

WHAT IS THE 'ONE THING' YOU SHOULD KNOW BEFORE TEACHING ABOUT EVOLUTION?



How do religion and evolution sit together?

Berry Billingsley tackles the thorny question of what to say to children about evolution and religion

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Nature of science
Thinking skills

There has been considerable enthusiasm among scientists and science educators to have evolution included in the English Primary National Curriculum. Michael Reiss, Professor of Science Education at the London Institute of Education and an Anglican priest,

wrote in the *Guardian* online: *Why do I feel so strongly that evolution should be a part of every child's education? In large measure it is because Darwin enables us to see ourselves in a new light. For all that we are the most special of species – with our unrivalled capacity for language, for thought, for morality and for reason – we are not wholly distinct from the rest of creation. We share a common ancestor with every mammal, with every animal; indeed, with every organism.* (Reiss, 2009)

Perhaps then, the one thing you should know before teaching about evolution is that, while there are some people who feel that evolution conflicts with what they believe about life on Earth, a significant proportion of people feel that evolution is consistent with any religious beliefs they hold.

Dealing with conflict

In practice, in the classroom, we are still faced with the issue of what to say to children if they believe that evolution conflicts with their own or other people's religious faith. When I ask teachers and trainee teachers how they plan to respond, the answer I hear most often is that they will be a neutral chair and try to give children a balanced view. I can see the point of this but there is an opportunity to help children make progress in their understanding of evolution and of how evolution and religion relate.

The risk with stepping back is that some children will be left thinking that this is a debate with only two sides – and that is a misrepresentation of the range of perspectives people have. I suggest there are three stances that children should know about: *atheistic evolution*, *theistic evolution* and *young earth creationism* (Box 1). By teaching about the different ways in which people respond to evolution, the debate is opened up so that children are aware that they do not have to choose between science and religion.

One of the reasons why children find it difficult to understand the range of views that scholars hold is that most children are working at what can be called a 'narrative' level. They are looking for a story-like sequence of events that explains how life came to be; to them, science and religion seem to offer two competing stories. The religious story they mostly describe is that God created the universe in six days. The scientific story children typically present begins with the Big Bang and then

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Box 1 Views of evolution

- **Atheistic evolution.** Supporters of this view believe that life is here because of evolution and they also believe that evolution is something that happens without a God. People who support this view see science and a belief in a theistic God as incompatible.
- **Theistic evolution.** Supporters of this view believe that God is the author of evolution. They say that where some religious texts say the universe was created in six days, this is a poetic expression. People who support this view say that evolution and religion are compatible.
- **Young Earth creationism.** Supporters of this view believe that the universe was created in six days. Most also say that the Earth is a few thousand years old. People who support this view reject the picture presented by mainstream science about the history of the Earth.

has planets and then life on Earth. Some children offer a hybrid or negotiated narrative, with science and God taking turns – so God made the Big Bang, science made the planets, God made the first living thing and so on.

Meanwhile, the reasoning used by many scholars who say that science and religion can be complementary is more multi-dimensional. The starting point is that we can use science to tell us about the regular processes that happen in nature but we cannot use science to tell us why these processes exist and whether they were authored by a creator. So in the view of many scientists with a religious faith, God is not just appearing at intervals in the story, He is there throughout. God is the author of evolution and is also a personal God who is interacting with people.

Perhaps then the ‘one thing’ to know before teaching evolution is that children are learners, not experts, and over time they will become more adept at managing complicated ideas. The conundrum for the primary teacher in the meantime is how to help children to make sense of complicated issues, especially when you are thinking on your feet trying to answer children’s questions.

Time

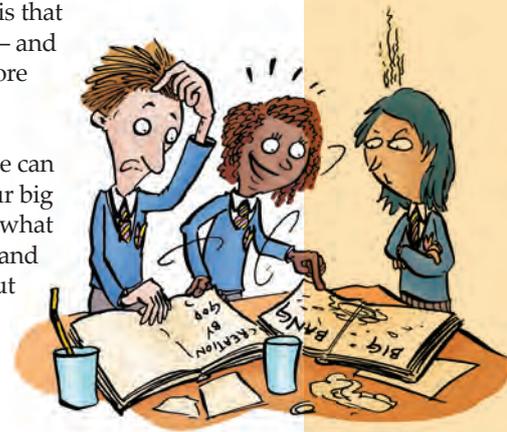
Maybe the ‘one thing’ is the challenge of the timescales that are involved. Children have said to me, ‘I’ve never seen a cat turn into a dog – why don’t we see animals

changing?’ Current estimates are that the Earth is about 4.6 thousand million years old and that the first living things were here about 3.5 thousand million years ago. When you are 10, any timescale that begins before your parents were born is impossibly long! By creating a timeline that fits into a calendar year, rather than a linear one, children can see more clearly how relatively short a time we have been here and the relative amount of time that there has been life on Earth (see *Websites* for a free download). This provides a very powerful and supportive image, similar to that described by David Attenborough many years ago in the BBC television series *Life on Earth* (see *Websites*).

Humans are animals too

Some children look positively shocked when they are told that humans are animals, a key concept that needs to be engaged with. This is because, for them, the word ‘animal’ conjures up thoughts of non-human animals, particularly the types that snort and grunt,

rather than animals that read, go to school and do homework. It is important for children to know that, although biology says humans are animals, it does not say all animals are the same. When I explain this to children, I point out that both termites and humans build amazing structures – but it is humans and not termites that step back from their work and say, ‘Wow, look at what we made!’ And, except in cartoons, I have never seen a non-human animal put its hand to its head and say ‘Bother my big mouth, why on earth did I say that?’ So perhaps another ‘one thing’ to know before teaching about evolution is that evolution – and science more generally – gives us insights we can ‘add’ to our big picture of what we notice and value about being human, and does not need to be ‘instead of’!



Science and religion – are they competing or do they fit together?

Berry Billingsley is Associate Professor of Science Education at the University of Reading. She leads the LASAR (Learning about Science and Religion) Project, which produces free resources and workshops for schools – see: www.faradayschools.com
Email: b.billingsley@reading.ac.uk

Websites and references

BBC *Life on Earth* series: www.bbc.co.uk/programmes/b01qjcm/episodes/guide
Calendar to support the timescales of life on Earth: www.faradayschools.com/teacherspages/science-teachers

Reiss, M. (2009) *On the origin of education*. Available at: www.theguardian.com/commentisfree/belief/2009/jul/28/evolution-primary-school-darwin-children

LASAR (Learning about Science and Religion) Project research at: www.lasarpj.com