

In the News



Sickening Solar Flares

The biggest solar proton storm in years erupted last week. NASA researchers discuss what it might do to someone on the Moon.

27, 2005: NASA is returning to the Moon—not just robots, but humans—decades ahead we can explore habitats, greenhouses and

A New Kind of Solar Storm

Going to the Moon? Be careful: A new kind of solar storm can take you by surprise. On June 10, 2005: January 2005 was a stormy month—in space. With little warning, a giant spot materialized on the sun and started exploding. Between January 15th and 19th, the sun produced four powerful solar flares. On January 27th, it exploded a fifth time on its own. Scientists were not sure what the

In the NEWS!!

How often do you read about the Sun in the news? Since the launch of SOHO, there have been numerous news articles highlighting discoveries about the Sun. And we have gathered some of them together for you.

Study of the Sun becomes even more significant since NASA is returning to the Moon. "In the decades ahead we can expect to see habitats, greenhouses and power stations up there. Astronauts will be out among the moon dust and craters, exploring, prospecting, building." The radiation from the Sun is a real problem. We need to learn how to keep our astronauts safe.

Objectives:

- Students will identify the complex problems facing exploration in space.
- Students will identify what they know, and what they don't know to solve a problem.
- Students will identify the sequence for tracking a solar storm.
- Students will identify the dangers from the Sun as we plan to live and work in space.
- Students practice writing skills by summarizing and delivering their research as a news broadcast.

The following activity is meant to provide an opportunity for students to discover the problems that NASA faces as we go to the Moon, Mars and beyond. There are a series of articles provided for your use. Print copies of the six articles. These will provide the needed content for the final Space Weather Broadcast. Each group should read their article and summarize the newsworthy points. (For a more guided activity there is a set of guiding questions for each article.)

Each group should share the summary of their article. Within each article there are images to help explain the science. These should be captured and included in the script provided (see script guide attached). The team designated as the news team should fill in the script outline provided, based on the team reports. You are ready for TAKE ONE!

Engage:

Complete a KWL with Students to determine what they already know about the Sun. Play the VOD Cast of Blackout to give students some additional content.

Explore:

Problem: Can you determine what scientists and engineers have learned about our sun that has a direct impact on the safety of astronauts living and working in space?

Each student group should read a single article about the Sun (see URLs below). They should access these articles on-line so that they can watch the movies and animations to better comprehend the science and the terminology. Each team should then create a summary of their article and be prepared to present the summary to their class. Included is a set of guiding questions for each article that students can answer if they are not ready to complete a summary without guidance.

http://science.nasa.gov/headlines/y2005/27jan_solarflares.htm

http://www.nasa.gov/vision/universe/solarsystem/clear_weather_feature.html

http://science.nasa.gov/headlines/y2001/ast04may_1.htm

http://science.nasa.gov/headlines/y2002/06feb_hessi.htm

<http://edition.cnn.com/2004/TECH/space/07/09/solar.storm.proof/>

http://science.nasa.gov/headlines/y2006/10may_longrange.htm

Explain:

Students share their summaries. You may wish to have special presentations – news reports or scientist interviews, allowing students to present their summaries in a creative manner. Scientists often do poster sessions at conferences - in front of their poster they talk and share with others information about their science research.

Extend:

Students can research other articles on the website to gather more information about the Sun. This would extend their current knowledge beyond the six articles provided.

Additional content knowledge about the Sun can be found by visiting the Space Weather Action Center website. From there you can download an activity that will guide your students through the steps necessary to track a solar storm. They will also learn how to use the 'award winning' Sun-Earth Media Viewer.

Evaluate:

Students should create a script based on their summaries to present a broadcast about Space Weather. An example is available at <http://sunearthday.nasa.gov/inthenews/script> .