

# Lots of children find school science lessons boring. Should science teachers include discussion of ethical issues?

[blogs.ucl.ac.uk/ioe/2023/09/12/lots-of-children-find-school-science-lessons-boring-should-science-teachers-include-discussion-of-ethical-issues/](https://blogs.ucl.ac.uk/ioe/2023/09/12/lots-of-children-find-school-science-lessons-boring-should-science-teachers-include-discussion-of-ethical-issues/)



Credit: Joaquim Alves Gaspar / Wikimedia Commons.

[Amanda McCrory](#) and [Michael J. Reiss](#).

Early in 2023, and for the third year in a row, the UK government decided to allow the 'emergency' use of the pesticide thiamethoxam (a type of neonicotinoid) on sugar beet in England. Thiamethoxam is normally banned because it is incredibly toxic to bees and other insects. A single teaspoon can kill over a thousand million bees.

Should school children consider ethical issues such as whether these pesticides should be used? In our newly published book [The Place of Ethics in Science Education: Implications for Practice](#), we look at the arguments for and against the inclusion of ethical issues in science education.

## Arguments for and against the inclusion of ethics in science education

Some people argue that the function of science education, in schools and elsewhere, is to introduce learners to core scientific knowledge and scientific practices. The most, therefore, that ethics might be expected to do is to help motivate learners. For example, if

teaching in a lesson about food webs, one might include a little bit about the ethical implications of pesticide use, for interest's sake. One could help students to think about the effects of bee deaths on other organisms in the food web.

Other people think that while a central function of science education is indeed to introduce learners to core scientific knowledge and scientific practices, these are frequently intertwined with ethical questions. Furthermore, it is only a minority of school students who are interested in science for its own sake. Most learners want to see the relevance of what they are learning, and they are more likely to find science interesting if it is discussed in context, with ethical issues being explored.

## **What do we think?**

---

Our own view is that while there are some topics in science that can be taught without ethics being considered, ethics and science are often intertwined. Who determines what scientific research gets funded and why? How do we decide whether to permit new medical technologies such as gene editing? Are bees worth protecting for their own sake, quite aside from their role as pollinators of our crops?

We are living in a time of enormous technological advances but also in a time of crisis, one marked by clear advancement in the sciences but also one of extensive human suffering, increasing inequalities and the destruction of too much of the non-human world. At the same time, there is a limit to what science teachers can do. Most science teachers have not had any training in moral philosophy. And they are doing their best with what is already an overloaded curriculum.

Our view is that science teachers are professionals who are creative and resourceful, more than able to draw together knowledge to promote children's ethical and scientific thinking. As such, we argue that science educators do not need to have had extensive prior training in ethics education. We do, however, recognise that science educators need guidance, and in our book we present evidence to help science educators see how feasible it is to successfully incorporate the pedagogies we propose.

## **Are ethics only appropriate for some learners?**

---

Is it only older children or those considered to be higher attainers who can reason ethically about scientific issues? Not at all. In our book, we give numerous examples where young children not only reason ethically but can be helped by their teachers to enhance the quality of their reasoning about ethics and of their scientific knowledge. It is also a deep mistake to consider ethical issues more appropriate for those identified as 'clever'. The rise of activism by youth culture across the world includes children from all walks of life. All humans have a sense of right and wrong. The job of a school, as a microcosm of society, includes helping children to develop their moral knowledge, awareness and sensitivity. Science lessons can play a significant role in this.