

The National Academy of Sciences

Advisers to the Nation on Science, Engineering, and Medicine

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For immediate release

From The National Academy of Sciences
February 9, 2004

CONTACT: Ms. Vanee Vines 202-334-2183

Letter from the President of The National Academy of Sciences to
Ms. Jennifer Sheets, President, Ohio Board of Education

RE: current Ohio controversy surrounding the revised lesson plans that are being
proposed to accompany Ohio's science standards.

-----Original Message-----

From: Alberts, Bruce [mailto:BAAlberts@nas.edu]

Sent: Monday, February 09, 2004 11:56 AM

To: Jennifer.Sheets@ode.state.oh.us

Cc: cmb2@po.cwru.edu; Labov, Jay

Subject: I would like to contact you regarding Ohio education evolution issues

Dear Ms. Sheets:

Dr. Cynthia Beall, a member of the National Academy of Sciences who is employed at Case Western Reserve University, and several other scientists from Ohio universities have brought to my attention the current controversy surrounding the revised lesson plans that are being proposed to accompany Ohio's science standards. These scientists are working with a coalition of other scientists and concerned citizens in Ohio who are rightfully concerned about attempts to introduce tenets of Intelligent Design into your state's science curriculum and instruction. Of special concern is a lesson plan for 10th grade biology titled "Critical Analysis of Evolution."

In addition, Mr. Robin Hovis, a member of the State Board of Education from District 5, has publicly asked the Ohio Board of Education to hear from scientific organizations, including the National Academy of Sciences, to offer input to this controversy. Therefore, as President of the National Academy of Sciences and Chairman of the National Research Council, I asked Dr. Jay Labov, a biologist on my staff, to review that lesson. He reported a number of serious problems with this lesson plan. For example:

- The lesson defines "theory" in a way that makes it sound much less rigorous than scientists define the term.

- It uses the terms "microevolution" (defined by Intelligent Design proponents as genetic changes within existing species) and "macroevolution" (defined by proponents of Intelligent Design as genetic changes that lead to speciation) in ways that make them seem like two distinct processes. In fact, evolutionary theory makes no such distinction; the processes that lead to changes within species, when accumulated over time, also can give rise to new species.

- On what is indicated as page 321 of that document, there is a series of websites listed. Dr. Labov went to each of the websites (listed below in the order they are presented in the lesson plan) and found the following:
<http://www.stephenjaygould.org> is a broken link. <http://www.arn.org> leads to an Intelligent Design website that also sells ID books.
<http://www.objectivityinscience.org> leads to a site hosted by the National Association for Objectivity in Science, which tries to show that "...there are very serious scientific problems with the theory of macroevolution, even assuming the multitudinous forms of life on earth have come into existence over a period of millions of years."
<http://www.origins.org> This site features scholarly and popular resources concerning intelligent design and "philosophical theism." <http://genetics.nbi.gov> leads to a website of the National Biological Information Infrastructure, sponsored by the U.S. Geological Service. This site presents bona fide scientific information about genetics and evolutionary theory. <http://www.ucmp.berkeley.edu/history/evolution.html> leads to the evolution pages on the UC Berkeley's Museum of Paleontology website.

Thus, this document clearly includes links to websites containing information of a religious nature (and they are presented at the top of the list, thereby suggesting at least implicitly to students and teachers that those sites may be more important or authoritative). The references that appear later in this lesson plan also contain a number of ID books and other challenges to evolution.

We also are concerned that the tenets of Intelligent Design also have been introduced into other lessons dealing with the age of the earth, the theory of continental drift, and the composition of the sun.

We know that at least two benchmarks in the Ohio Science Standards state that "The intent of this benchmark does not mandate the teaching or testing of intelligent design." However, this statement does not preclude teachers from teaching or assessing their students on these ideas.

Please understand that the National Academy of Sciences and, I would contend, the vast majority of scientists, are not asking people to choose between science and religion. What concerns us is that Intelligent Design is not scientific because its ultimate tenet that life on Earth is the result of the work of some intelligent being is scientifically untestable and therefore cannot be invalidated through scientific means.

The National Academy of Sciences (NAS) and the National Research Council (NRC) have published several reports regarding the teaching of evolution. They include:

National Science Education Standards (NRC, 1996; available at <http://nap.edu/catalog/4962.html>) Teaching About Evolution and the Nature of Science (NAS, 1998; available at <http://nap.edu/catalog/5787.html>) Evolution in Hawaii: An Addendum to Teaching About Evolution and the Nature of Science (NAS, 2004: <http://books.nap.edu/catalog/10865.html>).

If you would like copies of these reports, please contact Dr. Labov (jlabov@nas.edu). Please note that two of these reports emphasize in their titles that having students understand the nature of science as much as the theory of evolution. Evolution is the time- and evidence-tested theory that integrates the various disciplines of modern life science and ties the life sciences to the chemical, physical, and earth sciences. Teaching and learning about scientific evidence for evolution is as warranted in the Ohio Science Standards and lesson plans as teaching and learning about genetics, physiology, or the scientific theory of gravitation. The tenets of Intelligent Design do not belong in science classrooms or lesson plans for science.

I will be happy to discuss these issues with you in greater depth by telephone prior to the Ohio Board of Education's vote this Tuesday on adopting the proposed science lesson plans. I am traveling but I have asked my assistant to page me wherever I am should you call. My telephone number is xxx-xxxx.

Thank you in advance. I look forward to speaking with you about this critically important issue for science education and students in Ohio.

Sincerely yours,

Bruce Alberts
President, National Academy of Sciences

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