Constructing an Argument: Space

Students will learn how to create a good scientific argument in the context of space. They will continuously encounter questions that ask them to make a claim, explain their answer, rate their certainty with their answer, and explain that rating.

GRADES
7 - 12, Higher Ed

SUBJECTS
Astronomy

OVERVIEW

Students will learn how to create a good scientific argument in the context of space. They will continuously encounter questions that ask them to make a claim, explain their answer, rate their certainty with their answer, and explain that rating.

For the complete activity with media resources, visit:
http://www.nationalgeographic.org/activity/constructing-argument-space/

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The Concord Consortium

DIRECTIONS

Tell students that Activity 1 (Constructing an Argument) of the lesson Is There Live in Space? introduces the structure of the scientific argumentation they will be asked to do in the rest of the lesson. Tell students that Activity 1 will give them practice with analyzing a data set and
making a good scientific argument from the evidence. Encourage students to review the questions and example best answers provided in Activity 1 before starting on the current activity.

OBJECTIVES

Subjects & Disciplines

Earth Science
  • Astronomy

Learning Objectives

Students will:

• create a good scientific argument in the context of climate

Teaching Approach

• Inquiry-based learning

Teaching Methods

• Self-directed learning
• Self-paced learning
• Writing

Skills Summary

This activity targets the following skills:

• Critical Thinking Skills
  • Creating

National Standards, Principles, and Practices
Preparation

What You’ll Need

MATERIALS YOU PROVIDE

- Computers with Internet connection

REQUIRED TECHNOLOGY

- Internet Access: Required

BACKGROUND & VOCABULARY

Background Information

Prior Knowledge

Recommended Prior Activities

- None

Vocabulary

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<thead>
<tr>
<th>Term</th>
<th>Part of Speech</th>
<th>Definition</th>
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<tbody>
<tr>
<td>claim</td>
<td>verb</td>
<td>to state as the truth.</td>
</tr>
<tr>
<td>diameter</td>
<td>noun</td>
<td>width of a circle.</td>
</tr>
<tr>
<td>Earth</td>
<td>noun</td>
<td>our planet, the third from the Sun. The Earth is the only place in the known universe that supports life.</td>
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<tr>
<td>evidence</td>
<td>noun</td>
<td>data that can be measured, observed, examined, and analyzed to support a conclusion.</td>
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<tr>
<td>Mars</td>
<td>noun</td>
<td>fourth planet from the sun, between Earth and Jupiter.</td>
</tr>
<tr>
<td>planet</td>
<td>noun</td>
<td>large, spherical celestial body that regularly rotates around a star.</td>
</tr>
<tr>
<td>solar</td>
<td>noun</td>
<td>the sun and the planets, asteroids, comets, and other bodies that orbit around it.</td>
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<tr>
<td>system</td>
<td>noun</td>
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<thead>
<tr>
<th>Term</th>
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<tbody>
<tr>
<td>star</td>
<td>noun</td>
<td>large ball of gas and plasma that radiates energy through nuclear fusion, such as the sun.</td>
</tr>
<tr>
<td>Venus</td>
<td>noun</td>
<td>planet in the solar system, second from the sun.</td>
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