

## TCI 9.5 Science and Technology

Muslims demonstrated an endless curiosity about the world. In fact, the Qur'an instructed them to learn more about the world God had made:

*Have they not looked at the camels—how they are created? And at the sky—how it is raised up?*  
—Qur'an, Chapter 88, Verses 17–18

As a result, Muslims made advances in science and technology. They were particularly interested to learn about how things worked.

**Zoology-** A number of Muslim scholars became interested in zoology, the scientific study of animals. Some wrote books describing the structure of animals' bodies, while others explained how to make medicines from animal parts. In the 800s, a scholar named al-Jahiz (AHL-jay-HEEZ) even presented theories about the evolution of animals. Muslims also established zoological gardens, or zoos.

**Astronomy-** Muslim scholars did much work in the field of astronomy, the study of objects in the universe. Astronomy had many practical uses for Muslims. For example, navigational tools were improved to locate the direction of Mecca. These instruments allowed worshippers far from the holy city to pray facing in the correct direction. Astronomers also figured out exact times for prayer and the length of the month of Ramadan.

Beyond such practical matters, Muslim astronomers simply wanted to learn about the universe. Some realized that Earth rotates, or turns, like a spinning top. Muslims also continued to improve upon models of the universe that had been proposed by Greek and Roman astronomers.

**Irrigation and Underground Wells-** Muslims made technological advances to make the most of scarce water resources, since much of the land under Muslim rule was hot and dry. Muslims restored old irrigation systems and designed new ones. They built dams and aqueducts to provide water for households, mills, and fields. They improved existing systems of canals and underground wells. Muslims also used water wheels to bring water up from canals and reservoirs.

