Science as Argument (to build students understanding that science is based on argument where rival hypotheses are investigated to present evidence about competing factual claims and sometimes it takes the form of a debate). Hypotheses are statements based on scientific evidence eg hot air rises because it is less dense than cold air. Links to participating and contributing and communicating science

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
Understand that scientists often have different opinions Explore science-related issues and express their opinions Identify differences in other students' opinions	Understand that scientists argue with each other Explore science-related issues and argue their positions on them Critique their own and others' arguments	Understand the importance of dispute in forming scientific knowledge Explore the science behind issues and argue their position using science language and/or diagrams Differentiate between fact & opinion	Understand what is meant by a socio-scientific issue Identify socio-scientific issues and differentiate the scientific and social aspects Use their science understanding to explore different viewpoints on issues important to them and develop arguments to support personal viewpoints.	Understand that science as argument involves a mix of creativity, logic and passion Critique a range of scientific arguments Develop scientific arguments and make recommendations for possible responses	Understand the relationship between scientific argument and evidence Gather relevant scientific information to draw evidence-based conclusions on socio- scientific issues Develop scientific arguments for opposing views within socio-scientific issues	Understand the role of text/media in representing socio-scientific issues Discuss examples of scientific arguments that demonstrate oversimplification, bias, distortion and/or misrepresentation Develop scientific arguments to justify personal action with regards to a socio-scientific issue	Understand that society benefits when there is robust transparent argument around soci-scientific issues Research & analyse socio-scientific issues from a range of perspectives (scientific and socio-cultural) to develop a coherent understanding of the issues Develop scientific arguments to justify personal and societal responses