



LESSON PLAN: ROVERS ON MARS

Script Guide Teacher Key

1. What are the names of the newest rover probes on Mars? **Spirit and Opportunity**
2. How many images are taken by the camera of Opportunity for a 360-degree panoramic view? **25 wide by 3 high for a total of 75 pictures.**
3. How many miles did the probe travel? **280 million**
4. How much did the overall mission cost? **\$800 million plus**
5. How far apart are their landing positions on the surface? **6000 miles**
6. Where was Spirit taking pictures before it malfunctioned? **Gusev Crater**
7. Where is opportunity? **in a crater on Meridiani Plain**
8. What could the presence of Hematite ore on Mars mean? **active water**
9. How many meters can a rover travel in a day? **40 meters**
10. How long is a Martian Day compared to an Earth Day? **40 minutes longer**
11. These rovers were designed to have a mission life of how many days? **90 days**
12. Now that they are on the surface and operationally tested, does that estimate still hold? **No, now expected to be 100-150 days**
13. How will the rover dig a 6-inch deep hole? **spinning the wheels**
14. What is causing the trouble with Spirit? **Software problems**
15. How do scientists suggest repairing the trouble with Spirit and forestalling such trouble with Opportunity? **sending software patches by radio**