

Mars Rover Celebration NGSS Alignment

WEEK 6: WRITING AND PRESENTING

LESSON 15: PRESENT SKITS AND ROVERS

GRADE LEVEL: 6-8

PERFORMANCE EXPECTATIONS

In the NGSS framework, one of the important things that teachers need to do is explicitly identify when Science and Engineering Practices (SEP) and Cross Cutting Concepts (CCC) are being covered. The SEP's and CCC's are pervasive throughout the Mars Rover Celebration curriculum. The tables here are intended to assist the teacher in deciding when to mention that an SEP or CCC is part of the material being presented.

Lesson Objectives		
Students who demonstrate understanding can: <ul style="list-style-type: none">• Demonstrate their knowledge of Mars and rovers by presenting their team skit• Present their rover, its requirements and features to the class• Answer questions asked by the class based on research conducted during the unit• Incorporate feedback from others and ideas from other presentations into student work		
MS Engineering Design		
MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.		
SCIENCE AND ENGINEERING PRACTICES (SEP)	DISCIPLINE CORE IDEAS (DCI)	CROSSCUTTING CONCEPTS (CCC)
Obtaining, Evaluating, and Communicating Information Obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem	ESS1: Earth's Place in the Universe: ESS1.B: Earth and the Solar System ETS1: Engineering Design: ETS1.B: Developing Possible Solutions	Patterns Similarities and differences in patterns can be used to sort and classify designed products

SUMMARY OF THE THREE DIMENSIONS

The 5E lesson model provides the 5 phases of learning that helps to facilitate the process of science understanding. Teachers are encouraged to use the table below to help align their teaching methods with the embedded Science and Engineering Practices (SEP), Disciplinary Core Ideas (DCI) and Cross Cutting Concepts (CCC) present in the lesson.

5E MODEL PHASE	SCIENCE AND ENGINEERING PRACTICES (SEP)	DISCIPLINE CORE IDEAS (DCI)	CROSSCUTTING CONCEPTS (CCC)
ENGAGE	Obtaining, Evaluating and Communicating Information	Earth and the Solar System	Patterns
EXPLORE	Obtaining, Evaluating and Communicating Information	Earth and the Solar System Developing Possible Solutions	Patterns
EXPLAIN	Obtaining, Evaluating and Communicating Information	Earth and the Solar System Developing Possible Solutions	Patterns
ELABORATE	Obtaining, Evaluating and Communicating Information	Earth and the Solar System Developing Possible Solutions	Patterns
EVALUATE	Performance Expectations	Performance Expectations	Performance Expectations