

# THE NATIONAL ACADEMIES

*Advisers to the Nation on Science, Engineering, and Medicine*

National Academy of Sciences  
Office of the President

Mailing Address:  
NAS 215  
500 Fifth Street, NW  
Washington, DC 20001  
[www.nationalacademies.org](http://www.nationalacademies.org)

October 26, 2005

Dr. Alexa Posny  
Assistant Commissioner of Education  
Kansas State Department of Education  
120 SE 10<sup>th</sup> Street  
Topeka, KS 66612

Dear Dr. Posny:

On August 22 Ms. Carol Williamson, co-chair of the 2004-2005 Kansas Science Education Standards (KSES) Revision Committee requested the National Research Council's review of the use of copyrighted material from the National Research Council's *National Science Education Standards (NSES)* in the revision of the KSES. Specifically, she asked whether we are willing to grant copyright permission to the Kansas State Board of Education to use the *NSES* as a basis for the new Kansas standards, given the considerable changes in the content of evolution and the nature of science in KSES Draft 2-d.

In preparing our response, Drs. Barbara Schaal, Professor of Biology at Washington University, St. Louis and Vice President of the National Academy of Sciences, and Jay Labov, Senior Advisor for Education and Communications and a biologist by training, reviewed in detail the revised KSES and prepared a careful analysis of the revised KSES document.

Based on their analysis and discussions, we have decided that the National Academy of Sciences and the National Academies Press will not grant copyright permission for the State Board of Education to use the *NSES* for this version of your state science standards. My colleagues noted many positive changes in the current set of standards compared with the 1999 version (when we also were compelled to deny permission for use of the *NSES*). For example, Draft 2-d of the KSES document recognizes the overwhelming scientific evidence that the earth is billions of years old, that the Big Bang is currently the accepted scientific explanation for the origins of the universe, and that evolutionary mechanisms such as natural selection are the predominant explanations for the diversity of life on Earth.

However, our review of the KSES (provided in Appendix 1) finds that evolution is singled out as an area of science where there is major scientific controversy because of alleged weaknesses in the theory. In fact, the vast majority of scientists accept evolution as the most compelling explanation for how the diversity of life arose on this planet. Data collected from scientists in many disciplines and published in tens of thousands of peer-reviewed papers both support and continue to strengthen evolution as the underlying basis for understanding biology. The only

controversies lie in understanding the possible mechanisms by which evolution operates, but these kinds of disagreements are found in *all* areas of science. Indeed, they are essential to scientific progress. The revised KSES attempts to portray evolution as a theory in crisis and raises “controversies” (e.g., the Cambrian explosion) that evolutionary scientists have refuted many times using the available evidence.

Numerous similar examples can be found in the revised KSES document. Perhaps most troubling, however, is the attempt by those who prepared the revisions to redefine what constitutes science, from a search for natural explanations of observable phenomena, to one that does not require natural explanations (page xi). The power of science results from a strict adherence to seeking natural mechanisms and explanations for natural phenomena. By removing this critically important caveat from the KSES, the line between science and other ways of knowing becomes blurred. Kansas students will be both confused and ill-served by an explanation of science that allows for supernatural explanations of the natural world.

In summary, it is our conclusion that the revisions made to the KSES in Version 2-d compromise the *National Science Education Standards*, and therefore you may not use components of the *National Science Education Standards* in the KSES as currently drafted. We are willing to reconsider this decision if the changes that are in Version 2-d are deleted or modified to meet our concerns.

Yours truly,



Ralph J. Cicerone, Ph.D.  
President, National Academy of Sciences  
Chairman, National Research Council

Cc: Dr. Steve Case, KSES Revision Committee Chair  
Ms. Carol Williamson, Committee Co-Chair  
Dr. Barbara Schaal  
Dr. Jay Labov

Attachment: Appendix