

PREFACE

Intent

In a 1786 letter to a friend, Thomas Jefferson called for "the diffusion of knowledge among the people. No other sure foundation can be devised for the preservation of freedom and happiness." Jefferson saw clearly what has since become evident: that nations' fortunes rest on their citizens' ability to understand and use information about their world.

Given his life-long fascination with the natural world, Jefferson would have agreed that an understanding of science is critical to the knowledge we all need to understand and live successfully in our world. The ability to use science in turn rests on the core education that students gain from kindergarten through high school.

The science component of the North Carolina *Standard Course of Study (SCS)* was created to ensure such an education by establishing competency goals and objectives for teaching and learning science in all grades. It contains the concepts and theories, strands, skills, and processes on which all science instruction should be based. In addition, the curriculum defines and illustrates the connections between the *National Science Education Standards*, the *Benchmarks for Scientific Literacy*, and the state standards. The *SCS* is a guide to stronger, more relevant science education for every student.

Revisions

The *SCS* was last revised in 1999. The 2004 revision has been written to reflect the development of National Science Education Standards better. The 2004 revision further reflects the recommendations of the Third International Mathematics and Science Study (TIMSS) and the 1996 National Assessment of Educational Progress (NAEP) science framework and assessment. The *SCS* has been written to expand the intent of previous documents and represents an evolutionary process of curriculum refinement.

Connections

At all levels, science should be taught with an awareness of its connection to other subjects and to society's needs. As author James Burke wrote in 1978, "This interdependence is typical of almost every aspect of life in the modern world. We live surrounded by objects and systems that we take for granted, but which profoundly affect the way we behave, think, work, play and in, general, conduct our lives and those of our children." The SCS embodies this sense of connections, as each level draws on those that precede it and contributes to those that follow.

Scope

An enormous amount of scientific content has accumulated at an increasing rate, causing curricula to thicken as material is added but rarely deleted. The science component of the SCS, therefore, does not include all science, but instead focuses on the fundamentals of science that all students should understand and be able to do as they move towards scientific literacy. Although the revisions suggest less coverage of some topics, they place more emphasis on teaching for understanding and the ability to apply that understanding to real life.

The Basic Educational Program for North Carolina's Public Schools specifies that *The North Carolina Standard Course of Study* is the curriculum that should be provided in all schools throughout the state. Local schools are in compliance with the *Basic Educational Plan* by providing the learning experiences as described in the SCS.

Underlying these standards is the principle that neither gender, nor economic status, nor cultural background limits a student's ability to understand scientific principles and develop science-related skills.
