

Mars Rover Celebration NGSS Alignment

WEEK 2: INVESTIGATING MARS

LESSON 4: INVESTIGATE MARS

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">• Identify important details in informational texts• Learn and or review summarizing skills• Work collaboratively to locate important information about Mars such as terrain, climate, and atmosphere• Understand the rationale and importance of note-taking• Develop effective note-taking strategies• Apply note-taking skills to record key information in students' science notebooks | | |
| Space Systems | | |
| MS-ESS1-2 Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system. | | |
| SCIENCE AND ENGINEERING PRACTICES (SEP) | DISCIPLINE CORE IDEAS (DCI) | CROSSCUTTING CONCEPTS (CCC) |
| Obtaining, Evaluating, and Communicating Information Obtain and combine information from books and other reliable media to explain phenomena. Analyzing and Interpreting Data | ESS1: Earth's Place in the Universe: ESS1.B: Earth and the Solar System | Constructing Explanation and Designing Solutions Construct a scientific explanation based on valid and reliable evidence obtained from sources and the assumption that theories and laws that describe nature operate today as they did in |

Analyze and interpret data to
provide evidence for
phenomena

the past and will continue to
do so in the future

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 | Constructing Explanations and Designing Solutions |
| EXPLORE | Analyzing and Interpreting Data | Earth and the Solar System | Constructing Explanations and Designing Solutions |
| EXPLAIN | Obtaining, Evaluating and Communicating Information | Earth and the Solar System | Constructing Explanations and Designing Solutions |
| ELABORATE | Obtaining, Evaluating and Communicating Information | Earth and the Solar System | Constructing Explanations and Designing Solutions |
| EVALUATE | Performance Expectations | Performance Expectations | Performance Expectations |