

Cases for Teaching Responsible Communication of Science

Debating evolution? Discussion version

Ken Ham, head of the Creation Museum, has challenged Bill Nye, the Science Guy, to debate creationism. Should Nye accept? Your task in this case study is to develop arguments pro and con on this question before reaching your own decision.

Some background:

Bill Nye is likely the science communicator most familiar to anyone who was in grade school in the US after 1990. He has a B.S. in Mechanical Engineering from Cornell University (where he took a class from Carl Sagan) and experience as an engineer working for Boeing. Participating in sketch comedy lead him to develop his award-winning public broadcasting show, *Bill Nye the Science Guy*, which ran for 100 episodes in the 1990s. Since that time he has been a spokesperson on a variety of scientific questions in the popular media, and recently has been taking aim at the pseudoscientific beliefs he sees as spreading in the U.S.

Nye denounced creationism in an interview that made the rounds on YouTube, associating the teaching of creationism with economic and political decline. In response he received an invitation to debate the topic from Ken Ham.

As president of Answers in Genesis, a fundamentalist Christian organization that runs the Creation Museum, Ham is a leading anti-evolution spokesperson. Ham did his undergraduate work in Biology, and also has a degree in Education. He left a career teaching high school biology to devote himself to advancing the cause of young earth creationism.

Although the media often portrays the issue as a contest between (one) scientific theory of evolution and (one) religious doctrine of creation, in fact both "sides" are internally complex. Young earth creationism (YEC)—Ham's view—is among the more radical positions, controversial even within evangelical Christian circles. YEC takes Biblical stories literally, including the time measurements of generations that appear to indicate that the Earth was created around 6,000 years ago. All "kinds" of living beings were created within one week; thus dinosaurs and humans lived together for a period. The Biblical flood caused massive geological changes and extinctions, creating the fossils we dig up today.

A debate between Nye and Ham would not be the first time defenders of evolution and of creation will have met. But most previous debates have been relatively local affairs, often organized on college campuses. If Nye accepts the challenge, the debate will be held at the Creation Museum before an audience of about a thousand people who manage to buy tickets. It will also be live-streamed to whoever wants to see it online, and archived on YouTube. It will be moderated by a broadcast journalist. The exact question to be debated will be: Is creation a viable model of origins in today's modern scientific era?

In all, the debate will last approximately 2.5 hours, with the following format:

- Opening statements by each (5 minutes for each)
- Full presentations by each (30 minutes for each)
- Rebuttal by each, followed by a counter-rebuttal by the other (5 minutes for each)
- Questions from the audience, taken in advance on notecards and selected at random (2 minute response from the person addressed, 1 minute response from the other)

Questions for discussion

The overall questions:

1. Should *any* scientist debate a creationist?
2. Should *Bill Nye* be the one to debate?

You may want to consider:

Isn't science all about being open to new evidence and considering alternative explanations? Is there anything that scientists *shouldn't* be willing to debate? Why?

What would be the purpose of a debate about creationism? Be sure to consider multiple options, including:

- persuade opponents to change their minds
- win, demonstrating the superiority of one position over another
- demonstrate confidence in one's position
- circulate arguments widely
- obtain publicity for oneself and one's cause
- put on an entertaining show

Which of these purposes would likely be served by a debate between Bill Nye and Ken Ham? Which would not?

What are the most important competences someone debating a creationist needs to have?

- knowledge of the science of evolution
- rhetorical flair
- familiarity creationist arguments
- understanding the audience

If not through a debate, how should scientists engage with those who, like creationists, hold beliefs that have no scientific legitimacy?

- Would it be wrong not to engage at all—to simply ignore the view?
- Should science faculty try to engage students whose find the science challenges their religious beliefs? If so, what should the faculty member do?
- If debating isn't an appropriate way to engage, what would be a better option? Be specific. What are the advantages and disadvantages of your approach?

Young Earth Creationism (YEC) is only one of the views held by Christians on the question of origins. How do you think scientific communities should interact with faith communities generally? Are there possibilities for dialogue, or is it better to limit interactions? Be specific.

Assume that a debate about creationism was proposed for your campus. A friend of yours who is studying evolutionary biology is thinking about joining the team defending evolution. What advice do you give them? In what ways is your situation similar to and different from the Nye v. Ham debate?