



DEEP-SPACE DIPLOMACY



TEAMWORK AND COMMUNICATION

MISSION DESCRIPTION

Debates are an important part of decision making. A debate explores a complex issue and presents information from both sides of an argument.

The debate component used for this activity is called the **rebuttal**. Rebuttal is defined as contradicting, refuting, or presenting a counter-argument.

Rebuttals involve explaining why the other side's arguments are flawed. This can include identifying arguments as factually, morally or logically flawed, or irrelevant to the question debated.

Rebuttals **must not** involve ridiculing the person or the argument presented. A **weak** rebuttal is not communicated clearly or with focus, uses poor evidence, and does not address the contradictions in the first argument. A **strong** rebuttal is articulated clearly, uses facts and evidence to dismantle the validity of the other viewpoint, identifies flaws in the argument, anticipates the other speaker's next arguments, and is clearly presented.

Difficulty: **MODERATE**

Duration: **85 MINUTES**

Materials: **MINIMAL**

GOALS

To familiarize participants with critical thinking and to understand the complexities of space exploration decisions.

OBJECTIVES

By the end of the activity, participants will be able to:

- Identify and explain the structure of a strong versus a weak argument
- Work collaboratively to research and compile convincing statements and rebuttals
- Identify at least one positive and negative side of complex space exploration topics
- Strengthen communication, teamwork, and critical thinking skills

MISSION PREPARATION

TIMELINE

Breakdown	Duration
Introduction to activity	5 minutes
Research for debate questions	30 minutes
Round 1	15 minutes
Round 2	15 minutes
Round 3	15 minutes
Wrap-up	5 minutes
Total	85 minutes



MATERIALS

- Paper and pencils, or computer
- Access to the Internet and/or the library for brainstorming and research purposes

BACKGROUND

Space agencies from around the world are looking towards the future of deep-space exploration, beyond the International Space Station. Canada has committed to participating in international space exploration efforts that aim to push humanity farther into the solar system.

However, the importance and benefits of deep-space exploration are debated.

MISSION INSTRUCTIONS

The basic structure of the debate is as follows:

- Three people represent the affirmative side, three represent the negative side
- First affirmative speaker introduces the topic, explains their position, and presents an argument
- First negative speaker identifies the affirmative team's statement as flawed and explains why by presenting their argument
- Second affirmative member presents a rebuttal
- Second negative member presents a rebuttal
- Third affirmative member presents a rebuttal
- Third negative member presents a rebuttal
- Third member of each group summarizes their team's position and arguments

DEBATE TOPICS

ROUND ONE: Deep-space exploration is beneficial for Earth.

ROUND TWO: A mission to Mars is important and worth funding.

ROUND THREE: People should be flown to space instead of robots.

Debate structure as follows:

1. Group affirmative presents case first (2 minutes)
2. Group negative presents case next (2 minutes)
3. Allow both groups a break to prepare rebuttals and a summary (4 minutes)
4. Group affirmative presents rebuttal (2 minutes)
5. Group negative presents rebuttal (2 minutes)
6. Group affirmative presents final rebuttal (2 minutes)
7. Group negative presents final rebuttal (2 minutes)
8. Group affirmative presents summary (2 minutes)
9. Group negative presents summary (2 minutes)

The participants who are not debating during the round and the activity facilitator can serve as judges. Allow the judges 5 minutes after each round to discuss the strengths and weaknesses of each side of the argument.

If proposed above organization does not suit your number of students, alter number of rounds performed or group sizes as needed.