



Cincinnati Hills Christian Academy

Lower School Lower Elementary – Science/Health

Scope and Sequence

Vision: Science

Science is a method of inquiry founded upon the order of the natural world and the design of its Creator, and in addition, science is an ongoing process that is limited as an investigative tool. Students become responsible, independent, questioning, creative, and organized learners moving from curiosity to familiarity, then mastery of scientific skills, processes, concepts, and theories. Students explore the various disciplines of science through an organized progression of class presentations, hands-on activities, and laboratory investigations that emphasize scientific processes and develop critical thinking skills. Students recognize that science integrates with mathematics, technology, written language, consumer and career interests. Resulting from scientific knowledge, students come to acknowledge personal responsibility as stewards to care for humanity and conserve resources for the glory of God.

Vision: Health

As a result of a CHCA health education, students will make informed decisions within a Christian perspective about personal, community, and global health issues. Students receive instruction in mental, physical, social, and spiritual health. Students are encouraged and guided to develop positive self-esteem, to accept themselves and others, to handle stress, to solve problems, and to exercise leadership. By learning about body systems, nutrition, exercise and by practicing physical activities students embrace health allied to physical fitness as a lifelong goal. Social health includes working within diverse relationships to share feelings with friends, family, and peers. Spiritual health places Christ at the center of a Christian's life. Students are encouraged to seek physical, mental, and social challenges in life utilizing faith-informed, responsible choices.

Standards and Core Competencies

Students work to master the following overarching skills:

- Asking questions and defining problems
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematics and computational thinking
- Constructing explanations and designing solutions
- Obtaining, evaluating, and communicating information
- Theological Integration

Kindergarten Topics: Emphasizing God as the Creator of all, students study: Introduction of responsibility to care for *God's Beautiful World*; *All About Me* focuses on five senses, uniqueness/care of Human Body; *Animals and their Habitats* introduces characteristics/habitats/homes of various animals; *The Woodlands* and *Life on a Farm* introduces plant/tree habitats and life cycles; *Weather and Seasons* explores sky changes (night/day), season, weather, water cycle, states of matter, sink and float, and magnets. Topics are reinforced with field trips, hands-on experiences, visits to the Science Lab, and technology. Included in health: Building nurses do short instruction on hand washing to prevent spread of disease. (K-Prep at developmentally appropriate levels.)



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Grade 1 Topics: Life Cycles includes the butterfly, frog, and bird with in-class observation of caterpillars and tadpoles. Animal Classification studies the characteristics of insects, reptiles, birds, fish, amphibians, and mammals; Habitats investigates ponds, oceans, rain forests and savannahs; God’s World explores matter, weather and stewardship of God’s creation; God Made Us Special looks at man, God’s unique creation, nutrition using the *My Plate* and a healthy lifestyle using the *Heart Power Kit*. Weekly Science Lab enhances science and health units of study, along with scientific tools of measurement. All topics taught as integrated thematic units, reinforced with Internet sites.

Grade 2 Topics: Plants/Soil Study includes in-class planting/harvesting experiences incorporating Veggie U, and hands-on investigations at Green Acres Foundation; Structures features engineering experiences with straws, pins, and other building materials; Forces/Simple Machines involves hands-on physical science experiments; Solar System studies the planets, sun and moon, light energy; Health focuses on dental health. Ecology focuses on caring for the environment: reduce, reuse, recycle as well as learning about endangered animals. Technology aids learning.

Grade 3 Topics: Air study experiments with properties and measurement of air; Flight culminates in a trip to Air Force Museum; Sound explores waves/ vibrations and ear anatomy; Weather experiments with instruments and forecasting; Communities features fresh water and polar habitats/fresh and saltwater food chains; Habitats conducts creek study and introduces microscopes; Electricity investigates magnets, circuitry, compares static and current electricity; LEGO® WeDo Robotics explores the latest in robotics, technology and engineering; Personal Health/Safety focuses on social skills and family relationships. Weekly science labs are an extension of the science curriculum. Research facilitated by technology.

All students KPrep-3 receive weekly hands-on science laboratory experience in concert with classroom science instruction.