

# SCIENCE

Student Book

▶ **4th Grade** | Unit 2

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# SCIENCE 402

## ANIMALS

Introduction | **3**

### **1. How Animals are Structured**..... **4**

How Animals Travel | **6**

How Animals Eat and Digest Food | **20**

How Animals Breathe | **21**

Self Test 1 | **23**

### **2. How Animals Act** ..... **26**

Mammals | **27**

Fish | **29**

Birds | **32**

Insects | **34**

Self Test 2 | **39**

### **3. How Animals are Provided for and Protected**..... **41**

God Gave Instinct to Animals | **42**

Man Protects Animals | **47**

Self Test 3 | **50**

LIFEPAC Test | **Pull-out**

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# ANIMALS

As you study this LIFEPAC®, you will learn that animals are wonderfully made. Animals can travel long distances by walking, running, flying, or swimming. Some travel in all four ways. Others wiggle along from place to place. Animals eat and digest many different types of food. They breathe by means of lungs, gills, tubes, and pores. In this LIFEPAC you will begin to understand how God provided in the Creation for the food, shelter, and instinct of animals. Man, too, has a part to play in taking care of animals as well as in the way he uses them for work, for fun, and as pets.

## Objectives

**Read these objectives.** The objectives tell you what you will be able to do when you have successfully completed this LIFEPAC. Each section will list according to the numbers below what objectives will be met in that section. When you have finished this LIFEPAC, you should be able to:

1. Tell how animals differ in the ways they travel, eat, digest food, and breathe.
2. Tell how jaws and teeth of animals are made to help them eat.
3. List some differences between animals that live on the land and those that live in water.
4. Tell how mammals, birds, and insects do unusual things.
5. Explain how some animals keep certain territories for their own use.
6. Describe the wisdom of God in providing animals with instinct.
7. Explain why man is beginning to see the importance of protecting wildlife.
8. Tell what man is trying to do to provide protection for wildlife.

# 1. HOW ANIMALS ARE STRUCTURED

This part of your LIFEPAK tells you how some animals travel, what some animals eat, and how some animals digest their food. You will also learn some things about how animals breathe.

## Objectives

**Review these objectives.** When you have completed this section, you should be able to:

1. Tell how animals differ in the ways they travel, eat, digest food, and breathe.
2. Tell how jaws and teeth of animals are made to help them eat.
3. List some differences between animals that live on the land and those that live in water.

## Vocabulary

**Study these new words.** Learning the meanings of these words is a good study habit and will improve your understanding of this LIFEPAK.

**amoeba** (u mē' bu): An extremely small, one-celled animal.

**aquarium** (u kwer' ē um): A pond, tank, or bowl in which living fish are kept.

**armor** (är mur): A protective covering.

**barbicle** (bär' bu sull): Tiny hooks that make up part of the barb of a feather.

**barbs** (bärbz): Little feathers attached to the main feather of a bird.

**belly** (bel' ē): The under part of an animal's body.

**boa constrictor** (bō u kun strik' tur): A large, tropical American snake.

**breeding ground** (brē' ding ground'): The place where an egg is hatched or an animal is born and raised.

**extinct** (ek stingkt'): Has died out and will be no more.

**gill** (gil): Part of the body of the fish used for breathing in water.

**instinct** (in' stingkt): Knowing something without needing to learn it.



**invertebrate** (in vèr 'tu brit): An animal without a backbone.

**ivory** (ī' vur ē): A hard, white material present in elephant tusks.

**migrating** (mī' grāt ing): Traveling from one place to another or changing locations.

**navigate** (nav' u gāt): To follow a planned course.

**pore** (pôr): A very small opening.

**python** (pī' thon): A large snake.

**refuge** (ref' yūj): A shelter from danger or trouble.

**reptile** (rep' tul): A cold-blooded animal that creeps or crawls.

**rudder** (rud' ur): A flat piece of wood at the rear of a boat used for steering.

**schedule** (skej' ul): A timetable or list of leaving and arriving times.

**shrew** (shrü): A mouse-like mammal that eats insects and worms.

**sperm whale** (spèrm' hwāl'): A mammal that lives in the ocean.

**spout** (spout): A stream or jet of water.

**tern** (tèrn): A sea bird.

**tortoise** (tôr' tus): A turtle living on land.

**vertebrate** (vèr' tu brit): An animal that has a backbone.

**wheatear** (hwēt' ir'): A small bird with white tail feathers that builds its nest on the ground.

**Note:** All vocabulary words in this LIFEPAC appear in **boldface** print the first time they are used. If you are unsure of the meaning when you are reading, study the definitions given.

**Pronunciation Key:** hat, āge, cāre, fār; let, ēqual, tèrm; it, īce; hot, ōpen, ôrder; oil; out; cup, pūt, rüle; child; long; thin; /ʒh/ for then; /zh/ for measure; /u/ or /ə/ represents /a/ in about, /e/ in taken, /i/ in pencil, /o/ in lemon, and /u/ in circus.

## How Animals Travel

Have you ever gone to a circus or to the zoo? Did you notice that an elephant has four large, strong legs to hold him up and help him walk? When God created elephants, He provided them with strong legs because the elephants weigh so much. The elephant is the largest of all land animals. A full-grown African elephant often weighs more than 10,000 pounds (4,600 kg). In spite of his size, an elephant can run as well as walk.



| Elephant

**Elephants are mammals.** Mammals are one class of five classes of animals called **vertebrates**. This word means the animal has a backbone. Animals that do not have backbones are called **invertebrates**. Mammals also have hair and most of them breathe by means of lungs. The female mammals make their own milk to feed their young. Mammals are *warm-blooded* animals. The word *warm-blooded* means that their blood stays the same temperature all the time.

There are two kinds of elephants in the world. One kind of elephant lives in Asia, the other kind in Africa. Both kinds have a large body, four strong legs, and long trunks. An adult elephant is about as tall as it is long. The elephant's trunk is a strong and useful part of the animal. It measures about 6 feet (2 m) long and weighs about 300 pounds (140 kg). He uses it to carry food to his mouth. Two teeth, called tusks, stick out from the elephant's upper jaw. The tusks of elephants are called **ivory**. The elephant uses his tusks for digging up food and for fighting. He also uses them for lifting and carrying heavy loads.

Because an elephant is so big and heavy, we would expect him to be very noisy when he moves. However, a large herd of elephants can move out of a forest and disappear without breaking a twig or making a sound. Because his ankles are located near the bottom of his legs, an elephant can walk easily and even slide down a steep bank or walk over sliding stones without stumbling or injuring himself. The elephant's foot is nearly round, with a soft part of the bottom that acts like a cushion. If his foot sinks into the mud, he can pull his legs out easily, because his feet become smaller when he lifts them.



**Write the correct word in the blank.**

- 1.1** An elephant has four large, \_\_\_\_\_ legs.
- 1.2** The elephant is the \_\_\_\_\_ of all land animals.
- 1.3** An elephant is called a \_\_\_\_\_ .
- 1.4** There are \_\_\_\_\_ kinds of elephants in the world.
- 1.5** The elephant tusk is a long, hard \_\_\_\_\_ .
- 1.6** A hard, white material present in elephant tusks is called \_\_\_\_\_ .



**Write true or false.**

- 1.7** \_\_\_\_\_ Elephants are very noisy animals when they travel.
- 1.8** \_\_\_\_\_ Several elephants traveling together are called a herd.
- 1.9** \_\_\_\_\_ An elephant's foot is nearly round.
- 1.10** \_\_\_\_\_ Because of their great weight, elephants cannot get out of mud very easily.
- 1.11** \_\_\_\_\_ The elephants is the largest of all land animals.
- 1.12** \_\_\_\_\_ A full-grown African elephant can weigh as much as eight or ten thousand pounds.
- 1.13** \_\_\_\_\_ The elephant's ankle is located near the middle of the leg.
- 1.14** \_\_\_\_\_ Elephants can run as well as walk.



You already know that mammals are animals with hair and that the female mammal makes her own milk to feed her young. Over 3,500 kinds of mammals are in the world. Some are large like the elephant. Some are small like the **shrew**, which weighs less than a dime. The shrew is the smallest mammal.

The elephant is not the largest animal. The elephant is the largest *land* animal, but the whale is the largest animal of all the mammals.

You may not have thought of the whale as a mammal, since the whale lives in the ocean. Whales are not fish. Whales bear their young alive. They feed their babies with their own milk, breathe through their lungs, and have to hold their breath when they dive under the water. Whales are warmblooded animals like land animals, not cold-blooded animals like fish.

Whales are shaped like fish, but whales' tails are flat. They swim by moving their tails up and down. A whale's nose forms a blowhole on the top of the head. Now and then, the whale must come to the surface for air. This breathing produces what is called a spray or **spout**. The air in the lungs gets full of moisture. When the whale comes to the top of the water, it blows out its breath through the blowholes (nostrils) at the top of its head.

One kind of whale, called the **sperm whale**, is sometimes called a "living oil tank" because it stores so much oil, as a liquid wax, in its head. Sperm whales were so valuable, because of their oil, that men hunted them for centuries, mainly from 1800-1987. So many were being killed that the sperm whale, and some of the other kinds of whales, were in danger of becoming **extinct**. In 1986, hunting of the sperm whale and other whales was banned by the International Whaling Commission. Whale oil is used little today and only small numbers of whales are hunted each year for food and scientific research. The sperm whale is now one of the most abundant of the large whale species. Sperm whales are the largest of the toothed whales and they have the largest brain of any animal.





**Do this library research.** Look up *whale* in an encyclopedia or search online for *identifying whales*. Write your answer to the question in the space provided. Use complete sentences.

**1.29** How can whale watchers tell the difference among these three kinds of whales?

- a. The blue whale
- b. The right whale
- c. The sperm whale

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| Blue Whale



| Right Whale



| Sperm Whale

Did you ever hear the cry of wild geese as they were flying south? They were on their way to warmer land. They were **migrating**. Geese fly in a pattern forming a V.

Wild geese are the highest-flying birds in the world. Some have been known to fly as high as 29,000 feet (9,000 m). This distance is the highest ever recorded for birds. However, most birds remain under the clouds when they are migrating.

The ability of birds to **navigate** long distances is amazing. Birds make their long trips without the help of chart or compass. One little bird called the **wheatear**, about the size of a sparrow, travels every year all the way from Africa to Greenland. It travels on a fixed **schedule**. Nearly all of its trips are made at night. The bird flies over great stretches of water and wilderness. Who tells the bird where to go and when?

Do you know what bird flies the greatest distance? It is the Arctic **tern**. The Arctic tern migrates from the Arctic to Antarctica and returns. This round trip flight is 22,000 miles (35,000 km). The terns leave in August. They spend the winter in Antarctica. Then they return north in the middle of June.



Some birds travel by night; other birds travel by day. Some birds travel alone; others in flocks. Some take one route going and another returning.

A scientist once said that a bird uses about the same type of equipment as a plane—wings, propellers, steering gear, slots, and flaps. Where do you think man got his idea of a flying machine with wings, propellers, steering gear, slots, and flaps?

What a wonderful God we have who created birds in such a way that they can fly on such long trips without getting lost.



**Select the word or phrase that best completes the sentence and place the letter and the words in the blank.**

- 1.30** *Navigate* means to \_\_\_\_\_ .  
 a. tell a story    b. wander  
 c. follow a planned course    d. run slowly
- 1.31** A schedule is a \_\_\_\_\_ .  
 a. timetable of coming and going    b. trip  
 c. location    d. path to walk in
- 1.32** The wheatear is \_\_\_\_\_ .  
 a. vegetable                    b. grain                    c. part of the body                    d. bird
- 1.33** The bird that has a record of flying the greatest distance is the \_\_\_\_\_ .  
 a. whistling swan    b. Arctic tern                    c. wild goose                    d. sparrow

# SELF TEST 1

**Match these items** (each answer, 2 points).

- |             |       |              |    |                 |
|-------------|-------|--------------|----|-----------------|
| <b>1.01</b> | _____ | tusk         | a. | windpipe        |
| <b>1.02</b> | _____ | Arctic nests | b. | fins and gills  |
| <b>1.03</b> | _____ | armor        | c. | tigers          |
| <b>1.04</b> | _____ | fish         | d. | ivory           |
| <b>1.05</b> | _____ | pet cats     | e. | turtle          |
| <b>1.06</b> | _____ | sheep        | f. | whistling swans |
| <b>1.07</b> | _____ | lungs        | g. | barbs           |
| <b>1.08</b> | _____ | feathers     | h. | eat grass       |

**Write true or false** (each answer, 2 points).

- 1.09** \_\_\_\_\_ Swans migrate in flocks
- 1.010** \_\_\_\_\_ Most bones of birds are hollow.
- 1.011** \_\_\_\_\_ A fish takes in water through its gills.
- 1.012** \_\_\_\_\_ The sperm whale has a smaller brain than most other whales.
- 1.013** \_\_\_\_\_ Fins of a fish help it to breathe.
- 1.014** \_\_\_\_\_ Whales are warm-blooded animals.
- 1.015** \_\_\_\_\_ Lions are meat-eaters.
- 1.016** \_\_\_\_\_ Sheep have no cutting teeth in their upper jaws.
- 1.017** \_\_\_\_\_ Fish are cold-blooded animals.
- 1.018** \_\_\_\_\_ Insects breathe through tiny tubes.
- 1.019** \_\_\_\_\_ The whale is the largest of all mammals.
- 1.020** \_\_\_\_\_ The leader of a migrating flock of birds has the easiest job of all because he flies in front.
- 1.021** \_\_\_\_\_ Whales breathe by means of gills.

- 1.022** \_\_\_\_\_ Fish have several fins.
- 1.023** \_\_\_\_\_ Jack Miner went back to Niagara Falls for many years to rescue swans.
- 1.024** \_\_\_\_\_ Swans usually go back to the same place year after year to raise their young.
- 1.025** \_\_\_\_\_ *Navigate* means to take oxygen from the air.
- 1.026** \_\_\_\_\_ The elephant is the largest land animal.
- 1.027** \_\_\_\_\_ Some birds travel long distances.
- 1.028** \_\_\_\_\_ Pythons are very tiny fish.
- 1.029** \_\_\_\_\_ Snakes usually have two legs and a long tongue.
- 1.030** \_\_\_\_\_ Snakes (serpents) are mentioned in the Bible.
- 1.031** \_\_\_\_\_ An elephant has three large, strong legs.
- 1.032** \_\_\_\_\_ Most reptiles are warm-blooded animals.

**Write the correct letter and answer on each blank** (each answer, 3 points).

- 1.033** Several elephants traveling together are called a \_\_\_\_\_ .  
 a. flock                                      b. migration                                      c. herd
- 1.034** Swans spend the winter in the \_\_\_\_\_ .  
 a. Arctic region                                      b. South                                      c. west
- 1.035** *Navigate* means to \_\_\_\_\_ .  
 a. follow a planned course  
 b. protect birds  
 c. eat meat
- 1.036** The jaws of a sheep and a lion are \_\_\_\_\_ .  
 a. exactly the same                                      b. about the same                                      c. much different
- 1.037** Members of the cat family are \_\_\_\_\_ .  
 a. grass-eaters                                      b. meat-eaters                                      c. neither of these
- 1.038** A place where birds are protected from harm is called a \_\_\_\_\_ .  
 a. bird refuge                                      b. bird bath                                      c. bird migration



**1.039** The bird that has a record of flying the greatest distance is the \_\_\_\_\_  
\_\_\_\_\_.

- a. Arctic tern                      b. whistling swan                      c. wheatear

**1.040** The vertebrate animals are those with \_\_\_\_\_.

- a. gills                                  b. backbones                                  c. four legs

**Complete these items** (each numbered item, 4 points).

**1.041** Name four kinds of reptiles.

- a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_  
d. \_\_\_\_\_

**1.042** Name four things that are true about mammals.

- a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_  
d. \_\_\_\_\_

**1.043** Name four things that are true about swans.

- a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_  
d. \_\_\_\_\_

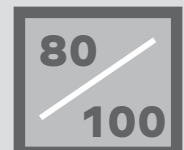


**Teacher check:**

Score \_\_\_\_\_

Initials \_\_\_\_\_

Date \_\_\_\_\_





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