Guidance on integrating discussion on science and society into science lessons

PERFORM encouraged students to build a more reflective understanding of science and its role in society, taking into account ethical and philosophical considerations, societal challenges and political concerns.

This toolkit invites you to do the same. This section provides best practice advice to help you to overcome potential barriers and effectively manage philosophical discussion with your class.

"There is already so much content for my students to learn. How can these philosophical discussions enhance what they are learning so that it doesn't detract from curriculum?"

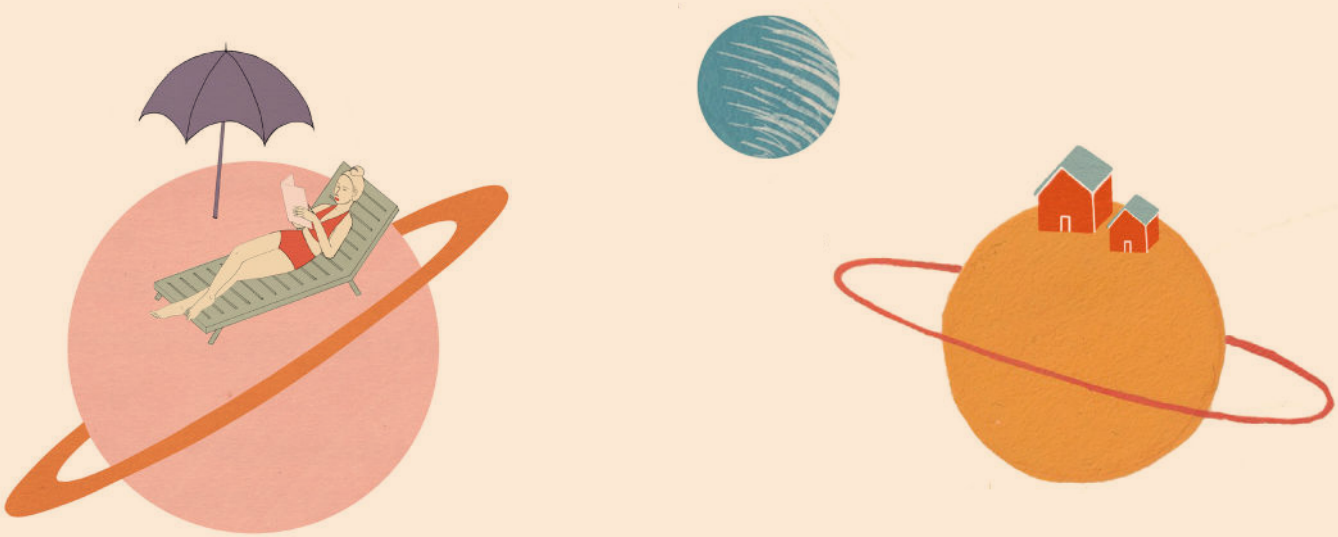
- Quick 5/10 minute discussions can be slotted into lessons as starters or plenaries; they do not have to take up the whole lesson.
- Many philosophical discussions will help clarify key terms in the curriculum and consolidate content knowledge. You can use discussions as a tool for revision, identifying gaps in knowledge and diagnosing misconceptions.
- These discussions provide a new perspective and context to curriculum content. For some students, engaging in these discussions can help to humanise the scientific topic and make it more relevant to their lives. This can help improve engagement in lessons.

"As a science teacher I am not trained in facilitating philosophical or ethical discussions."

- It helps to introduce these discussions as collaborative discussions and not a debate. Encourage students to share and build on each other's ideas, disagree constructively and even change their minds!
- There are lots of easy facilitation techniques, such as 'think-pair-share', which encourage participation from all students and help build an ethos that encourages contributions from everyone.
- Try using facilitation questions such as 'what would someone who disagrees with you say?' and 'why do you think that?' to encourage depth and focus discussion, rather than giving your own opinion or doing too much of the thinking for your students.
- If you are interested in finding out more about facilitating philosophical dialogue, there are lots of online resources on P4C (Philosophy for Children) and you may even want to consider training with SAPERE.

"I am used to encouraging a scientific discussion based on facts; I am worried about engaging the students in a discussion that doesn't necessarily have a right or wrong answer."

- Although philosophical questions cannot be answered with empirical evidence alone, many discussions do depend at least in part on scientific knowledge. Although there may not be one correct answer, there are better and worse answers; an answer that is well thought through and is backed up by good reasons is better than an answer that is not.
- Progress in these discussions is not through coming to 'an answer' rather, coming to a better provisional understanding and working better as a group to advance understanding. Rethinking progress in this context can avoid students feeling that the conversations are pointless when they do not result in a clear factual conclusion.



Acknowledgements

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References and additional resources

- University of Bristol: Thinking Science Resources. https://goo.gl/NZxx8Y
- SAPERE: Philosophy for Children -P4C. https://goo.gl/qGv4K2

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