



The Power of (STEM)² Podcast Lessons

Dear STEM Teachers – This free lesson plan comes from the educational podcast (STEM)² on NASA’s Artemis 2 program and is designed for 3rd-8th Grade learners with a sample NGSS standard. [Click here for more Artemis lessons & resources.](#)

(STEM)² Sample Lesson #2: NASA’s Artemis Rocket Story & Model Building!

Grade Level: 1st to 4th Grade

Duration: Three 20-30 minute lessons.

Subject Areas: Science, Language Arts, Art

NGSS Standards:

- **1-ESS1-1:** Use observations of the sun, moon, and stars to describe patterns that can be predicted.
- **3-PS2-4:** Define a simple design problem that can be solved by applying scientific ideas about magnets.
- **4-PS4-3:** Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem.

Objectives:

1. **Understand the SLS:** Students will learn about NASA’s Space Launch System (SLS) and its role in space exploration.
2. **Reading Comprehension:** Students will engage with the "Hooray for SLS" book to enhance their understanding of rocket science.
3. **Creative Expression:** Students will create a visual representation of what they learned about the SLS.

Materials Needed:

- Copies of NASA's "Hooray for SLS" book (or [digital access](#))
- Whiteboard and markers
- Art supplies (construction paper, crayons, markers, scissors, glue)
- Large chart paper for group brainstorming
- Stickers or stamps (optional for decoration)

Lesson Outline:

Day 1 Introduction (5 minutes)

1. **Hook:** Start with a question: “What do you think it takes to launch a rocket into space?” Encourage a few responses to gauge prior knowledge.
2. **Introduce NASA and SLS:** Briefly explain NASA’s mission and introduce the Space Launch System (SLS) as the powerful rocket designed to carry astronauts and equipment to deep space.

Day 1 Read-Aloud and Discussion (15-20 minutes)

1. **Read "Hooray for SLS":** Read the book aloud to the class, stopping periodically to ask questions and encourage predictions about what will happen next.
 - **Discussion Prompts:**
 - What are the different parts of the SLS?
 - Why do you think the SLS is important for exploring space?
 - How do you think scientists and engineers work together to build a rocket?

Day 2 Team-Based Activity (20-30 minutes)

1. **Form Teams (2-5 minutes):** Divide the class into small teams of 3-4 students.
2. **Brainstorming Session (5 minutes):**
 - Each team discusses what they learned about the SLS.
 - On chart paper, they should write down key points, such as:
 - Parts of the rocket (e.g., core stage, boosters)
 - Purpose of the SLS
 - Exciting missions it will undertake
3. **Creative Project (10-20 minutes):**
 - Each team will create a poster or model that illustrates what they learned about the SLS. They can:
 - Draw the SLS with labeled parts.
 - Create a story or comic strip about a mission using the SLS.
 - Design their own rocket with creative features for space travel.

Day 3 Presentation and Wrap-Up (20-30 minutes)

1. **Creative Project (10 minutes)**
2. **Team Presentations (10-15 minutes):** Each team presents their poster or model to the class, explaining what they learned about the SLS.
3. **Reflection (5 minutes):** Conclude with a discussion:
 - What was the most interesting thing you learned about the SLS?
 - How do you think rockets help us learn about space?

Assessment:

- **Participation in Discussions:** Observe student engagement during the read-aloud and team discussions.
- **Creative Project:** Evaluate the posters/models based on creativity, accuracy, and teamwork.
- **Presentations:** Assess how well students communicate their understanding of the SLS.

Extensions:

- **Research Project:** Students can research a specific mission planned with the SLS and present their findings.
- **STEM Challenge:** Have students design and build a simple rocket using materials like straws and paper to understand basic rocket principles.
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This lesson combines reading, teamwork, and creativity while promoting an understanding of rocket science and NASA's role in space exploration, all aligned with NGSS standards.

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