



# ICEMAN OF THE ALPS

## READ ALOUD

*It was warm and sunny in the Alps on September 19, 1991—a perfect day for hiking. As Erika and Helmut Simon moved along a mountain ridge, they spotted something in the melting ice. At first they thought it was trash, or maybe a doll. When they got closer Erika cried out, “It’s a man!” The leathery-brown body was indeed human, lying half-buried in the snow. Shocked, the Simons hurried down the mountain to tell the police. They would not learn until several days later that the body they stumbled upon was over 5,000 years old.*

## THE BIG PICTURE

History is full of mysteries. It is the job of historians to do the detective work needed to solve these mysteries. As you learned in the last lesson, written sources can be a big help to historians trying to interpret past events. Artifacts are helpful clues, too.

The science of **archaeology** (ahr kee AHL uh jee) is the study of the remains of past cultures. Archaeologists carefully dig up, or **excavate**, historical sites. They use instruments to discover, identify, and save these remains. They take X rays to see what is inside an object and how it was made. They do tests to determine the age of artifacts. Above all, archaeologists must link different clues to figure out what artifacts and remains might say about how people lived in past cultures.

## Focus Activity

### READ TO LEARN

What can artifacts tell us about the ancient past?

### VOCABULARY

archaeology  
excavate  
prehistory

### PEOPLE

Konrad Spindler

### PLACES

Alps

## A DISCOVERY IN THE ALPS

The **Alps** are Europe's highest mountain range. They contain dozens of snow-covered peaks and massive slabs of ice called glaciers. On some days the Alps are a beautiful and safe place to hike. On other days the Alps can be deadly. In fact, each year more than 100 people die in sudden snowstorms there.

Thus police and local reporters were not too surprised when the Simons found a body in the Alps. Two days after the discovery, a local newspaper reported:

*Judging by the dead man's equipment, he was a mountaineer. It seems that the accident occurred some decades ago. The body has not yet been identified.*

The article was accurate in many ways, but very wrong in one. Soon it would become clear that this "mountaineer" had been frozen for far more than 40 or 50 years.

### A Mystery in the Ice

A few days after the Simons made their discovery, the police set out to recover the body. Look at the map on this page to see where the body was found. The police also saved some items scattered around the area. These included a knife, some bits of rope and leather, and an ax. After a closer look they realized that this ax was no ordinary hiking tool. Its metal blade was lashed to a wooden handle with strips of leather. The ax looked hundreds of years old!

The story of the "Iceman" now became big news, especially to archaeologists. Five days after the Iceman was found, German archaeologist **Konrad Spindler** came to investigate. When he

saw the Iceman's belongings, Spindler's eyes widened. "This [was] something any first-year archaeology student could identify," he later wrote. Spindler estimated the Iceman's age by observing that his ax was made of copper and his knife-blade of chipped stone. Looking up, Spindler announced his conclusion: "Roughly 4,000 years old!"

Later on, detailed testing would prove that the Iceman was actually about 5,300 years old. From these results, archaeologists realized that the Iceman had lived in Europe in the age of **prehistory**, or the time before writing was developed there. "A fully equipped prehistoric man—nothing like it had ever been seen by an archaeologist," Spindler wrote.



### MAP WORK

The site of the Iceman discovery lies high in Europe's Alps mountains.

1. The Iceman was found very near the border of which two countries?
2. In what direction did archaeologist Konrad Spindler travel to get from Germany to the site?



**When hikers in the Alps stumbled upon his body, the "Iceman" (left and above) had been frozen for over 5,000 years!**

## **AN AMAZING FIND**

Archaeologists have uncovered axes and knives and prehistoric graves before. What made the discovery of the Iceman so interesting? He was found with the tools and clothes he used every day. The Iceman brought a priceless treasure of artifacts into the 1990s.

### **Tools of the Archaeologist**

Several archaeologists rushed to the Alps to recover as many of the Iceman's belongings as possible. They were able to work only a few days, however, before the first winter snows buried the site. The following summer, these archaeologists shoveled away over 600 tons of snow before they could pick up where they had left off.

The archaeologists' first task was to make a detailed map of the location. They also took photographs showing where each artifact was found. Next, they used steam blowers and even hair dryers to melt snow and ice around the artifacts. The melted water was filtered three times. Archaeologists wanted to make sure that even the tiniest specks of evidence were not lost.

The archaeologists found flecks of wheat. This proved that the Iceman must have had contact with a village where grain was grown. Archaeologists also recovered over 2,000 grains of pollen, or plant dust. Study of the pollen with a microscope showed that most of the grains came from alder and pine trees. Scientists reasoned that the

Iceman probably died in autumn, the season when pine and alder trees give off the most pollen.

### Equipped for Survival

Near the Iceman, archaeologists found all sorts of survival gear, such as knife-blades, rope, and hunting arrows. They also recovered a small net. Was the net used to carry things? Was it a fishing net? The wide spaces in the mesh seemed to rule out both of these possibilities. Then Konrad Spindler compared the net to modern nets used by European farmers to catch birds. They matched exactly. The question of the net's purpose seemed to be answered.

In a leather belt-pouch the Iceman carried needed tools, such as small flint blades and a bone needle probably used to repair equipment. There was also a handful of a black fungus. Chemical study showed that tiny crystals of sulfur and iron were attached to the fungus. These are ingredients in today's matches. Archaeologists concluded that the Iceman used the fungus as a kind of fire-starter.

The Iceman also carried two small beads of a different kind of fungus on a leather strap. Close comparison of samples with those in a huge fungus collection showed that the Iceman's beads were made from birch fungus. Birch fungus contains an ingredient that helps fight disease. Therefore, archaeologists believe that this was the Iceman's "medicine chest."

Artifacts found near the Iceman tell archaeologists much about life in pre-historic Europe. It seems that people then had survival skills possessed by few people today.

### Examining the Evidence

The Iceman was moved from the Alps to a special refrigerated room in Innsbruck, Austria. There scientists determined that he was about 5 feet 2 inches tall. From the amount of wear on his teeth, they reasoned that he was 35 to 40 years old when he died. Pieces of his hair showed that he had wavy dark-brown hair and a beard.

X rays indicated that the Iceman had some broken ribs on his right side. Some archaeologists believe that the Iceman was somehow injured before he died, because he was found lying on his left side. Shortly after his death, he was covered by snowfall. Glacier ice gradually encased him. It would imprison—and preserve—him for 5,000 years.



Archaeologists use methods of modern science to discover information from artifacts and other remains. A flint knife (left) tells them about Iceman's survival equipment.



## WHO WAS THE ICEMAN?

From the body of one man and a few of his belongings, archaeologists have learned much about what life was like in the Alps during prehistoric times. Many mysteries have been solved, but some still remain.

### Living 5,000 Years Ago

We now know at least the following about the Iceman's world. The people of the Iceman's time were experts at interacting with their environment. Archaeologists concluded this because as many

as 17 different kinds of trees and 8 different kinds of animals were used to make the Iceman's belongings. These prehistoric people were also skilled metalworkers. They were able to shape copper into tools. And the Iceman must have had contact with farmers. We know this because traces of grain were found in his belongings.

### The Mystery Remains

What about the Iceman himself? Who was he and what did he do for a living? Why did he hike up into the high mountains of the Alps just before

### THE ICEMAN OF THE ALPS

The Iceman's clothes and tools help archaeologists to figure out what his life may have been like.



winter set in? Spindler believes that the Iceman may have been a shepherd who spent long periods of time in the mountains, away from his village below. We may never know for certain what he was doing high in the mountains that long-ago autumn day. Whatever the reason, the Iceman's misfortune has proven to be history's great gain.

## WHY IT MATTERS

We can sometimes learn facts about an entire culture by focusing on one individual, such as the Iceman. Archaeologists looked carefully at artifacts that the Iceman used every day. They discovered much about how people lived in the highlands of prehistoric Europe.

In chapters to come, you can use some of the same methods you learned about in this lesson. You will read about great ideas and events that changed the world. But you will also have the opportunity to think about individuals like the Iceman. These individuals add fullness and detail to the big picture of history.

## DID YOU KNOW?

**H**ow did archaeologists figure out how old the Iceman was?

Tiny skin samples were sent to four laboratories for carbon-dating tests. All living things contain carbon, and when they die a special type of carbon called carbon-14 slowly begins to break down at a known rate. By measuring the amount of carbon-14 that has broken down in a sample, scientists can then determine its age.

All four test results concluded that the Iceman lived between 5,000 to 5,300 years ago.



## ✓ Reviewing Facts and Ideas

### MAIN IDEAS

- Archaeologists use science to study and interpret the remains of past cultures.
- Our understanding of prehistory, or the time before writing was invented, is often based on the work done by archaeologists.
- Archaeologists and historians can sometimes make conclusions about life in past cultures. One of the ways they do this is by looking closely at information about one or two individuals.

### THINK ABOUT IT

1. What made Spindler realize that the Iceman was actually very old?
2. What was the Iceman's net probably used for? How did Spindler find out?
3. **FOCUS** How do archaeologists help to uncover secrets of the past?
4. **THINKING SKILL** What are two *facts* and two *opinions* presented about the Iceman in this lesson?
5. **GEOGRAPHY** Describe how the Iceman's belongings tell the different ways in which he interacted with his environment.