all birds are warm-blooded (endothermic)**. Warm-blooded, or endothermic, means that birds are able to maintain a constant internal temperature. We are also warm-blooded! If we, or a bird, were in a cold room, we would be able to stay pretty warm and we definitely would not be as cold as our surroundings thanks to our warmblood! Finally, **all birds have hollow bones**. Hollow bones make birds' skeletons lighter so they can fly better!

KEYWORD TRANSLATIONS

Español	English
El Pico	Beak
Las Plumas	Feathers
Los Dientes	Teeth
Los Huevos	Eggs

Huesos huecos	Hollow bones
Sangre caliente	Warm-blooded
Endotérmicas	Endothermic

PREPARATION

Step 1: Print out all of the worksheets with extras.
Step 2: Complete a filled out worksheet for reference.
Step 3: Set up the corresponding Google Slides presentation.

ACTIVITIES

Step 1: Introduction ~5 minutes

- *"¡Bienvienidos Estudiantes! Welcome students! Me llamo ___. My name is ___." Today we are going to be learning about what makes a bird, a bird!"*
    - Point out this lesson on the flight path poster.
- *"Did anyone see any cool birds in the last week?"*
    - Have 1-3 students share their stories.

Step 2: Species Highlight ~10 minutes

- Reintroduce the concept of a Species Spotlight to students.
    - Pass back everyone's booklets.
- *This week we are going to be practicing our observation skills by looking at the Western Tanager (Piranga Capucha Roja).*
    - Ask students to repeat the Spanish name: "Piranga Capucha Roja"
- Go around the circle and have all students name one thing that they notice about the bird.
    - Colors, size, shape, beak shape, etc.
    - Give students the option to "pass."
    - Return to the student(s) (if any) that passed and prompt them to identify one thing they notice. They can also share with a partner.
- *"Let's practice being scientists just like we did last week! Is there anything that you wonder about this bird?"*
    - Where does it live? What does it eat?
- Go around the circle and have every student name one thing they wonder about the Western Tanager.
    - Give students the option to "pass."

    - Return to the student(s) (if any) that passed and prompt them to identify one thing they wonder. Or, have them share with a neighbor.
- *Now, let's look at the bird's migration pattern, food, and habitat.*
    - Have the students fill in this information on their booklet.
        - Use either the whiteboard, flipchart, or powerpoint to display the answers.
    - **Migration pattern**: Winter in Mexico (Guanajuato!). Summer in the northern United States (Oregon!).
    - **Food**: Insects and fruit (such as caterpillars, dragonflies, beetles, grasshoppers.)
    - **Habitat**: Coniferous forests and shrubby, wooded places.
        - *Forests with lots of trees*
    - **Fun Fact**: Forages slowly and methodically

Step 3: True/False Activity ~25 minutes

- *"We are going to learn about the five characteristics that all birds have! I am going to pass out a worksheet that we are going to complete together. Please do not start working or drawing on the paper until I finish giving the instructions."*
- Pass one handout to each student along with colored pencils.
- Explain to students that you are going to give them a series of true/false questions that they are going to answer.
    - Students should show the green side if they believe the answer is true, and red if they believe the answer is false.
    - Once the question has been answered correctly, students are going to add the facts we learn to the worksheet until we have identified all five characteristics.
        - Use slideshow or whiteboard to put down answers (in English and Spanish) so students know how to spell the statement.
- Give each student one red and green paper.
- *Let's all say the title together in English and then Spanish. "What makes a bird, a bird? Qué hace un ave, un ave?"*
    - Instruct students to put their name on the line.
- Ask students the following true or false questions:
- **Q:** True or False: birds are the only animals that have feathers.
    - **A:** True
    - If students answer "false," encourage them to name a non-bird animal that has feathers and use this opportunity to guide them to the correct answer
    - Have students add this fact in the rectangle numbered 1 on their paper:

        - Birds are the only animals that have feathers/Las aves son los únicos animales que tienen plumas.
    - Instruct students to draw an image that corresponds to this statement.
        - For example, students might draw a feather.
- **Q:** True or False: birds have big heavy bones to help them fly.
    - **A:** False, birds have light hollow bones.
    - In the rectangle numbered 2 have students add this fact:
        - All birds have hollow bones/Las aves tienen huesos huecos.
    - Instruct students to draw an image that corresponds to this statement.
        - Students should draw hollow bones.
- **Q:** True or False: all birds lay eggs.
    - **A:** True
    - If students answer "false," encourage them to name a bird species that does not lay eggs to help guide them to the correct answer.
    - In the first rectangle on the backside (numbered 3) instruct students to write this fact:
        - All birds lay eggs/Todas las aves ponen huevos.
    - Instruct students to draw an image that corresponds to this statement.
        - For example, students could draw a nest with eggs.
- **Q:** True or False: birds are endothermic (warm-blooded).
    - **A:** True
    - Take this time to introduce students to the term endothermic.
        - Ask students to repeat the Spanish version of this word (endotérmicas).
        - Warm-blooded means that birds are able to maintain a constant internal temperature.
            - We are also warm-blooded!
        - Birds have an average internal temperature of 104°Fahrenheit (compare that to the temperature it is outside that day so students can gauge what that means).
    - In the rectangle labeled with a number 4 direct students to write this fact down:
        - All birds are warm-blooded (endothermic)/Todas las aves son de sangre caliente (endotérmicas).
    - Instruct students to draw an image that corresponds to this statement.
        - For example, students might draw a thermometer and mark 104°F (the average internal temperature of a bird).
- **Q:** True or False, birds have beaks and teeth.
    - **A:** False

        - Birds have beaks but not teeth.
    - In the sixth rectangle labeled with a number 5 direct students to write this fact down:
        - All birds have beaks but no teeth/Todas las aves tienen pico pero no dientes.
    - Instruct students to draw an image that corresponds to this statement.
        - For example, students should draw a bird's beak.
- After all students are done writing/drawing, identify these statements as the five characteristics shared by all birds (all birds have feathers, all birds have beaks but no teeth, all birds lay eggs, all birds are warm-blooded (endothermic), all birds have hollow bones).

Step 4: Wrap Up ~5 minutes

- Ask students if any of them can name one characteristic shared by all birds.
    - Continue until all five characteristics are named.
- Walk students back to their seats.
- Thank all students for their participation and hard work. Briefly mention the next week's lesson so they have an idea of what to expect.

LESSON ADAPTED FROM

Feathered Friends. “What Makes a Bird… A Bird?” *The Cornell Lab of Ornithology*, 2017, https://www.birds.cornell.edu/k12/feathered-friends/

Dionné Mejía. “What Makes a Bird a Bird.” Willamette Laja Twinning Partnership, 2021, https://docs.google.com/presentation/d/1zJIIDnLWIk8gPqx9Dt_7_Yau-079iOxpJylM1ZRNAAA/edit?usp=sharing

Debruine, Caroline. “What is a Bird, Anyway?” Environmental Leadership Program, 2022. https://docs.google.com/document/d/1aQMoOgWtX-g1bjwekZ85mezCMxLxHArpmOoEMZNbcVw/edit

SOURCES

“Western Tanager Overview.” Overview, All About Birds, Cornell Lab of Ornithology, Cornell University, https://www.allaboutbirds.org/guide/Western_Tanager/overview.

“Endotherm.” *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., https://www.britannica.com/science/endotherm.

LINKS

Corresponding Google Slides Presentation

APPENDICES FOR WEEK 2 LESSON

(Refer to or print out the following as needed)

What makes a bird, a bird?

Qué hace un ave, un ave?

By _____

1.

2.

3.

4.

5.