

Proposal

The proposal must include the following segments:



Submit a 1/2-page project proposal plan which answers the following questions:

1. What is the **title** of your leadership project?
2. Which **option** did you choose and **why** did you select the option/topic?
3. Who is your proposed **audience**?
 - a. *Which teachers will you serve with your PD and activities?*
 - b. *What grades, subjects, and how many students do they teach?*
4. How will your project **demonstrate integration of STEM** in the classroom?
5. What **outcomes or expectation** do you hope to see for your educators?
6. How will you **follow up** with the teachers in attendance?



Title

Option /Why

Audience

STEM

Outcomes/ Expectation

Follow-up

Proposal Submission = 10 points

Draft

Title: *Using the 5E Model to Integrate NASA Resources in STEM Instruction*

I have chosen Option 1: Implement a Professional Development Experience to focus on equipping educators with strategies to effectively incorporate NASA resources into their science instruction using the 5E model. I selected this topic because the 5E instructional model provides a structured, inquiry-based approach that enhances student engagement and conceptual understanding. By integrating NASA resources, teachers will be able to provide students with authentic scientific data and real-world applications.

Proposed Audience

Middle and high school science teachers

Grade Levels: 6 - 12

Subjects: Earth science, Life Science, Chemistry and Physical Science

Each teacher serves approximately 30 students

STEM Integration

This project will demonstrate STEM integration by:

- Using NASA's real-time Earth observation tools (e.g., Eyes on the Earth, GEDI, and Citizen Science programs) to engage students with real-world scientific data.
- Training teachers to develop 5E lesson plans that incorporate science and engineering practices (SEP), disciplinary core ideas (DCI), and crosscutting concepts (CCC) from the Next Generation Science Standards (NGSS).
- Encouraging teachers to use inquiry-driven and hands-on activities that align with NASA's resources to support student exploration and engagement in STEM.

Outcomes or Expectations:

By the end of this professional development session, educators will:

- Understand how to apply the 5E instructional model effectively in their science lesson planning.
- Gain confidence in incorporating NASA's open-source data, citizen science projects, and technology tools.
- Modify their instruction to include more real-world STEM applications, leading to increased student engagement and deeper scientific understanding.
- Share insights and lesson modifications with colleagues to expand the reach of STEM best practices across their schools.

Follow-Up Plan

- Possibly, a sign-in sheet will be used to track attendance.
- A post-PD survey will be conducted to gather teacher feedback on the session, their implementation plans, and additional resource needs.
- Possibly, a follow-up virtual Q&A session or discussion board will be set up to address any challenges teachers face in implementing the 5E model with NASA resources.

Final Presentation

5-8 minutes on Flipgrid or in live session (to be determined each semester)

The final presentation of your work should be a well prepared and well-articulated description of your project that addressed the following, with emphasis on the bold items:

1. Mini Professional Development Project Title
Using the 5E Model to Integrate NASA Resources in STEM Instruction

2. Justification. (Why did you select the option/topic?)
This PD session aims to familiarize educators with the 5E instructional model while integrating NASA resources to enhance STEM learning. The session will support three-dimensional teaching by demonstrating how educators can incorporate authentic NASA data, citizen science projects, and engineering challenges into their curriculum. Given the increasing need for inquiry-based instruction, this PD will help teachers scaffold student learning effectively while promoting engagement with real-world scientific phenomena.

3. Number of Educators present, Grade Level(s)
Middle and High School Science Teachers
Expected Participants: 10-15 educators

4. **Brief Summary of Project (What did you do with teachers?).**
Include how the project indicates the integration of NASA assets and STEM content and pedagogy learned through Endeavor.
5. **Reflection (How did teachers respond to your PD? What feedback did they give you on the content and pedagogy?)**
6. Reflection (How did teachers respond to your PD? What feedback did they give you on the content and pedagogy?)
7. Include name, title, and contact information of two educators who attended or viewed the PD. (Not required for those completing option #3).

Final Presentation = 50 points