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Activities

Light Shows in the Sky

Name: _____ Date: _____

Electrical activity in the upper atmosphere can trigger satellite-disrupting electrical storms. It can also make dazzling light shows called auroras. You'll learn more about these displays in this Planet Diary activity.

Directions

- What Do Auroras Look Like? Visit the online Exploratorium to find out. Look at the pictures and read descriptions. Click *Corona* and *Curtain* to watch the movies. Then go to What Makes Them Happen? and read *A Field of Earth*. Look at the picture of the magnetic field, then answer Workspace question 1.
- Scroll to *Charged Particles*. Click the dictionary links to *plasma* and *positive ions*. Answer question 2.
- Continue to *Solar-Powered Display*. Click the links to *solar wind*, *magnetosphere*, and *magnetotail*. Use the information to answer questions 3 and 4. For more details, read *The Big Push*. Answer question 5.
- Take a closer look at the Solar Connection. Study the graph at the top of the page, then answer the last question.
- Go to spaceweather.com to see if there were any auroras this week. Scroll down for pictures sent in by backyard astronomers.

Workspace

1. Where is Earth's magnetic field the strongest? Where is it the weakest?

2. Describe how charged particles move in a magnetic field.

3. What's the "short answer" to how auroras happen?

4. Describe how solar wind triggers auroras.

5. What happens to speeding electrons when they hit the ionosphere?

6. How are solar activity and aurora frequency related?

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