

# Red Planet:

Read, Write,  
Explore!

## Lesson 6: Know-Wonder-Learned

**Description of Lesson:** In this lesson, students revisit their “Know-Wonder” chart from Lesson 1, and add what they have learned during this program.

**Lesson Time:** 45 minutes

### **Materials:**

- Students’ “Know-Wonder” worksheets from Lesson 1
- “What I Learned” worksheets

### **Procedure:**

- Distribute the “What I Learned” worksheets and ask students to write down what they learned about Mars.
- Once students are finished, hand back the “Know-Wonder” worksheets from Lesson 1 and allow time for students to reflect on their understanding at the beginning and end of the program.
  - You may choose to hand out the “Know-Wonder” worksheet before handing out the “What I Learned” worksheet.
- Using their sheets as a guide, have students do a “Think-Pair-Share” with their neighbors. As they discuss their responses, students can add more to their “What I Learned” sheet.
- Next, discuss student responses as a class using a large “Know-Wonder-Learned” chart on the board.
- Address specific items with the class. If any items imply student misconception, talk these items through and have students discuss. Also, highlight items with scientific accuracy.
- Students will hand in the “What I Learned” and “Know-Wonder” sheets for individual assessment.

### **Example Discussion Questions:**

- Compare what you thought you knew at the beginning of the program to what you know now.
- Did you learn everything you wanted to learn? Is there more information you’d like to know?

### **Assessment Techniques**

Using student “Know-Wonder” and “What I Learned” sheets, assess the improvement of the student from the first lesson using the example rubric that follows:

Poor	Fair	Acceptable	Good	Outstanding
Student shows little to no improvement over initial ideas about Mars. Science understanding is incomplete or poor. Student has few entries in list.	Student has some improvement over initial ideas about Mars. Science understanding is moderate, but may be incomplete or inaccurate.	Student shows improvement over initial ideas about Mars. Student shows moderate understanding of science. Student includes information about Mars' environment or history.	Student shows marked improvement over initial ideas about Mars. Student shows working knowledge of Mars' environment, history, and potential habitability. Student shows moderate understanding of water and atmosphere as critical factors in Mars science. Student mentions the MAVEN mission.	Student shows marked improvement over initial ideas about Mars. Student shows working knowledge of Mars' environment, history, and potential habitability. Student shows understanding of water and atmosphere as critical factors in Mars science. Student describes atmosphere-solar wind interaction. Student includes timeline information and describes the MAVEN mission.

### Example: Good

#### What I Learned About Mars

#### List all of the things you learned about Mars:

Mars is dry today.

Mars has a greenhouse atmosphere.

Mars probably doesn't have life.

Mars has a thin atmosphere.

Humans might go to Mars someday.

Mars doesn't have a magnetic field anymore.

Mars doesn't have water anymore.

People have never been to Mars.

Spacecraft like MAVEN collect evidence when they go to Mars.

Mars has less gravity than Earth.

Mars used to have oceans over 3.8 billion years ago.

Mars used to have a thicker atmosphere, but lost it somehow.



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## What I Learned about Mars

Name:

List all of the things you learned about Mars: