



The First Academy Lower School Science

SCIENCE

VISION

The TFA Science Curriculum provides an opportunity for the student to develop a grounded Biblical truth measured against his/her observations of the natural world and its processes. Science is a method of inquiry founded upon the order of this 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 master 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.

STANDARDS

What at TFA student will know and be able to do in Science:

- Exhibit knowledge of historical development, and application of skills, concepts, and processes in:
 - *Scientific inquiry (the practice of science).*
 - *Physical science.*
 - *Life science.*
 - *Earth and Space science.*
 - *Science and Technology.*
- Exhibit an understanding of the unifying concepts and processes of science:
 - *Systems and organization.*
 - *Rules of evidence.*
 - *Models.*
 - *Explanations.*
 - *Role of measurement, change and equilibrium.*
 - *Relationship between structure and function.*
- Exhibit critical thinking skills to distinguish between fact, myth, and theory.
- Practice safe and appropriate use of scientific instruments, materials, equipment, and procedures.
- Communicate scientifically via various forms of oral and written discussions and/or presentations.

- Recognize that science is a human endeavor where people interpret scientific knowledge/evidence based on historical context and their personal worldview.
- Recognize the role science plays in the development of a Biblical Worldview regarding man's stewardship of the earth.
- Understand how general revelation and knowledge of science leads to a concept of the truth of God that corresponds with an authentic Biblical Worldview.

Kindergarten Topics:

****Life Science***

All about me

Lifecycles and in-class observation of caterpillars and incubation of chickens

****Earth Science***

Locations of objects in the sky

Sources of energy

Seasons

****Physical Science***

Observable properties of objects

First Grade Topics:

****Life Science***

Study of living and non-living things

Senses

Being created in God's image

Study of plants and animals focusing on how they grow and change

How needs are met

Function of parts

****Earth Science***

Study of the relationship of the moon, sun and Earth

Weather and seasons

Natural resources

Caring for God's creation

****Physical Science***

Properties of and changes in matter

Force and motion

Magnets

Sound

Second Grade Topics:

****Life Science***

Study of plants and living things including the life cycle

Categorizing animals, how their needs are met, and how they grow and change

****Earth Science***

Recognizing the changes on Earth, the Sun and its family

****Physical Science***

Study of matter and energy

The effects of light on objects

****Science Processes***

Use of observation skills, measurement instruments, and experimentation skills

Third Grade Topics:

****Life Science***

Plant life cycle
Animal habitats and basic needs

****Physical Science***

Cycles on Earth and space
Forces in motion
States of matter
Energy
Nature of science
Hands-on experiments

****Earth Science***

Weather
Rock types
Natural versus unnatural changes

Fourth Grade Topics:

****Life Science***

Studying vertebrates and invertebrates
Earth studies on soil, water cycle, and motion of Earth

****Physical Science***

Friction, energy and matter

****Nature of Science***

Understanding of light using hands-on experiments

****Chemistry***

Introduces periodic table and chemical/physical changes

Fifth Grade Topics:

****General Topics***

Animal and plant life
Ecological aspects with water quality
Plant study looks at plant structure and functions

****Life Science***

Looks at characteristics & roles of organisms
Life cycle habitats and adaptations

****Physical Science***

Covers chemical elements, motion, predictions and conclusions

****Earth Science***

Integrates physical properties of matter in various states
Earth cycles and patterns

****Method of Study***

Includes questioning, data collection and experimentation