

Your Turn: 2+2=Red

Lesson Title: Science and Policy

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Name: _____



Since the topics you will research and discuss have the potential to stir strong feelings, go over the questions on this student sheet to prompt deep, focused discussion. Strongly held beliefs can be argued in a civil and respectful manner and you can still like and respect each other—agreeing to disagree.

Q: What's wrong with wanting to introduce moral, religious, or political solutions to problems?

A. Nothing, in the right context. They are vital and foundational elements of many aspects of American life, which scientists respect and in which most participate in some way. But scientific problems can only be solved by scientific methods and answers that are the products of centuries of disciplined practice based in experimental observation, empirical, repeatable, and objective evidence. Moral, religious, and political solutions are subjective. That means their answers are subject to feelings and impressions, rather than answers that come from objects of controlled experimentation. Scientific questions can only safely and reliably be answered by scientific methods, just as a mathematical addition problem can only be answered by numbers—not colors. To say that "2+2=red" mixes categories of information, which undermines the brain's cognitive drive to organize information into meaning and sense.

Q. What are some examples of essentially scientific questions that are currently vulnerable to being answered by political and/or moral means, not by scientific means. What influences your approach to answering these questions? Where do you look for evidence, and authoritative information?

A. The questions of : **1.** The origin of life through evolution and adaptation by natural selection; **2.** The effects of human activity on global climate warming; **3.** Whether publicly-funded stem cell research is a social good or social ill.