



Birds & Their Adaptations: Hummingbirds

Name: _____ Date: _____

Search your outdoor classroom for hummingbirds. Record your observations below. Use the Bird Adaptations chart on page 3 to help you identify the **adaptations** that it has to help it survive and provide **evidence** (facts that prove the truth) to explain the adaptations. Don't forget your binoculars if you have some!



1. Draw a picture of the hummingbird.

2. Describe the colors of its feathers:

Head: **iridescent emerald green**

Neck: **bright red (male) OR white (female)**

Chest: **white to gray-white (dusky)**

Belly: **white to gray-white (dusky)**

Back: **iridescent green**

Wings: **iridescent green**

Tail: **forked & black with white tips**

3. How do the colors of their feathers help them survive and reproduce?

Its green feathers help it hide in the leaves of trees. The males flash their iridescent red throats in the sunlight to attract females and establish their territories.

4. How long is it from its beak to its tail in inches? **3.0-3.5 in.** in centimeters? **7.6-8.9 cm**

5. How much does it weigh in ounces? **.1-.2 oz** in grams? **2.8-5.7 g**

6. Describe how birds' bones help them survive:

Most of the bones in a bird's body hollow or honeycombed, making them very lightweight so that it is easier for them to fly. Some of their bones are fused for increased efficiency.

7. Which of these describes its beak?

short & thin thick & pointed cone-shaped long & thin wide & flat large & hooked



8. How does its beak help it survive?

Hummingbirds use their long, slender bills to help them collect nectar from long, tubular-shaped flowers.

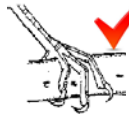
9. What is a gizzard? Describe how birds' gizzards help them survive:

Birds have a specialized portion of their stomach, called a gizzard, to help with digestion. The gizzard is specially designed for grinding food after it is swallowed whole.

10. Which of the following describes its feet?



two toes forward & two toes back (woodpecker)



three toes forward & one toe back (songbird)



large toes with claws (raptor)



webbed feet (duck)

11. How do its feet help it survive?

Hummingbirds have very tiny feet and legs that help them maneuver more easily when they are flying. Their feet have four toes - 3 toes forward and 1 toe back for perching.

Use your observations along with AWF's Wonders of Wildlife webpages, Cornell Lab of Ornithology's AllAboutBirds.org website, and field identification guides such as *Birds of Alabama* to identify the specific type of hummingbird and answer the questions below:

13. Common Name of Bird Species: Ruby-throated Hummingbird

14. Latin Name of Bird Species: *Archilochus colubris*

14. Describe its habitat:

They use deciduous woodlands, forest edges, old fields, meadows, prairies, orchards, stream borders, and backyards. On their tropical wintering grounds, they live in dry forests, citrus groves, hedgerows, and scrub.

15. List this species' other adaptations (other than its feather colors, bones, beaks, gizzards, feet) and provide evidence how these adaptations help it survive and reproduce in its habitat: Visit <https://www.alabamawildlife.org/wonders-of-wildlife-ruby-throated-hummingbird/#Adaptations>

Hummingbirds can fly forward, backward, and hover in mid-air because their wings connect to the body only at one point, the shoulder joint, allowing them the ability to rotate their wings 180 degrees.

They have a specialized tongue that is almost twice as long as their beak, allowing them to reach deep into tubular shaped flowers. The tongue has two tubes side by side that unroll, split into two straws, collect nectar, and then join back together as it rolls up.

At night, while hummingbirds rest, their bodies, including their heart rate and other organs, slow down in order to save energy.





BIRDS & THEIR ADAPTATIONS

Adaptations are those features that help an organism survive in a specific ecosystem. Using the chart below, study birds' adaptations and then identify these same features in the bird species found in your school's outdoor classroom and schoolyard wildlife habitat.

Example Adaptations of Common Backyard Birds		
Adaptation	Type of Bird	Advantage
Feathers		
Bright plumage	Some male birds	Attracts females during courtship and mating
Dull plumage	Some female birds	Aids in camouflage while nesting
Change of plumage with seasons	Goldfinch	Dull plumage provides camouflage in winter and bright yellow plumage attracts mate in spring & summer
Beaks		
Thick & Pointed	Woodpecker	Breaks and probes the bark of trees looking for insects
Large & Hooked	Hawk / Owl	Tears flesh of prey that it eats
Short & Cone-shaped	Finch	Cracks seeds and nuts for food
Long & Slender	Hummingbird	Probes flowers for nectar it eats
Short & Pointed	Nuthatch	Works like tweezers to grab insects hiding in bark
Flat & Wide	Flycatcher	Helps catch insects in air during flight
Wings		
Fringed at tips	Owl	Silent flight
Large & Broad	Hawk	Aids in soaring while hunting & flying with caught prey
Tapered	Flycatcher/Swallow	Fast flight to catch insects and to escape predators
Short, blunt	Chick-a-dee	Erratic flight, quick maneuver to escape by zig-zagging
Feet		
Webbed	Duck	Aids in swimming
Claws	Hawk / Owl	Grasping when hunting prey
Three toes forward & one behind	Cardinal	Perching on branches
Two toes forward & two behind	Woodpecker	Holding on to side of trees and climbing side of trees

