



Cincinnati Hills Christian Academy

Armleder School – Science - Health

Grades K -6 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.

Science 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

Health Standards and Core Competencies

Students work to master the following overarching skills:

- Mental and Emotional Wellness
- Physical Wellness
- Social Wellness
- Spiritual Health



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Kindergarten Topics: Scientific Method; Daily and Seasonal Changes,; Properties of Everyday Objects and Materials; Physical and Behavioral Traits of Living Things. Units of study supporting these topics include: Weather, States of Matter (solid, liquid, gas); 5 Senses; Polar Regions (animal adaptations & habitats); Healthy Habits; Body Systems; Butterfly Life Cycle; and Plants.

Grade 1 Topics: Living and Non-living things; Basic Needs of Living Things; Living on Land and in Water Environments; Growing Plants; Earth and Sky; Water Cycle; Weather; Matter (solid, liquid, gas); Force and Motion/Movement; Gravity; Scientific Method, Science Tools, Science Safety, Recording and Graphing Data.

Grade 2 Topics: The Nature of Science; Technology and Tools. Units of study supporting these topics and reinforcing the scientific process include: Plants and Animals; Weather; Matter; Energy, Motion, and Force; Scientific Method, Science Tools, Science Safety, Recording and Graphing Data.

Grade 3 Topics: Classifying Plants; Plant Parts; Plant Reproduction; Classifying Animals; Life Cycles of Some Animals; Ecosystems; How Living Things Get Energy; Property of Minerals, Rocks and Soil; Features of the Earth's Surface; Weathering and Erosion; States of Matter; Measuring Matter; Forms of Energy; Interaction of Light and Matter; Sound, Light and Electrical Energy; Motion; Gravity; Scientific Method; Science Tools; Science Safety; Recording and Graphing Data.

Grade 4 Topics: Nature of Science; Science Tools; Drawing Conclusions; Technology; Design Process; Plants and Animals; Classifying Animals; Adaptations, Inherited and Learned Characteristics; Ecosystems, Food Chains, Food Webs; Minerals, Rock Classification, Weathering and Erosion, Earth's Surface; Water Cycle, Properties of Matter, Phases of Matter; Mixtures; Forms of Energy, Heat, Circuits, Energy Transfer, Magnetism. Scientific Method, Science Safety, Recording and Graphing Data.

Grade 5 Topics: Classifying Living Things; Cells Theory; Cell Division; Genetics; Interactions within Ecosystems. Students grades 5-6 will use the following scientific processes to construct their knowledge and understanding in all science content areas: a) Identify questions that can be answered through scientific investigations; b) Design and conduct a scientific investigation; c) Analyze and interpret data; d) Develop descriptions, models, explanations, and predictions; e) Think critically and logically to connect evidence and explanations; f) Recognize and analyze alternative explanations and predictions; g) Communicate scientific procedures and explanations.

Grade 6 Topics: Weather and Climate; Astronomy; Classifying Matter; Chemistry; Exploring Forces; Exploring Energy. Students grades 5-6 will use the following scientific processes to construct their knowledge and understanding in all science content areas: a) Identify questions that can be answered through scientific investigations; b) Design and conduct a scientific investigation; c) Analyze and interpret data; d) Develop descriptions, models, explanations, and predictions; e) Think critically and logically to connect evidence and explanations; f) Recognize and analyze alternative explanations and predictions; g) Communicate scientific procedures and explanations.

Health Kindergarten Topics: Hand Hygiene, how to reduce germs. Flu Prevention. Eating nutritional foods and the benefits of exercise; Healthy hearts. Dental health.

Health Grade 1 Topics: Hand Hygiene, how to reduce germs. Flu Prevention.



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Health Grade 2 Topics: Hand Hygiene, how to reduce germs. Flu Prevention.

Health Grade 3 Topics: Hand Hygiene, how to reduce germs. Flu Prevention. Body hygiene.

Health Grade 4 Topics: Hand Hygiene, how to reduce germs. Flu Prevention. Body hygiene.

Health Grades 5 Topics: Hand Hygiene, how to reduce germs. Flu Prevention. Puberty/menstruation (girls only instruction). General Health and Body Hygiene.

Health Grade 6 Topics: Hand Hygiene, how to reduce germs. Flu Prevention. Sex education- puberty and reproductive anatomy (gender separated instruction). The importance of sleep, nutrition and exercise. Body hygiene.