

## Scope and Sequence for *Science in the Ancient World*

This hands-on science course introduces a wide variety of scientific topics to elementary students of all ages. Because each lesson is built around an activity or experiment, it is engaging for all K-6 students. In addition, there are three levels of review for each lesson, so that the parent/teacher can choose the depth at which each student is expected to grasp the material. The course contains roughly 90 hours of instruction, 35 of which are composed of hands-on activities.

The course covers scientific topics in the context of history, discussing science as it was discovered by natural philosophers. The first 15 lessons cover Thales through Hippocrates. They discuss the role mathematics plays in science, sound, the science of music, basic concepts related to atoms and molecules, and early theories regarding sickness and medicine.

The next 15 lessons cover Plato through Hipparchus, with special emphasis on the works of Aristotle. The student learns about optics, the behavior of falling objects, heliocentrism, geocentrism, levers, pulleys, the definition of pi, the circumference of the earth, and the magnitude of stars.

The next 15 lessons start with a discussion of BC and AD and then proceed to cover the discoveries of Dioscorides through Boëthius, with special emphasis on the works of Galen. This section covers how steam is used to generate power, reflection, refraction, blood, muscles, nerves, and lungs.

The next 15 lessons start with John Philoponus and end with Guy de Chauliac. Students learn about the concept of infinity, motion of objects through a medium, properties of curved mirrors, combustion, magnets, compasses, rainbows, and teeth.

The next 15 lessons cover the works of Nicole Oresme, Nicholas of Cusa, Johannes Gutenberg, and some of the work of Leonardo da Vinci. Students cover the basics of graphing, humidity, lenses, how plants grow, mirror writing, stems and leaves in plants, movement in plants, tree ring dating, the atmosphere, and the production of plastic.

The final 15 lessons cover the rest of Leonardo da Vinci's work. They discuss density, water flow, erosion, the human skeletal system, joints, the vertebral column, the spinal cord, muscles and tendons, the heart, teeth, and friction.