



Trinity Episcopal School

Galveston, Texas

Science

Overview

The science curriculum at Trinity Episcopal School is designed to give an appropriate academic foundation at each level and to bring out each child's inherent curiosity. Science as a discipline is sub-divided into the following content areas: life science, earth science, chemistry, and physics; we look for opportunities for students to integrate these areas. Such integration helps prepare learners for real-world applications which require this kind of synthesis. Whenever appropriate, concepts are explored both qualitatively and quantitatively in order to align the content across disciplines such as mathematics, literature, history, and art. Teaching methodology includes both deductive and inductive approaches in order to meet the needs of students with differing learning styles. Throughout the grades, we stress "hands-on" science with direct exploration (i.e. dissection and observation) and with experimental science (i.e., controlled experiments). It is critically important for our goals that students be able to understand and apply the scientific method by the middle school years. By the Middle School years, all students are expected to participate in the annual TES Science Fair. Via the Science Fair, students have an opportunity to identify an interest in some area or particular problem of science, to delve more deeply into that area compared to the standard curriculum, and to communicate their findings to an audience.

Student Objectives

begins:

• Laboratory and Field Investigations	
Demonstrate the link between cause and effect	PK4
Collect data by observing and measuring	PK4
Ask questions that can be answered by observation	K
Analyze data to formulate reasonable explanations	1st

Design environmentally sound and safe experiments using scientific method	3rd
• Chemistry	
Compare substances using physical properties	PK4
Identify states of matter and differentiate between physical and chemical changes	1st
Describe structure and properties of atoms	5th
Write formulas of compounds and balance chemical equations	8th
• Physics	
Experience center of gravity and balance	PK4
Compare and contrast forms of energy (thermal, mechanical, kinetic, etc.)	1st
Describe, calculate and graph factors involved in motion	2nd
Investigate simple machines	2nd
Observe the properties of magnetism and electricity	2nd
Describe energy transformations mathematically	8th
• Earth and Space	
Explain the characteristics of the atmosphere including weather	PK4
Analyze natural events and human activities that impact earth systems	K
Describe the movements of bodies in the Solar System	1st
Describe Earth's history	1st
Explore the oceans and their effects on various aspects of earth	1st
Illustrate the layers of the earth	1st
Analyze the components of the Earth's crust	1st
Describe how plate tectonics causes major geologic events	4th

Appreciate the vastness of the universe	4th
• Life Science	
Use characteristics to classify organisms	PK4
Describe the functions of the human body (Health and Illness)	PK4
Understand living things in terms of life cycles	PK4
Describe how organisms are adapted to their environments	K
Diagram the levels of organization within an ecosystem	3rd
Explore the structure of living things at the microscopic level	3rd
Explain a key biochemical process: photosynthesis	3rd
Examine the life processes in terms of organisms and their functions	1st
Discuss natural selection in relation to Earth's biodiversity	1st

Student Objectives

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The **Student Objectives** should be organized by the main divisions of each academic discipline.

Each objective should ideally be something that can be repeated in multiple grades until secure. Examples which may be more grade specific should be set off in (*italics and parentheses*) to assist in editing.