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Activities

Talking to Outer Space

Name: _____ Date: _____

How do scientists communicate with spacecraft zipping through space, millions of miles from Earth? In this Planet Diary activity, you'll visit NASA's Space Place to find out about coding and decoding data beamed to and from outer space.

Directions

- Go to Codes and Decodes: How to Yell Across a Solar System at NASA's Space Place. Click *Continue* to watch it and *Play Again* to repeat it. Then answer Workspace questions 1 through 3.
- NASA uses radio waves to "talk" to spacecraft. Read the paragraph below the animation window, then view the *Electromagnetic Spectrum* diagram. Answer question 4.
- How do radio waves become broadcast signals? Read the information below the diagram. Look at the diagrams of FM and AM waves, then read the captions. Answer the last two questions.

Workspace

1. What is a spacecraft's picture turned into?

2. What does the spacecraft's transponder do?

3. What happens to the data when it reaches Earth?

4. How does the energy of radio waves compare to that of the other types of electromagnetic waves on the spectrum?

5. How are AM an FM radio waves modulated differently?

6. What does a transceiver do?

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