Name _____ Class _____ Date _____

Ancient Civilizations of Asia—India

Section 5

MAIN IDEAS

1. Indian artists created great works of religious art.
2. Sanskrit literature flourished during the Gupta period.
3. The Indians made scientific advances in metalworking, medicine, and other sciences.

Key Terms and Places

metallurgy the science of working with metals

alloys mixtures of two or more metals

Hindu-Arabic numerals the numbering system invented by Indian mathematicians and brought to Europe by Arabs; the numbers we use today

inoculation a method of injecting a person with a small dose of a virus to help him or her build up defenses to a disease

astronomy the study of stars and planets

Section Summary

RELIGIOUS ART

Both the Mauryan and Gupta empires unified India and created a stable environment where artists, writers, scholars, and scientists could thrive. Their works are still admired today. Much of the Indian art from this period was religious, inspired by both Hindu and Buddhist teachings. Many beautiful temples were built during this time and decorated with elaborate wood and stone carvings.

What was the main inspiration for art and literature during the Mauryan and Gupta empires?

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SANSKRIT LITERATURE

Great works of literature were written in Sanskrit, the ancient Aryan language, during the Gupta Dynasty. The best-known works are the *Mahabharata* (muh-HAH-BAH-ruh-tuh) and the *Ramayana* (rah-MAH-yuh-nuh). The *Mahabharata*, a long story about the struggle between good and evil, is considered a classic Hindu text. The most famous passage is called the *Bhagavad Gita* (BUG-uh-vuhd GEE-tah). The *Ramayana* is the story of the Prince

Sanskrit literature had a long tradition before it was written down. How were these early works first preserved?

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Rama, a human incarnation of one of the three major Hindu gods, Vishnu, who fights demons and marries the beautiful princess Sita.

SCIENTIFIC ADVANCES

Scientific and scholarly work also blossomed during the early Indian empires. Most prominent was the development of **metallurgy**, the science of working with metals. Indian technicians and engineers made strong tools and weapons. They also invented processes for creating **alloys**. Alloys, such as steel or bronze, may be stronger or more useful than pure metals like iron or copper.

What major modern industry involves the production of a widely used alloy?

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The numbers we use today, called **Hindu-Arabic numerals**, were first developed by Indian mathematicians. They also created the concept of zero, upon which all modern math is based.

What mathematical concept expresses the idea of "none?"

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Other sciences also benefited from this period of Indian history. In medicine, Indians developed the technique of **inoculation**, which is injecting a person with a small dose of a virus to help him or her build up defenses to a disease. Doctors could even perform certain surgeries. India's fascination with **astronomy**, the study of stars and planets, led to the discovery of seven of the planets in our solar system.

Indians at this period did not have telescopes. How do you think they discovered planets?

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CHALLENGE ACTIVITY

Critical Thinking: Drawing Inferences Our modern society borrows significantly from the scientific and mathematical achievements of the early Indian empires. Write a short play, story, or essay describing how our modern world might look without these inventions.