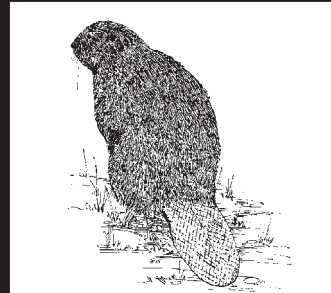
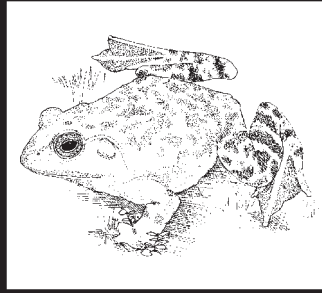
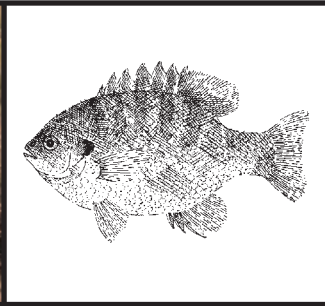
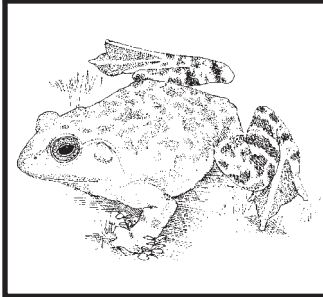


WILDLIFE SCIENCE 1





WILDLIFE SCIENCE 1





NOTE TO 4-H MEMBER

The 4-H Wildlife Science curriculum is for youth who enjoy learning about wildlife. Level 1 introduces the wildlife groups: mammals, birds, fish, and herptiles. You will learn about the similarities and differences among these groups and then study each one.

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Words defined in the glossary are in **bold** the first time they appear in the text.

Keeping a notebook or journal for your wildlife observations is a good idea. You can organize it into sections for each group—mammals, birds, fish, and herptiles—and use it for your entire 4-H wildlife science experience.

Discuss the Let’s Chat questions with your parent, 4-H leader, or other facilitator after you have completed the activity.

Additional Contributors: The Wildlife Science curriculum (2017) builds upon previous works (Indiana 4-H Wildlife, 1995, revised 2001). The contributions of wildlife biologists, Extension specialists, Extension educators, 4-H members, 4-H parents, FFA coaches, fair judges, teachers, graduate students, and undergraduate students were critical in its development. Topic focus was determined by wildlife biologists. Activities were developed, used, and revised in 4-H clubs, after school programs, and the wildlife habitat evaluation program. Major input to previous works was provided by wildlife biologists Brian Miller, Brian MacGowan, and Rod Williams.

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C1	INTRODUCTION TO					
				WILDLIFE SCIENCE 1		

ANIMAL NEEDS

Can you name the four things all animals need?

INTRODUCTION

All animals need food, shelter, and water. Their fourth need is space to live in where they can find the first three. All these needs must be met in an animal's **habitat**, the space where it lives. In this activity you will learn how five animals meet their needs. The American bullfrog, bluegill, Eastern garter snake, raccoon, and red-tailed hawk represent the five mammal **classes**: amphibian, fish, reptile, mammal, and bird. The reptile and amphibian classes are sometimes combined and called **herptiles**.



GEAR

- Pencil



LET'S DO IT

1. Use your knowledge and information in the animal needs table to complete the last column (Animal) using: *raccoon, red-tailed hawk, garter snake, bluegill, and bullfrog*.

- Use each animal only once.
- Start with the animals you are sure about.
- Guessing is fine.



LET'S CHAT

Share What Happened: Was completing the table difficult?

Apply: Why does a wildlife biologist need to know basic animal needs?

Generalize to Your Life: What do you need to know about bluebirds to create habitat around your house for them?



LET'S FLY HIGHER

- Identify the species of each animal in the animal needs table. Your facilitator can help if you need some clues.

ANIMAL NEEDS

HABITAT	FOOD	SHELTER	WATER	ANIMAL
Grassy or shrubby fields, outbuildings and moist habitats	Toads, frogs, slugs, worms, and almost anything it can overpower	Hibernates when temperatures are below 50°F	From prey	
Shallow water in lakes and ponds and slow-moving streams	Plankton and other aquatic creatures	Hides in fallen logs and aquatic plants	Takes water in through gills	
Lakes, ponds, and wetlands	Any small animal it can overpower, including rodents, small reptiles, crayfish, birds, and bats	Aquatic plants, hibernates in winter	Absorbs water through skin	
Prefers mixed forest and field with high trees but adapted to many habitats	Mainly small mammals but also birds and reptiles	Nests in trees	From prey, open water, and sometimes, snow	
Prefers deciduous and mixed forests but has adapted to many habitats	Almost anything (corn, fish, chickens, fruit, nuts, etc.)	Tree cavities and other dens	From prey and rivers and ponds	

MY NOTES and IDEAS

VERTEBRATE CLASSES

What are vertebrates?

INTRODUCTION

The term **wildlife** includes all animals that live in the natural environment but not under the direct control of humans. Level 1 of the 4-H Wildlife Science manual focuses on animals in the **vertebrate** group. Vertebrates are animals with a **backbone**. A backbone consists of a series of bones that connects the animal's skull to its pelvis. Each bone is called a **vertebra**.

Vertebrates are divided into classes. The classes of animals you will learn about are mammals, birds, reptiles, amphibians, and fish. In this activity you will learn the major differences between them.

Animals in the same class share **traits**. Here are some examples of unique traits of vertebrates.

- Mammals have hair.
- Birds have feathers.
- Fish have fins.
- Reptiles have scales.
- Amphibians can breathe through their skin.

GEAR

- Pencil



LET'S DO IT

1. Read the information about vertebrate classes in the introduction.
2. Complete the vertebrate classes table by writing the vertebrate class for the pictures shown in each row.



LET'S CHAT

Share What Happened: What did you learn in this activity? Can you name the five classes of vertebrates you studied?

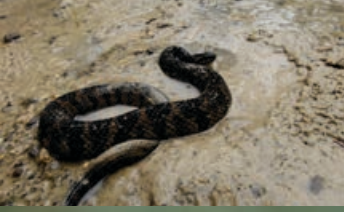

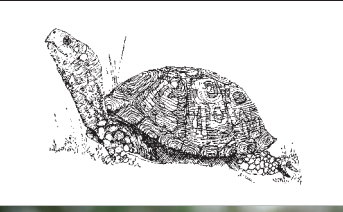












Apply: How could being able to talk about a wildlife group be useful?

Generalize to Your Life: What other groupings can you think of?

BACKBONES THAT ARE MADE OF VERTEBRA				
Mammal	Bird	Fish	Amphibian	Reptile

MY NOTES and IDEAS

Write the name of each vertebrate class in the last column for the pictures shown in each row.

			VERTEBRATE CLASS
			
			
			
			
			

Study the wildlife pictures in the table. Look for things that are alike and things that are different. Answer the questions based on what you already know and what you see in the pictures.

- *What traits do birds share?*

- *What traits do fish share?*

- *What traits do mammals share?*

- *What traits do reptiles share?*

- *What traits do amphibians share?*



DID YOU KNOW?

Amphibians and reptiles are often studied together in a group called herptiles. Herpetology is the study of amphibians (including frogs, toads, salamanders, and newts) and reptiles (including snakes, lizards, turtles, tortoises, and crocodiles).

READ ABOUT WILDLIFE

How do animals survive in the wild?

INTRODUCTION

Animals that live in the wild face many challenges. They must find a place to live in as well as food, water, and shelter within their habitat. This includes space to safely reproduce (give birth) and raise their young. Wildlife survives in many different ways. In this activity you will find a book about an animal or group of animals to learn about the habitat that animal lives in and how it survives in the wild.



GEAR

- A book about an animal or a group of animals. Choose a nonfiction book with information about how an animal survives in the wild. Your local or school librarian may be a good resource. Or choose a book from either of these series: *National Geographic Kids Reader Series* (suggested titles *Bats, Lizards, Wolves, Snakes, Polar Bears, and Owls*); and *Amazing Animal Kingdom Series* by Emma Childs, available as e-book reader downloads, if you prefer (suggested titles *Wolves, Foxes, Frogs, Bears, Snakes, and Rabbits*).
Note: Do not use guidebooks or identification books for this activity.
- Pencil and paper



LET'S DO IT

1. Read the book you chose, or ask someone to read it to you.
2. Complete each sentence in the Book Report on this page with the species of animal you read about.



LET'S CHAT

Share What Happened: Why did you choose the book?

Apply: Could the animal you read about live near your home? Why or why not?

Generalize to Your Life: What can you learn from reading books?

BOOK REPORT

Book title:

Wildlife species:

Habitat the _____ prefers:

Common food that _____ eats:

How _____ get their food:

How the _____ gives birth:

live young or lays eggs (circle one)

Interesting facts about the _____:

Where could people find more information about this animal?



LET'S FLY HIGHER

- Read another book about your animal or other wildlife.
- Watch an educational television show about wildlife.