

## Learn More about Space Weather!

Complete after viewing the 28 minute video following the PowerPoint presentation.

### Teacher Materials

#### Cue Cards

**Dr. Sten Odenwald, Astronomer,  
IMAGE Satellite Program, NASA Goddard Space Flight Center**

1

What are some forms of electromagnetic radiation?

**Possible Answers:** visible light, radio waves, microwaves, infrared light, ultraviolet light, X-rays, gamma rays

2

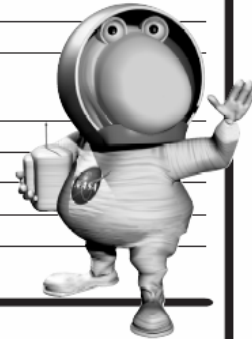
How can satellites help researchers monitor the Sun?

**Possible Answers:** Satellites can be positioned outside of Earth's atmosphere to collect valuable data from the Sun and to act as early warning devices against solar storms.

3

Why is it important to track solar storms as they approach Earth?

**Possible Answers:** Solar storms have caused billions of dollars of satellite damage in the last 10 years. They have caused blackouts and will always be a hazard for astronauts working in space.



**Dr. Michelle Larson, Astrophysicist, University of California at Berkeley**

1

What is the goal of the HESSI satellite?

**Possible Answers:** The HESSI satellite is designed to learn more about the basic physical processes that occur in solar flares.

2

When do solar flares occur on the Sun?

**Possible Answers:** A solar flare occurs when magnetic energy that builds up in the solar atmosphere is suddenly released. Particles are accelerated to such high energies that some are traveling at almost the speed of light.

3

How do solar flares have a direct effect on the Earth's atmosphere?

**Possible Answers:** Long distance radio communications can be disrupted by the effect of flares on the Earth's ionosphere, which is a part of Earth's atmosphere.

