

CONTENTS

Page

Life Science	2
The Clock of Life.....	6
The Big One	8
Sharks!.....	10
The Flashlight Fish	12
The World's Largest Rodent	14
Sea Animal May Help Dentists	16
Invite a Long Lifetime	18
Protecting Your Health.....	20
The Hardest Weed of All	22
Red Seaweed	24
Life in the Forest.....	26
Tree Rings.....	28
Watch Out for Poisonous Plants.....	30
The Misunderstood Spider.....	32
 Earth-Space Science.....	 34
Tornado Warning	38
Nature's Deep Freeze	40
Fossils of Ocean Animals	42
Warm-Blooded Dinosaurs?	44
Jupiter's Moons and How They Travel	46
The Moon Named Io.....	48
The Planet Mercury	50
Meteorites: Space Rocks That Fall to Earth	52
Fog	54

Physical Science.....	56
Using Science to Save Our Banner	60
Robots See, Touch, and Do	62
Time Machines	64
On the Lunch Trail.....	66
Eating Metal.....	68
Gravity	70
The Soapy Sandwich	72
Travel by Air	74
Environmental Science	76
The Peregrine Falcon.....	80
Chemical Wastes	82
Trash—A New Energy Source.....	84
Glacier Warning	86
Rhinos Need Protection	88
Aquaculture, Another Way to Raise Fish.....	90
Don't Bag It. Compost It.	92
The Car of Tomorrow	94
A Water Power for Energy.....	96
Record Keeping.....	98
Metric Tables.....	100
Bibliography.....	102

The Clock of Life

This is one clock that does not tick.

A chicken lays an egg. You feel sleepy. And a tree loses its leaves. All of these things, and many more, happen in a certain way, at a certain time each day or each year. They take place because of something called an *internal clock* (ĩn tũr'nəl klۆk'). The word *internal* means “inside of,” and the internal clock is inside a certain part of every plant and animal. For example, there is an internal clock in the head of a chicken. The internal clock receives a *signal* (sĩg' nəl), or message, from the world around it. Some of these

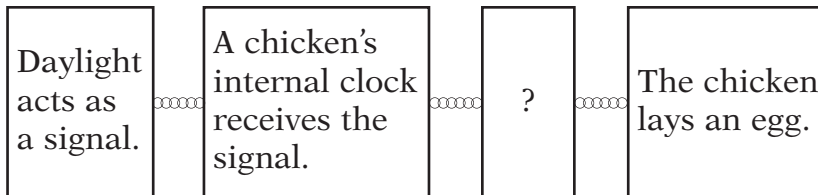
signals include light, heat, dark, and cold. When the internal clock gets the signal, the body of the plant or animal produces a chemical that causes the living thing to perform different actions. For example, day-light signals the chicken's internal clock to make a chemical. Then this chemical causes the chicken to lay eggs.

People are learning a lot about internal clocks. Farmers have even learned how to fool a chicken's internal clock so that the chicken lays more eggs!



QUESTIONS

1. A *signal* is a
 - a. chemical.
 - b. message.
 - c. clock.
2. The clock described in the story is called internal because it
 - a. is inside the plant or animal.
 - b. never stops running.
 - c. produces a signal.
3. In this story, one signal would be
 - a. cold weather.
 - b. a chemical.
 - c. falling leaves.
4. In the chain of events below, what is missing?



- a. The chicken is fooled by the farmer.
 - b. The chicken makes a chemical.
 - c. The chicken sees the daylight.
5. What do you think farmers do to make chickens lay more eggs?
 - a. They turn on lights in the chicken house at night.
 - b. They feed the chickens a special chemical.
 - c. They keep the chickens in a cooler place.

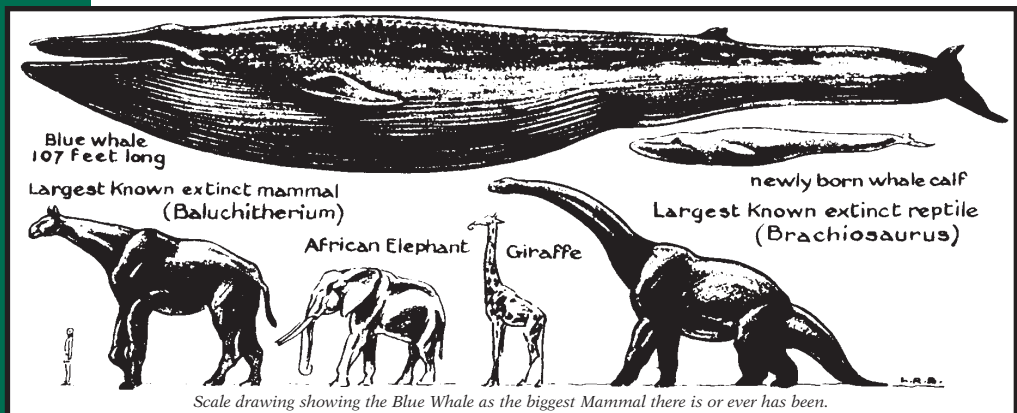
The Big One

What is the largest animal ever to live on Earth?

If your answer was the great blue whale, you are right. The blue whale is an air-breathing mammal (mām'əl). A mammal belongs to the group of animals that have fur or hair on their bodies. The females of this group produce milk for their babies. A baby blue whale is almost 8 yards long when it is born, and it drinks about 100 gallons of milk a day from its mother. Baby whales are among the fastest-growing animals in the world.

A grown blue whale is about 100 feet long and about 40 times heavier than an elephant. Its body is covered with thick layers of blubber, or fat, and it spends most of its life in the freezing cold waters of the Antarctic Ocean. Blue whales travel in groups called *pods* (pōdz) and eat plankton (plāngk'tən), tiny plants and animals that float near the surface of the ocean.

The blue whale has been hunted for its meat and blubber, almost to the point of *extinction* (īk stīngk'shən). Now, people are trying to save this giant of the seas.



QUESTIONS

1. Tiny plants and animals that float near the surface of the ocean are called
 - a. pods.
 - b. blubber.
 - c. plankton.
2. Which of the following statements is *true*?
 - a. Blue whales travel in groups called pods.
 - b. Young blue whales do not grow very fast.
 - c. An elephant weighs more than a full-grown blue whale.
3. A baby whale lives *mostly* on _____ during the first year and a half of its life.
 - a. its mother's milk
 - b. tiny ocean plants
 - c. small sea animals
4. What protects the blue whale from the freezing temperatures of the Antarctic Ocean?
 - a. its great length of 100 feet
 - b. the plankton that it eats
 - c. its thick layers of blubber
5. Under which of the following headings would you list the blue whale?
 - a. Mammals of the Ocean
 - b. Extinct Animals of the Ocean
 - c. Cold-Blooded Animals of the Antarctic