

These standards started in 2006. Prior to this evolution was not state mandated. This page is about content the second about science education.

Sixth Grade Science Curriculum

- S6E1. Students will explore current scientific views of the universe and how those views evolved.**
- Relate the Nature of Science to the progression of basic historical scientific models (geocentric, heliocentric) as they describe our solar system, and the Big Bang as it describes the formation of the universe.

Seventh Grade Science Curriculum

Major Concepts/ Skills:

Biological evolution

Natural selection and fossil record

- S7L5. Students will examine the evolution of living organisms through inherited characteristics that promote survival of organisms and the survival of successive generations of their offspring.**
- Explain that physical characteristics of organisms have changed over successive generations (e.g. Darwin's finches and peppered moths of Manchester).
 - Describe ways in which species on earth have evolved due to natural selection.
 - Trace evidence that the fossil record found in sedimentary rock provides evidence for the long history of changing life forms.

High School Science

Biology Curriculum

The Georgia Performance Standards are designed to provide students with the knowledge and skills for proficiency in science. The Project 2061's *Benchmarks for Science Literacy* is used as the core of the curriculum to determine appropriate content and process skills for students. The GPS is also aligned to the National Research Council's *National Science Education Standards*. Technology is infused into the curriculum. The relationship between science, our environment, and our everyday world is crucial to each student's success and should be emphasized.

Major Concepts/ Skills:

Biological Evolution

- SB5. Students will evaluate the role of natural selection in the development of the theory of evolution.**
- Trace the history of the theory.
 - Explain the history of life in terms of biodiversity, ancestry, and the rates of evolution.
 - Explain how fossil and biochemical evidence support the theory.
 - Relate natural selection to changes in organisms.
 - Recognize the role of evolution to biological resistance (pesticide and antibiotic resistance).

Curriculum Frequently Asked Questions

1. What is the purpose of the state's curriculum?

As required by the Quality Basic Education Act of 1985, Georgia must maintain a curriculum that specifies what students are expected to know in each subject and grade. Additionally, the state's standardized tests, the Criterion Referenced Competency Test (CRCT) for grades 1-8 and the Georgia High School Graduation Test (GHSGT) for Grade 11, must be aligned with that curriculum.

The state's curriculum is a guideline for instruction that helps teachers, students, and parents know what topics must be covered and mastered for a particular course. The curriculum establishes the minimum standards, and does not prohibit systems, schools, or teachers from adding material to it. Some systems may have curricula of their own, but they must include everything that the state requires.

Science consists of a way of thinking and investigating, and includes a growing body of knowledge about the natural world. To become literate in science, therefore, students need to acquire understandings of both the **Characteristics of Science** and its **Content**. The Georgia Performance Standards for Science require that instruction be organized so that these are treated together. Therefore, **A CONTENT STANDARD IS NOT MET UNLESS APPLICABLE CHARACTERISTICS OF SCIENCE ARE ALSO ADDRESSED AT THE SAME TIME**. For this reason they are presented as co-requisites.

Co-Requisite – Characteristics of Science

Habits of Mind

SCSh1. Students will evaluate the importance of curiosity, honesty, openness, and skepticism in science.

- a. Exhibit the above traits in their own scientific activities.
- b. Recognize that different explanations often can be given for the same evidence.
- c. Explain that further understanding of scientific problems relies on the design and execution of new experiments which may reinforce or weaken opposing explanations.

SCSh3. Students will identify and investigate problems scientifically.

- a. Suggest reasonable hypotheses for identified problems.
- e. Develop reasonable conclusions based on data collected.
- f. Evaluate whether conclusions are reasonable by reviewing the process and checking against other available information.

SCSh6. Students will communicate scientific investigations and information clearly.

- a. Write clear, coherent laboratory reports related to scientific investigations.
- b. Write clear, coherent accounts of current scientific issues, including possible alternative interpretations of the data.
- c. From time to time, major shifts occur in the scientific view of how the world works. More often, however, the changes that take place in the body of scientific knowledge are small modifications of prior knowledge. Major shifts in scientific views typically occur after the observation of a new phenomenon or an insightful interpretation of existing data by an individual or research group.
- d. Hypotheses often cause scientists to develop new experiments that produce additional data.
- e. Testing, revising, and occasionally rejecting new and old theories never ends.

The Nature of Science

SCSh7. Students analyze how scientific knowledge is developed.

Students recognize that: