



Teacher's Notes: Birds are Vertebrates

Science Standard:

Concept 1: PO 3. PO 3. Identify observable similarities and differences

Concept: PO 2. Classify animals by identifiable group characteristics: • vertebrates – mammals, **birds**, fish, reptiles, amphibians

Learning Objectives:

The students will be able to identify birds.

The students will be able to name 3 different types of birds

The students will be able to explain what a vertebrate has.

The students will be able sort animals by the category of vertebrate and not a vertebrates.

Activities

1. Get a collection of nature magazines that feature wildlife. Have students look for pictures of birds, worms, butterflies or other insects to cut out. Depending on group you could use the pictures for different things:
 - Students label one side of their paper "vertebrates" and glue pictures of the birds underneath. Label the other side of the paper "Not Vertebrates" and glue pictures of worms, butterflies and other insects underneath.
2. Students do an image search of birds, worms, and, butterflies. Have the students save the pictures and insert them into a Word document or PowerPoint. Students can write a sentence under each picture describing if they are a vertebrate or not.

General Tips: The goal is to build background knowledge while leading an engaging discussion on any and all information that can be talked about on a given page. The items that you choose to bring up or focus on can be modified for the students you are working with. For example, if you have a student who can point to something in the picture, answer yes/no questions be sure to incorporate a lot more of that as you go through the book. On the same token, be sure to ask a lot of comprehension questions and critical thinking questions at the level appropriate for students working on those skills. There is something for everyone.

Page 1:

Talking Points: Some animals have bones. Some animals do not have bones. People have bones. Birds have bones too! When you look at all of the bones together it is called a skeleton. The picture shows us that the bird has bones inside its body.

Pointing Questions: skeleton of bird, bones in the bird's head, bones in the bird's foot, bones in the bird's legs, bones in the bird's neck.

Short Answer: What are all of the bones in a body called? What do all birds have?

Yes/No: Do birds have bones? Do birds have a skeleton?

Sharing opinion/experiences: Do you have bones in your body? Do you have a skeleton? Sometimes people break their bones and have to wear a cast or walk on crutches? Do you know anyone who has broken a bone in their body?

Peer to Peer Interaction: After you read Page 1, ask students to get out their main idea card for this page. Have them ask each other questions/ talk about bones.

Page 2:

Talking Points: Birds have bones just like we do. Birds have a skeleton just like we do.

Pointing Questions: Point to the bird skeleton. What animals do you think the other skeletons are from?

Short Answer: What do vertebrates have? What do we call all animals that have skeletons?

Yes/No: Do birds have bones? Do all birds have a skeleton?

Sharing opinion/experiences: Do you like birds? Where have you seen birds flying?

Peer to Peer Interaction: After you read Page 1, ask students to get out their main idea card for this page. Have them ask each other questions/ talk about skeletons.

Page 3:

Talking Points: Animals who have a skeleton are called vertebrates. Birds have skeletons. They are vertebrates. We have a skeleton. We are vertebrates. Dogs have skeletons. Dogs are vertebrates.

Pointing Questions: bird, bird skeleton

Short Answer: What do all birds have?

Yes/No: Are birds vertebrates? Are we vertebrates? Are birds vertebrates?

Sharing opinion/experiences: Look at the skeletons in the book. What animals do you think the other skeletons are from?

Peer to Peer Interaction: After you read Page 3, ask students to talk about vertebrates with each other.

Page 4:

Talking Points: Worms do not have a skeleton. Worms are not vertebrates. Have students watch the following video describing earthworms. https://www.youtube.com/watch?v=l-zc_1vjLnI

Pointing Questions: worm

Short Answer: What animal is not a vertebrate?

Yes/No: Do worms have a skeleton? Are worms vertebrates?

Sharing opinion/experiences: Where have you seen worms? Have you ever held a worm? Would you like to hold a worm?

Peer to Peer Interaction: After you read Page 6, ask students, “What animal is not a vertebrate?” The answer is the main idea card “worms.” Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.

Page 5:

Talking Points: Cardinals are red birds. Cardinals have bones. Cardinals have skeletons. Cardinals are vertebrates? The Arizona Cardinal football team is named have this red bird. Have the students view the following video about cardinals. <https://www.youtube.com/watch?v=dvrAF2XWizo>

Pointing Questions: bird, beak, feathers, wings, legs

Short Answer: What is the name of the bird in the picture? What color are cardinals?

Yes/No: Are cardinals yellow? Are cardinals red? Are cardinals birds? Are cardinals vertebrates?

Sharing opinion/experiences: Have you ever seen a cardinal?

Peer to Peer Interaction: After you read Page 5, ask students, “What is the bird in the picture called?” The answer is the main idea card “cardinal.” Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.

Page 6:

Talking Points: This is an insect. They do not have a skeleton. They are not vertebrates.

Pointing Questions: legs, wings, antennae , insect

Short Answer: What is not a vertebrate?

Yes/No: Does a an insect fly? Do birds have a skeleton?

Sharing opinion/experiences: What kind of insects can you think of?

Peer to Peer Interaction: After you read Page 6, ask each other questions about insects.

Page 7:

Talking Points: An eagle is a type of bird. An eagle has bones. An eagle has a skeleton. An eagle is a vertebrate. The bald eagle is the national bird of the United States. Have the students watch the following video describing the bald eagle. <https://www.youtube.com/watch?v=BEgEIEfSuvU>

Pointing Questions: head, beak, body, legs, feathers **Short Answer:** What is the name of the bird in the picture?

Yes/No: Is an eagle a dog? Is an eagle a bird? Does an eagle have a skeleton? Is an eagle a vertebrate?

Sharing opinion/experiences: Have you ever seen an eagle? Do you think bald eagles are beautiful?

Peer to Peer Interaction: After you read Page 4, ask students, “What is the bird in the picture called?” The answer is the main idea card “eagle.” Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.

Page 8:

Talking Points: An ostrich is a big bird! An ostrich is one of the few birds that doesn’t fly. They are way too big to fly! Their wings are too small. An ostrich has a skeleton. An ostrich is a vertebrate. Have the students view the following video about ostrich. <https://www.youtube.com/watch?v=rINVdZ2qPB4>

Pointing Questions: ostrich, neck, legs, feathers

Short Answer: What is a big bird that cannot fly?

Yes/No: Is an ostrich a bird? Is an ostrich a vertebrate? Can an ostrich fly? Is an ostrich little? Is an ostrich big?

Sharing opinion/experiences: Ostriches do not fly. They run. Ostriches are very fast birds? Do you think you could run as fast as an ostrich?

Peer to Peer Interaction: After you read Page 8, ask students, “What large bird does not fly?” The answer is the main idea card “ostrich.” Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.

Page 9:

Talking Points: All birds have a skeleton. All birds are vertebrates. Just like all people have a skeleton, and all people are vertebrates.

Pointing Questions: blue bird, yellow bird brown bird, bird bones

Short Answer: What animals are vertebrates? What do all vertebrates have?

Yes/No: Are all birds vertebrates? Do vertebrates have bones?

Sharing opinion/experiences: What do you and birds both have?

Peer to Peer Interaction: After you read Page 9, ask students, “What animals are vertebrates?” The answer is the main idea card “all birds.” Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.