Cave of the Winds
Activity One:
Bats & Birds

Lesson for Grades K-5

About 40 minutes

Satisfies Colorado Model Content Standards for Science, Standard 3, Benchmark 1:

K-2. an organism (plant, animal) is a living thing that has physical characteristics that help it to survive

3-5. each plant or animal has different structures and behaviors that serve different functions in growth, survival, and reproduction

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CAVE OF THE WINDS

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Objective

The students will be able to compare and contrast bats and birds.

Materials

- Any book or story about bats and birds. For younger children use ***Stellaluna***, by Janell Cannon; c. 1993; Harcourt Brace & Co., New York.
- Copies of ***Bats & Birds***, ***Anatomy of a Bat*** and ***Comparing Bats and Birds*** worksheets in this lesson
- Pencils
- Illustrations of bats and birds (you may wish to provide)
- One large sheet to record class discussions

Background

Unlike birds, bats do not have feathers covering their bodies. Being mammals, bats have fur, bear live young, and nurse their babies (called pups). Unlike the flapping motion of a bird, which flies with its whole arm extended, a bat's wing motions are more like an exaggerated breaststroke. In a slow-motion photograph, one would be able to observe the elbows rising out to the side with finders extended, the arms and fingers pulling forward, down, and up again.

If one looks closely at a bat's wing, one will see it is a membrane, or skin, that is almost transparent. It is stretched over the short bones of the bat's arm and the long extended bones of its hand, so that the bat actually flies with its fingers. The important function of the long fingers of the bat's hand is to support and spread out its wing. The bat's wing is similar to the structure of the human hand.

The birds, in contrast, have a forearm and short hand bones that support its many feathers. Together, these produce the characteristic up and down flapping. The wing's structure is shaped similarly to an upside-down, flattened saucer.

Procedure

1. Read your selected book or story to the students and discuss which elements of the story are real or imaginary.
2. Brainstorm with the students some of the similarities and differences between birds and bats. Include that bats are mammals with fur that bear live young, while birds have feathers and lay eggs. Discuss some of the other special adaptations unique to bats and birds, such as how they eat and how they fly.
3. Have students complete their student worksheets, with what they believe to be the characteristics of bats, birds, and/or both.
4. Facilitate a class discussion comparing and contrasting the two animals. Record all class findings on your classroom master chart.

Extensions/Adaptations

1. With younger students, comparison can be done as a large group and the teacher can facilitate and record the data on a large classroom chart.
2. Have the students compare and contrast the bat's wing to a human arm.

Bats & Birds Worksheet

Name: _____

Directions: Place an "x" for the statements that are true for bats, birds, or both.

1. The animal has an inside skeleton. BAT ☐ BIRD ☐ BOTH ☐
2. The animal has feathers. BAT ☐ BIRD ☐ BOTH ☐
3. The animal has fur. BAT ☐ BIRD ☐ BOTH ☐
4. The animal makes a nest. BAT ☐ BIRD ☐ BOTH ☐
5. The animal hangs upside down to sleep. BAT ☐ BIRD ☐ BOTH ☐
6. The animal has teeth. BAT ☐ BIRD ☐ BOTH ☐
7. The animal flies. BAT ☐ BIRD ☐ BOTH ☐
8. The animal uses echolocation to catch food. BAT ☐ BIRD ☐ BOTH ☐
9. The animal breathes air. BAT ☐ BIRD ☐ BOTH ☐
10. The animal uses its eyes and ears to get food. BAT ☐ BIRD ☐ BOTH ☐

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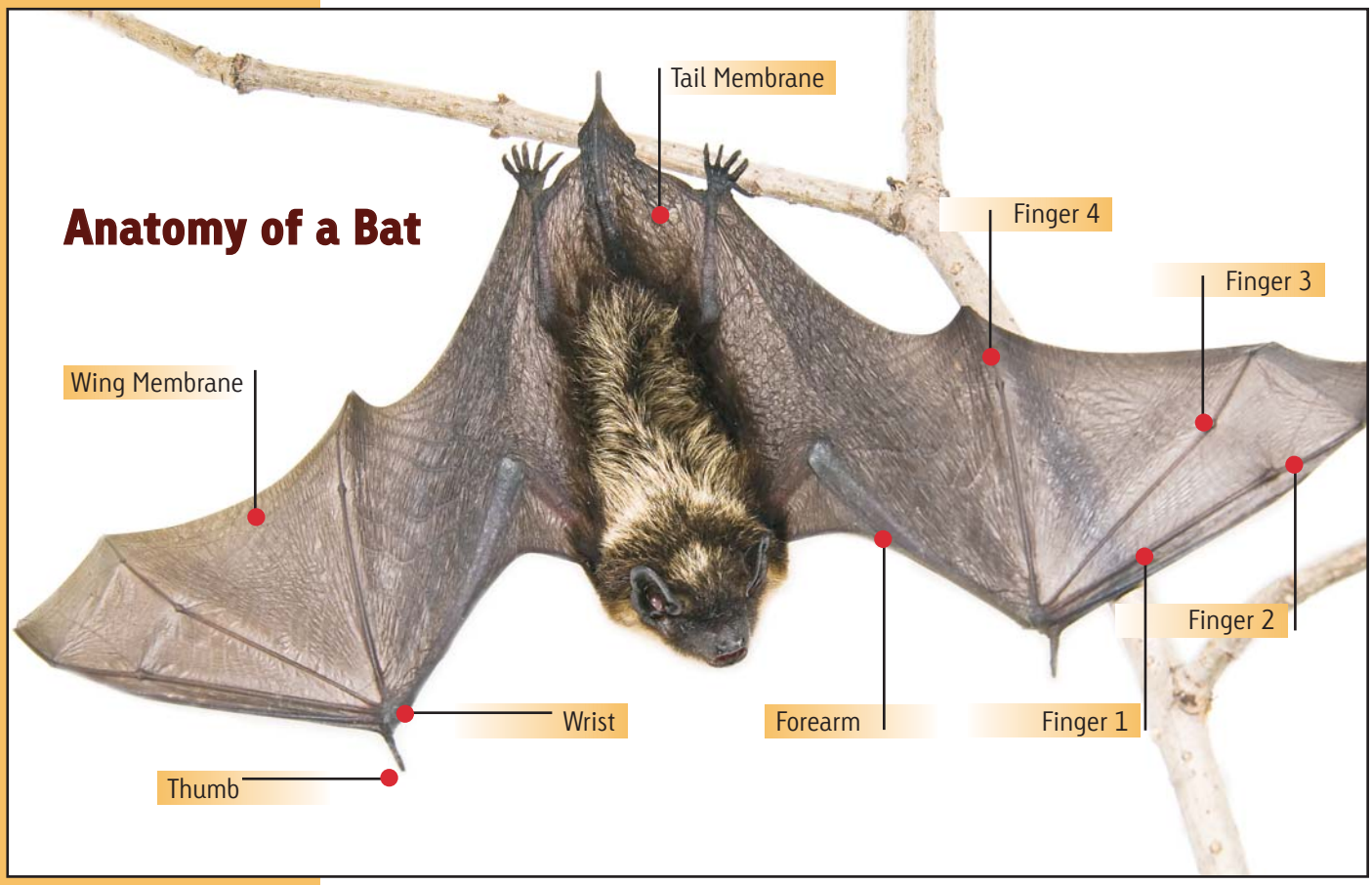
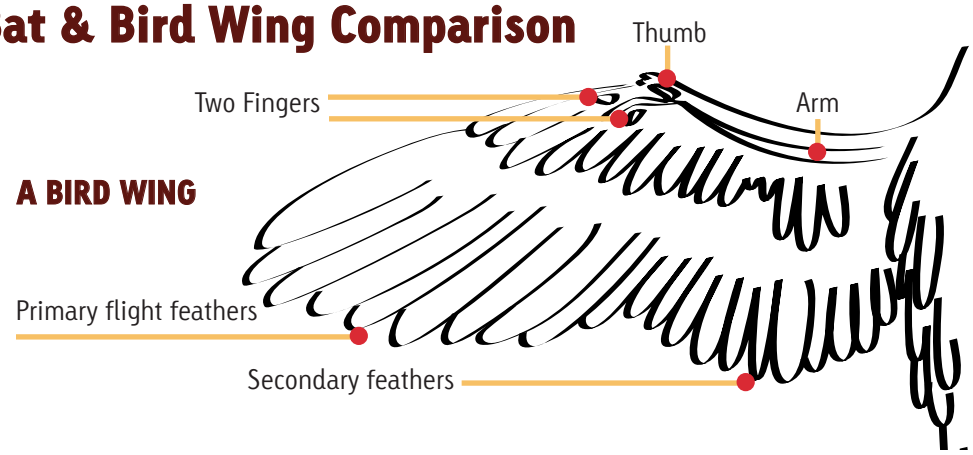
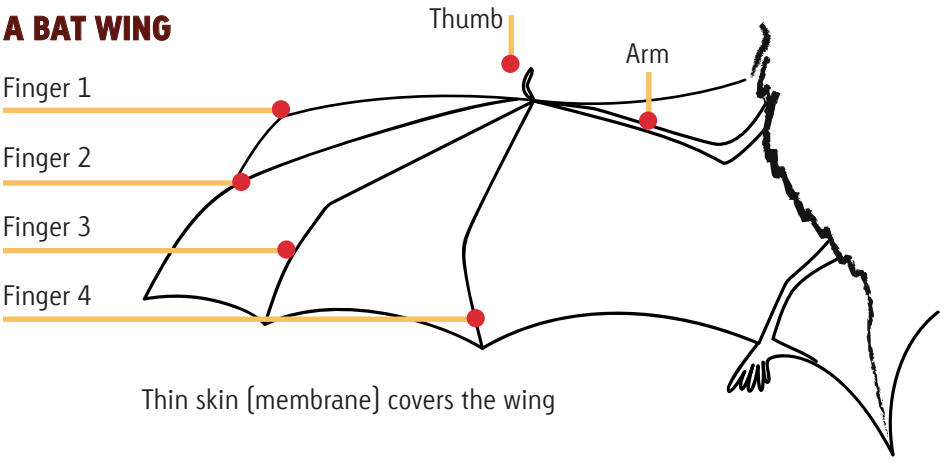
Anatomy of a Bat



Bat & Bird Wing Comparison





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