

**REPORT OF THE
EARTH SCIENCE TASK FORCE
June 2003**

Executive Summary

A basic understanding of Earth processes is essential for citizens to make informed decisions and to vote intelligently on complex issues facing the United States, Texas, and the world today. The Earth Science Task Force has met six times since being appointed on June 28, 2002 and has carefully evaluated the earth science content in the high school and middle school curricula. The Task Force finds that the current high school curriculum is extremely deficient in earth science content and that the middle school curriculum is deficient in some areas.

The Task Force recognizes that the optimal solutions to the problems with earth science education in Texas require time for development; however, some immediate changes will result in major progress towards achieving earth science literacy for Texas public school children. The Task Force has three recommendations that should be enacted immediately to improve earth science literacy and five long-term recommendations that, when enacted, will allow Texas students to compete with the best in the nation.

RECOMMENDED IMMEDIATE ACTION:

Recommendation I: The Task Force recommends that the State Board of Education redesignate the earth science courses specified below* from an elective status to an option for core credit to satisfy the third science requirement for those students in the high school Recommended and Distinguished Achievement plans who take Biology and Integrated Physics and Chemistry (IPC).

*Geology, Meteorology and Oceanography (GMO) and AP Environmental Science (APES)

Recommendation II: The Task Force recommends that the State Board of Education require four years of science for the Distinguished Achievement Plan, one of which should be earth science.

Recommendation III: The Task Force recommends that the State Board of Education implement an eighth-grade science assessment that includes an earth science objective testing Earth and Space Science concepts.

RECOMMENDED LONG-TERM ACTION:

These recommendations require changes to existing Texas Essential Knowledge and Skills (TEKS) and Texas Assessment of Knowledge and Skills (TAKS). The Task Force recommends that they be enacted concurrent with other changes and as soon as possible.

Recommendation IV: The Task Force recommends that when the science TEKS undergo revision, the middle school TEKS for Earth and Space Science be revised so that they will be better aligned with the National Science Education Standards.

Recommendation V: The Task Force recommends that Earth and Space Science concepts and objectives be tested on the high school exit level TAKS.

Recommendation VI: The Task Force recommends that the State Board of Education (SBOE) direct the Texas Education Agency (TEA) to redesign and augment the TEKS for Geology, Meteorology and Oceanography (GMO), to incorporate core concepts of the present GMO with other important aspects of earth science. An expert panel should be convened by the TEA to provide scientific guidance for the revision of the TEKS.

The Task Force further recommends that the State Board of Education direct the TEA to develop an Earth Systems course specifically designed to provide students with an integrated science experience.

Recommendation VII: The Task Force recommends that four years of science be required for high school graduation, and at that time, earth science should become a required science course that is assessed on the TAKS test.

Recommendation VIII: The Task Force recommends reinstating a certification program in earth science to fast-track qualified earth science professionals to become earth science teachers.