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## ["Strengths and weaknesses" nixed in Texas](#) [3]



The third draft of Texas's science standards is available — and the creationist catchphrase "strengths and weaknesses" is absent. The [current standards](#) [4] (PDF) for high school biology include a requirement that reads, "The student is expected to analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information." In 2003, the "strengths and weaknesses" language was selectively applied by members of the board attempting to dilute the treatment of evolution in the biology textbooks then under consideration, and so it was clear that the "strengths and weaknesses" language would be a matter of contention when the standards were next revised.

The [first draft](#) [5] (PDF) of the revised standards replaced the "strengths and weaknesses" language with "The student is expected to analyze and evaluate scientific explanations using empirical evidence, logical reasoning, and experimental and observational testing." The change was hailed by the [Texas Freedom Network](#) [6], [Texas Citizens for Science](#) [7], and the [21st Century Science Coalition](#) [8], as well as by the editorial boards of the [Austin American-Statesman](#) [9] (October 6, 2008), and the [Corpus Christi Call-Times](#) [10] (November 20, 2008). Additionally, a [survey](#) [11] (PDF) conducted by Raymond Eve and the Texas Freedom Network Education Fund demonstrated that the vast majority of biologists at universities in Texas rejected the idea of teaching the supposed weaknesses of evolution.

Nevertheless, when the Texas board of education began to hear testimony about the new standards on November 19, 2008, it was presented not with the first draft but with a [second draft](#) [12] (PDF), in which the "strengths and weaknesses" language was replaced with a variant: "The student is expected to

analyze and evaluate strengths and limitations of scientific explanations including those based on accepted scientific data, and evidence from students' observations, experiments, models, and logical statements." At the meeting, defenders of the integrity of science education argued that "strengths and limitations" was no improvement over "strengths and weaknesses." The [third draft](#) [13] (PDF) reverts to the first draft's "analyze and evaluate" language.

In its discussion of the nature of science, the third draft is similar but not identical to the first draft. According to the first draft, "Science uses observational evidence to make predictions of natural phenomena and to construct testable explanations. If ideas are based upon purported forces outside of nature, they cannot be tested using scientific methods." The third draft reads, "Science, as defined by the National Academy of Sciences, is the 'use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process.' ... Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable."

According to the Texas Education Agency's [website](#) [14], the third draft will be considered by the state board of education at its January 21-23, 2009, meeting, with a public hearing regarding the proposed revisions scheduled for January 21, 2009. The January meeting will presumably constitute the first reading of the new standards, with a period for further public comment following; the second reading and final vote are expected, but not guaranteed, to occur at the board's March 26-27, 2009, meeting. The stakes are high: the standards will determine what is taught in Texas's public school science classrooms and the content of the biology textbooks approved for use in the state for the next ten years.

In the meantime, evidence continues to accumulate that calling for teaching the "strengths and weaknesses" of evolution is, in practice, simply a form of stealth creationism. For example, in a [post](#) [15] on the website of the *San Antonio Express-News* (December 12, 2008), a representative of the San Antonio Bible Based Sciences Association offered to provide "scientific evidence of weaknesses in evolution and for creation," including "the fact that evolution violates the 1st and 2nd Laws of Thermodynamics, as well as the Law of Biogenesis," as well as "creation evidence in the fields of microbiology, genetics, probability, biochemistry, biology, geology and physics which support creation and undermine evolution."

And in a December 1, 2008, [post](#) [16] on its blog, the Texas Freedom Network examined how members of the antievolution faction on the state board of education have responded to a Texas religious right organization's questionnaire over the past few election cycles. According to TFN, in 2008, they "strongly favored" forcing publishers to include "strengths and weaknesses of the theory of evolution" in biology textbooks, while in 2006, they "strongly favored" the teaching of "intelligent design" as a "viable" theory in public school science classrooms, and in 2002, they "strongly favored" the same — even though the question was prominently, and not inaccurately, labeled "Creationism" then. "Who," TFN asked, "do they think they're fooling?"

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