

DEBATE

HAS SCIENTIFIC REVOLUTION ENDED?

Introduction

Thinking about the progress of science prior to the Age of Enlightenment and the progress since gets students considering what counts as science, what makes a revolution, and if it's possible for a revolution to go on for over 300 years. In this debate activity, students will assume a position, build an argument in support of it, and defend it in an open debate within class.

Students will be assigned to “position groups”. One group will argue that the Scientific Revolution ended, and the other will argue that it has not. Questions students might consider in preparing their argument:

- What counts as science?
- Who are the scientists?
- What is a revolution?
- How do you define a scientific revolution?
- Can a revolution really last for 300 years?
- How do we know if we are in the midst of a revolution?
- How do we know when something in history began and ended?

Preparation for the activity

Assign students to one of these position groups:

- Position Group 1: Scientific Revolution is dead
- Position Group 2: Scientific Revolution is alive

Each group should spend 20 to 30 minutes preparing their position. Everyone in the group will work together to identify material to support the group's position, and to create a list of arguments that other groups might use to argue against them group. One or two students might each work on the opening and closing statements while the group is conducting research; however, the entire group should edit these statements. Finally, each group will need to decide who will read the opening statement, rebuttal, and closing statement. While listening to the presentation of other groups, everyone should be taking notes for the rebuttal of the other teams' opening statements.

Have students work to generate ideas for the debate and prepare opening and closing statements. Students can use the graphic organizer provided to help formulate their positions. In addition to any research they do — in the library or through the Internet, for example — students should be sure to consult the resources on the Big History Project website and their notes from the discussion of the material in Unit 8. Be sure to circulate the room and check in on student progress.

Debate format

Opening statements

Each group will read their opening statement for the debate.

Groups meet to prepare rebuttals

Groups will spend 10 to 15 minutes preparing a rebuttal of the other groups' opening statements.

Rebuttals

Each group will read their rebuttal in response to the other groups opening statement.

Groups meet to modify closing statements

Each group will take 5 to 10 minutes to revise their closing statements to account for the other group's rebuttals.

Closing statements

Each group will read their closing statement for the debate.

Vote on the outcome

Once the debate is complete, ask students to vote for the group that made the best argument for its position. Remind them that the criterion is which group made the best argument, not which group argued the position they agree with.



DEBATE

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Introduction

In this activity, you'll think about whether or not the Scientific Revolution has ever ended. Thinking about the progress of science prior to the Age of Enlightenment and the progress since helps you consider what counts as science, what makes a revolution, and if it's possible for a revolution to go on for over 300 years.

You will be assigned to "position groups." One group will argue that the Scientific Revolution ended, and the other will argue that it has not. Questions students might consider in preparing their argument:

- What counts as science?
- Who are the scientists?
- What is a revolution?
- How do you define a scientific revolution?
- Can a revolution really last for 300 years?
- How do we know if we are in the midst of a revolution?
- How do we know when something in history began and ended?

Preparation for the activity

Your teacher will assign you to one of the position groups below. You will be responsible for researching and arguing this position. As in any debate, you may be assigned to defend a position with which you do not actually agree. You don't need to agree with the position, though you need to understand the perspective of those that do. Use the Internet and course materials to help you in your research.

- Position Group 1: Scientific Revolution is dead
- Position Group 2: Scientific Revolution is alive

Each group will spend 20 to 30 minutes preparing their position. Everyone in the group will work together to identify material to support the group's position, and to create a list of arguments that other groups might use to argue against your group. One or two of your team members might each work on the opening and closing statements while the rest

of the group is conducting research; however, the entire group should edit these statements. As a team, decide who will be reading your group's opening statement, rebuttal, and closing statements. While listening to the presentation of other groups, be sure to take for your rebuttal of the other teams' opening statements.

Debate format

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Name:

Date:

Opening statement	
Points to support our position	Possible counterpoints
Closing statement	



DEBATE RUBRIC

Directions: Use this rubric to evaluate debates. Mark scores and related comments in the scoring sheet that follows.

Description	Below Standard (1)	Approaching Standard (2)	At Standard (3)	Above Standard (4)
Overall Argument	<p>Argument lacks logic and is unclear.</p> <p>Argument lacks supporting evidence.</p>	<p>Presents argument somewhat unclearly.</p> <p>Uses at least one supporting piece of evidence.</p>	<p>Presents argument somewhat clearly.</p> <p>Some supporting evidence is provided.</p>	<p>Presents argument extremely clearly.</p> <p>Gives supporting evidence for all points made.</p>
Explanation of Ideas and Information	<p>Does not present information, arguments, ideas, or findings clearly, concisely, or logically.</p> <p>Argument lacks robust supporting evidence.</p> <p>It's difficult to follow the line of reasoning.</p> <p>Uses information that is not in line with the overall purpose.</p> <p>Does not consider opposing or alternative perspectives.</p>	<p>Presents information, arguments, ideas, or findings in ways that are not always clear, concise, or logical.</p> <p>Argument is supported by only some robust evidence.</p> <p>The line of reasoning is sometimes difficult to follow.</p> <p>Uses information that is only sometimes in line with the overall purpose.</p> <p>Attempts to consider and address opposing or alternative perspectives but does not do so clearly or completely.</p>	<p>Presents information, arguments, ideas, or findings clearly, concisely, or logically.</p> <p>Argument is well supported.</p> <p>The line of reasoning is logical and easy to follow and uses information that is appropriate for the purpose and audience.</p> <p>Clearly and completely addresses alternative or opposing perspectives.</p>	<p>Does an exceptional job presenting information, arguments, ideas, or findings clearly, concisely, and logically.</p> <p>Argument is well supported with robust, relevant, and interesting evidence.</p> <p>The line of reasoning is logical, easy to follow, well crafted, and uses information that is appropriate for the purpose and audience.</p> <p>Clearly and completely addresses relevant alternative or opposing perspectives.</p>



DEBATE RUBRIC

<p>Rebuttal and Closing Statement</p>	<p>No rebuttal offered.</p> <p>Makes no arguments against points the other side made.</p> <p>Does not explain why their side has the strongest argument.</p>	<p>Makes one or two points in rebuttal, but the logic is somewhat questionable or not supported by evidence.</p> <p>Makes one or two points against the points the other side made, but the logic is somewhat questionable.</p> <p>Explains why their side had the strongest argument, but the logic is flawed.</p>	<p>Makes some logical points as rebuttals, but doesn't support all points with evidence.</p> <p>Makes some logical arguments against the points the other side made.</p> <p>Explains why their side has the strongest argument, but could give more reasons.</p>	<p>Makes an abundance of logical points as rebuttals, and all points are supported with evidence.</p> <p>Makes an abundance of logical points against the points of the other side.</p> <p>Is thorough and logical in the explanation for why their side has the strongest argument.</p>
<p>Eyes, Body, and Voice</p>	<p>Does not look at the audience or make eye contact.</p> <p>Lacks poise (appears nervous, fidgety, slouchy).</p> <p>Speaks in a way that is hard to understand.</p>	<p>Makes infrequent eye contact with the audience.</p> <p>Shows some poise (limited fidgeting or nervousness).</p> <p>Speaks clearly most of the time, but may be difficult to understand or hear at times.</p>	<p>Keeps eye contact with the audience most of the time—only glances at notes or slides.</p> <p>Shows poise and confidence.</p> <p>Speaks clearly and is easy to understand.</p>	<p>Keeps eye contact with the audience throughout.</p> <p>Shows exceptional poise and confidence.</p> <p>Speaks clearly and in an engaging way that is interesting to listen to.</p>



DEBATE RUBRIC

Name:

Date:

Directions: Use this table to evaluate and comment on elements of a debate. Put an X in the cell that denotes the grade. Use the other cells for comments.

Description	Below Standard (1)	Approaching Standard (2)	At Standard (3)	Above Standard (4)	Score
Overall Argument					
Explanation of Ideas and Information					
Rebuttal and Closing Statement					
Eyes, Body, and Voice					
Total Score					

