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01.19.2011

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[Senate Bill 554](#) [4] (document), prefiled in the Oklahoma State Senate on January 19, 2011, is apparently the third antievolution bill of 2011. Interestingly, two strands of antievolution strategy intersect in SB 554.

First, echoing the still popular "academic freedom" language of antievolution legislation, the bill provides that state and local education administrators "shall not prohibit any teacher from informing students about relevant scientific information regarding either the scientific strengths or scientific weaknesses of controversial topics in sciences, when being taught in accordance with adopted standards and curricula," where such topics "include but are not limited to biological origins of life and biological evolution." The bill also provides, "No teacher shall be reassigned, terminated, disciplined or otherwise discriminated against for providing scientific information being taught in accordance with adopted standards and curricula."

Second, the bill requires the state board of education to adopt "standards and curricula" that echo the flawed portions of the state science standards adopted in Texas in 2009 with respect to the nature of science and, for grades eight through twelve, evolution. For example, the content of SB 554's D1, D2, D7, D9, and D10 are identical to sections 7A, 7B, 7G, 8A, and 8B of the Texas high school biology [standards](#) [5] — all sections that were added or amended by antievolution members of the Texas state board of education, such as Don "Someone's got to stand up to experts!" McLeroy, in order to encourage the presentation of creationist claims in the science classroom. No fewer than fifty-four scientific and educational organizations [opposed](#) [6] these revisions.

The sole sponsor of the bill is Josh Brecheen (R-District 6), who [announced](#) [7] his intention to file antievolution legislation in a column in the *Durant Daily Democrat* (December 19, 2010): "Renowned scientists now asserting that evolution is laden with errors are being ignored. ... Using your tax dollars to teach the unknown, without disclosing the entire scientific findings[,] is incomplete and unacceptable." In a subsequent column in the *Daily Democrat* (December 24, 2010), he clearly indicated that his intention was to have creationism presented as scientifically credible, [writing](#) [8], "I have introduced legislation requiring every publically funded Oklahoma school to teach the debate of creation vs. evolution using the known science, even that which conflicts with Darwin's religion."

Oklahomans concerned about SB 554 are urged to get in touch with [Steven Newton](#) [9] at NCSE and the grassroots organization [Oklahomans for Excellence in Science Education](#) [10].

SENATE BILL 554 By: Brecheen

AS INTRODUCED

An Act relating to school curriculum; stating legislative intent; requiring the State Board of Education to adopt certain curricular standards; providing that schools shall not prohibit teachers from providing certain information to students; protecting teachers from retaliation for providing certain information; allowing students to be held accountable for information taught in a course; defining term; providing for codification; providing for noncodification; providing an effective date; and declaring an emergency.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF OKLAHOMA:

SECTION 1. NEW LAW A new section of law not to be codified in the Oklahoma Statutes reads as follows:

It is the intent of the Legislature that students in public school receive a comprehensive education in science and learn how to compare and contrast a variety of scientific viewpoints.

SECTION 2. NEW LAW A new section of law to be codified in the Oklahoma Statutes as Section 11-105.2 of Title 70, unless there is created a duplication in numbering, reads as follows:

A. Notwithstanding the provisions of Section 11-103.6 of Title 70 of the Oklahoma Statutes, the State Board of Education shall adopt curricular standards requiring the teaching of all relevant scientific information on the biological origins of life.

B. The State Department of Education, or any school district or school district administrator, shall not prohibit any teacher from informing students about relevant scientific information regarding either the scientific strengths or scientific weaknesses of controversial topics in sciences, when being taught in accordance with adopted standards and curricula. Controversial topics in sciences include but are not limited to biological origins of life and biological evolution.

C. The State Board of Education shall adopt standards and curricula that require students in all science courses to:

1. Know the definition of science and understand that it has limitations. 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." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable;
2. Analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;
3. Communicate and apply scientific information extracted from various sources such as current events, news reports, published journal articles, and marketing materials;
4. Know that scientific hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories;
5. Know that scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well-established and highly-reliable explanations, but may be subject to change as new areas of science and new technologies are developed; and
6. Distinguish between scientific hypotheses and scientific theories;

D. The State Board of Education shall adopt standards and curricula that require students in grades eight through twelve to:

1. Analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental;
2. Analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record;
3. Analyze and evaluate how natural selection produces change in populations, not individuals;
4. Analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success;
5. Analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species;

6. Analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination;

7. Analyze and evaluate scientific explanations concerning the complexity of the cell; and

8. Know that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made and be able to:

a. define taxonomy and recognize the importance of a standardized taxonomic system to the scientific community,

b. categorize organisms using a hierarchical classification system based on similarities and differences shared among groups, and

c. compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals.

9. Analyze and evaluate a variety of fossil types such as transitional fossils, proposed transitional fossils, fossil lineages, and significant fossil deposits with regard to their appearance, completeness, and alignment with scientific explanations in light of this fossil data;

10. Explain how sedimentation, fossilization, and speciation affect the degree of completeness of the fossil record; and

11. Evaluate the significance of the terminal Permian and Cretaceous mass extinction events, including adaptive radiations organisms after the events. Transitional fossils, proposed transitional fossils, fossil lineages, and significant fossil deposits with regard to their appearance, completeness, and alignment with scientific explanations in light of this fossil data.

E. No teacher shall be reassigned, terminated, disciplined or otherwise discriminated against for providing scientific information being taught in accordance with adopted standards and curricula.

F. This section only protects the teaching of scientific information and specifically does not protect the promotion of any religion, religious doctrine, or religious belief.

G. Students may be held accountable for knowing and understanding material taught in accordance with adopted standards and curricula, but they shall not be penalized in any way for subscribing to a particular position of a scientific debate.

H. For purposes of this section, "scientific information" means information derived from observation, experimentation and analysis of the natural world conducted to determine the nature of or principles behind the aspects being studied. Scientific information is not excluded from this definition solely on the basis that it coincides with the tenets of some or all religious beliefs or doctrines. This definition does exclude information based solely on religious writings, beliefs or doctrines.

SECTION 3. This act shall become effective July 1, 2011.

SECTION 4. It being immediately necessary for the preservation of the public peace, health and safety, an emergency is hereby declared to exist, by reason whereof this act shall take effect and be in full force from and after its passage and approval.

[Anti-Evolution](#) [11]

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[4] http://webserver1.lsb.state.ok.us/2011-12SB/SB554_int.rtf

[5] <http://ritter.tea.state.tx.us/rules/tac/chapter112/ch112c.html>

[6] <https://ncse.com/news/2009/03/texas-needs-to-get-it-right-004695>

[7] [http://www.durantdemocrat.com/view/full_story/10717736/article-Brecheen-discusses-evolution-and-Darwinian-Theory
](http://www.durantdemocrat.com/view/full_story/10717736/article-Brecheen-discusses-evolution-and-Darwinian-Theory
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[8] [http://www.durantdemocrat.com/view/full_story/10776295/article-Brecheen-says-the-religion-of-evolution-is-plagued-with-falsehoods
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)

[9] <mailto:newton@ncse.com>

[10] <http://www.oklascience.org/>

[11] <https://ncse.com/news/anti-evolution>

[12] <https://ncse.com/news/2011>

[13] <https://ncse.com/news/oklahoma>