



National
Center for
Science
Education

*Defending the teaching of evolution
and climate science*

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Submission regarding PE01530

I am writing on behalf of the National Center for Science Education (NCSE) to express support of petition PE01530: Guidance on how creationism is presented in schools, which calls for “official guidance to bar the presentation in Scottish publicly funded schools of separate creation and of Young Earth doctrines as viable alternatives to the established science of evolution, common descent, and deep time.”

NCSE is a non-profit organization based in the United States that works to defend the integrity of science education. NCSE is religiously neutral, supporting the right of every individual to hold, practice, and advocate their beliefs, religious or non-religious. NCSE is affiliated with the American Association for the Advancement of Science and the National Science Teachers Association.

Controversy over the presentation of such doctrines in the public schools of the United States has been prevalent to the last half century, ever since state laws banning the teaching of evolution were ruled to be unconstitutional by the Supreme Court in 1968, and creationists attempted in reaction to require the teaching of “creation science” or “intelligent design” along with evolution.

For the last quarter of a century, NCSE has led the effort to resist creationist attempts to undermine the teaching of evolution in the public schools of the United States. It is with the benefit of the lessons learned from its experiences in doing so that I venture to advise the Scottish Parliament in considering whether to act on the petition under consideration.

NCSE’s publication *Voices for Evolution* collects statements endorsing the teaching of evolution and opposing the teaching of creationism in its various forms. Included are 110 such statements from scientific and scholarly societies (available on-line at <http://ncse.com/media/voices/science>), among them statements from the American Association for the Advancement of Science and the National Academy of Sciences.

Ann Reid, *Executive Director*

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Also included in *Voices for Evolution* are statements from educational organizations (<http://ncse.com/media/voices/education>) which, following the lead of their scientific counterparts, similarly endorse the teaching of evolution and oppose the teaching of creationism in its various forms. Among them are statements from the National Association of Biology Teachers and the National Science Teachers Association.

Additionally, courts in the United States have ruled on the question of whether creationism in its various forms is scientifically credible, e.g., in *McLean v. Arkansas* (1982), *Edwards v. Aguillard* (1987), and *Kitzmiller v. Dover* (2005). The question has consistently been answered in the negative, reinforcing the fact, recognized by the scientific community, that creationism is devoid of scientific merit.

Simply devolving the question of how to address evolution and creationism to individual teachers is not satisfactory. First, teachers are sometimes creationists themselves. Second, even teachers who are not creationists often experience pressure from the community to teach creationism or not to teach evolution. Third, even teachers who are not directly pressured to compromise their teaching on evolution often feel unprepared to teach it.

In a national poll of public high school biology teachers in the United States conducted in 2007, one in seven indicated that they were creationists; one in five reported experiencing pressure to teach creationism or not to teach evolution; and only three in seven had completed a course on evolution. Unsurprisingly, only one in four taught evolution forthrightly—and as many as one in eight presented creationism as scientifically credible.

While I am unaware of any comparable study of biology teachers in Scotland, the incidents cited in the petition and its accompanying materials and in the press clearly show that the same factors are at work, if not necessarily to the same extent. This, coupled with the fact that organizations of Scottish teachers have reportedly sought official guidance on how to address evolution and creationism, strongly argues for the need for such guidance.

Finally, NCSE further endorses the draft language for such guidance offered in the petition, which commendably acknowledges the legitimacy of discussing creationist beliefs in a suitable setting while insisting on the forthright and uncompromising presentation of evolution and allied topics, as a basis for developing scientifically appropriate and pedagogically responsible recommendations for Scottish teachers.

Sincerely,

Ann Reid
Executive Director, NCSE