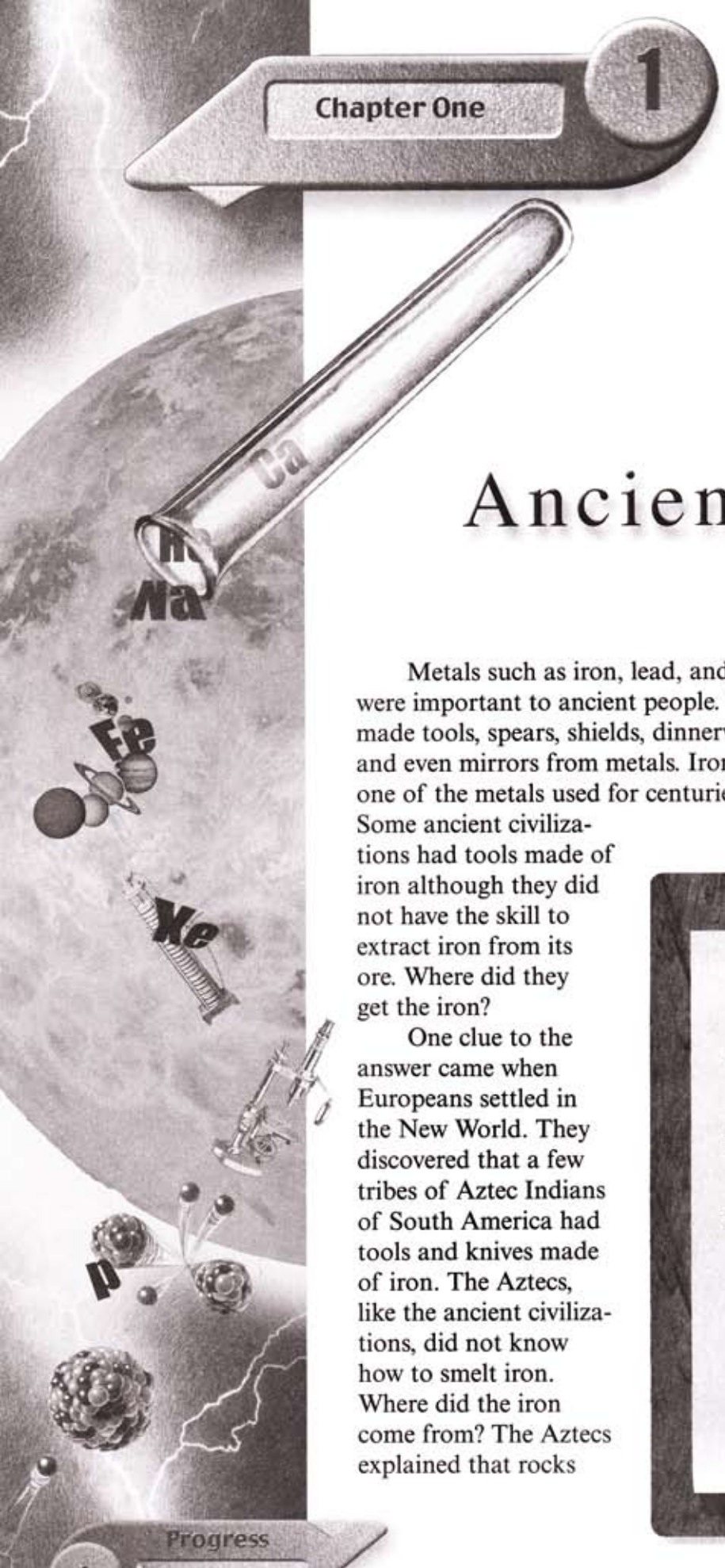
Table of Contents



Ancient Metals

Metals such as iron, lead, and tin were important to ancient people. They made tools, spears, shields, dinnerware, and even mirrors from metals. Iron is one of the metals used for centuries. Some ancient civilizations had tools made of iron although they did not have the skill to extract iron from its ore. Where did they get the iron?

One clue to the answer came when Europeans settled in the New World. They discovered that a few tribes of Aztec Indians of South America had tools and knives made of iron. The Aztecs, like the ancient civilizations, did not know how to smelt iron. Where did the iron come from? The Aztecs explained that rocks

ACTION

1. **Ancient people had iron tools.**
2. **Iron resisted efforts to remove it from its ore.**
3. **The Scott expedition to the South Pole perished in a blizzard when their fuel cans were found empty.**

Can You Predict the Reactions?

containing pure iron fell from the sky. They prized the metal more than gold.

The French Academy, a powerful and respected group of scientists, completely discounted the report of falling rocks. Antoine Lavoisier, a famous French scientist, insisted, "The fall of stones from the sky is physically impossible."

Once, an old French clergyman came to the Paris Museum with a stone that he described as having fallen from the sky.

"No," the museum curator said. "You must be mistaken. You should know better. Rocks can't fall from the sky because there are none up there to fall."

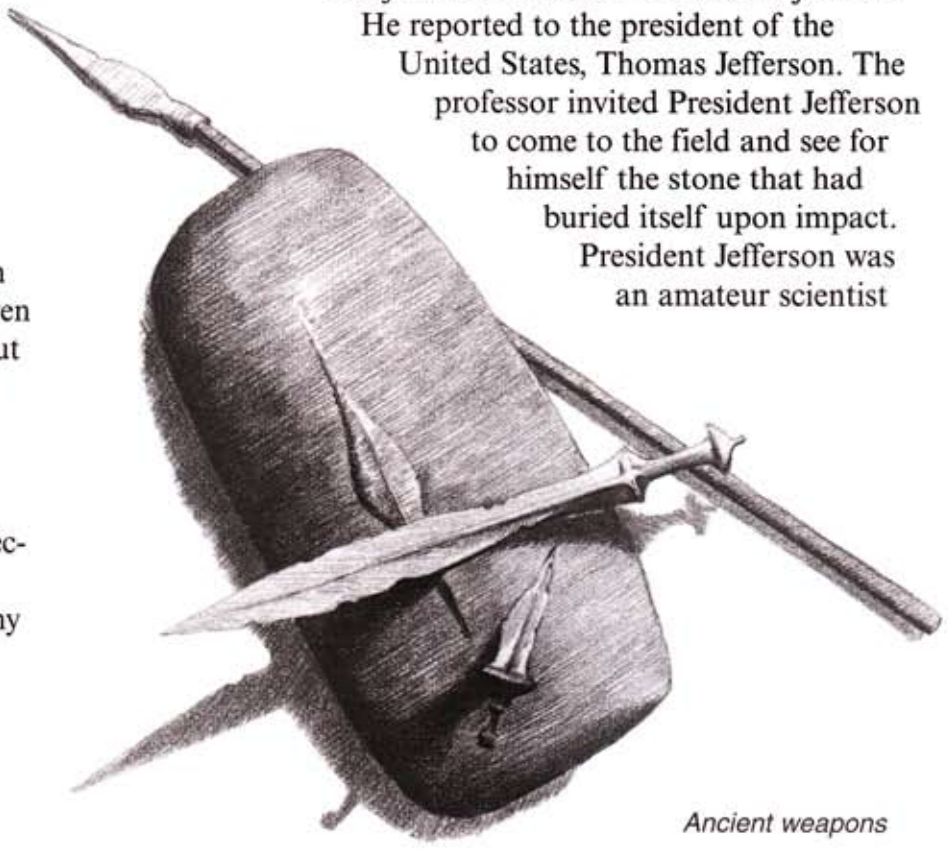
The clergyman asked the academy to investigate anyway. A committee of several respected chemists and geologists studied the rocks. They replied, "We regret that in our enlightened age there still are people so superstitious as to believe stones fall from the sky. This peculiar-looking stone is nothing more than soil which has been struck by lightning."

In 1790, the French Academy of Sciences even passed a resolution about the subject. They would no longer investigate reports of objects falling from the sky.

Many museum directors read the academy's report. Did they have any of the stones? People claimed to have seen objects streak through the sky like a flash of lightning. Sometimes the object fell to earth with an ear-shattering bang. They donated the stones to the museums. Museum directors searched through their geology displays for the blackened stones. They found the rocks and hid them from sight.

Leonid Fire Ball

In 1807 the American chemist Benjamin Silliman saw such an object fall. He reported to the president of the United States, Thomas Jefferson. The professor invited President Jefferson to come to the field and see for himself the stone that had buried itself upon impact. President Jefferson was an amateur scientist



Ancient weapons

Questions
Ancient Metals

Answer T or F for true or false; select A, B, C, or D; or fill in the blank for the phrase that best completes the sentence.

1. Ancient people hammered the soft, pure iron from _____ into useful tools.

A–D 2. Charcoal is (A. a meteorite that fell from the heavens; B. a type of coal found in the earth; C. made of almost pure oxygen; D. wood that has been heated without oxygen).

T F 3. The only purpose of carbon in smelting iron from its ore is so it will burn and supply heat.

A–D 4. Which of these forms of iron is the purest? (A. cast iron; B. charcoal; C. steel; D. wrought iron).

A–B 5. Cast iron is (A. brittle and will shatter if struck; B. soft and easily hammered into shape).

A–D 6. Steel is quenched by (A. burying it in the earth; B. heating it in an oven for several days; C. heating it white hot and thrusting it into cold water; D. raising it overhead for lightning to strike).

7. Cast iron, steel, and wrought iron differ only in the amount of _____ they contain.

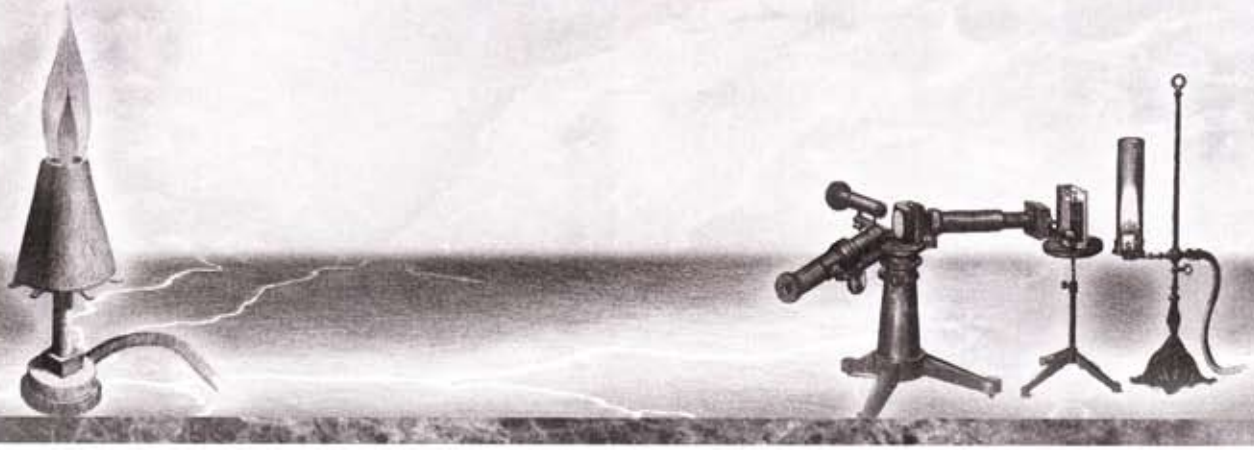
A–B 8. Rusting is a (A. slow; B. rapid) oxidation.

A–B 9. A tin can is made mostly of (A. tin; B. steel).

A–D 10. The one that looks more like silver is (A. brass; B. bronze; C. gold; D. pewter).

T F 11. Metals maintain their properties regardless of temperature.

A–B 12. The more expensive metal is (A. aluminum; B. tin).



EXPLORING THE WORLD OF CHEMISTRY

Chemistry is an amazing branch of science that affects us every day, yet few people realize it, or even give it much thought. Without chemistry, there would be nothing made of plastic, there would be no rubber tires, no tin cans, no televisions, no microwave ovens, or something as simple as wax paper.

This book presents an exciting and intriguing tour through the realm of chemistry as each chapter unfolds with facts and stories about the discoveries and discoverers. Find out why pure gold is not used for jewelry or coins. Join Humphry Davy as he made many chemical discoveries, and learn how they shortened his life. See how people in the 1870s could jump over the top of the Washington Monument.

Exploring the World of Chemistry brings science to life and is a wonderful learning tool with many illustrations, biographical information, chapter tests, and an index for easy referencing.

Master Books
A Division of New Leaf Press
www.masterbooks.net

$13.99 U.S.
ISBN-13: 978-0-89051-295-1
ISBN-10: 0-89051-295-7
EAN
9 780890 512951

Christian Education/History