

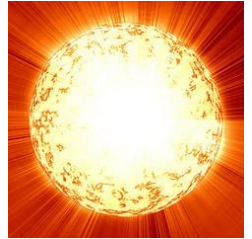


Explore

Name: _____ Date: _____

Solar Composition and Processes

We think of space as a vast void. However, the space within our solar system is not as empty as it seems. An atmosphere created by the Sun surrounds and fills the solar system. As a result, our solar system experiences cosmic weather, complete with phenomena similar to wind, clouds, storms, and hurricanes. Collectively, these phenomena are commonly referred to as space weather.



Directions

1. Complete the WebQuest to learn about the composition of the Sun, the types of radiation emitted from the Sun, and how that radiation gets to Earth. Read the sections listed. Be sure to view images, animations, etc.
2. Search for “Windows to the Universe: Sun.” Read through the section entitled “The Sun” for an overview. Be sure to click on the different slides in the image. Then read the sections “Interior,” “Atmosphere,” “Activity,” “Sunspots,” “Poles,” “Magnetic Field,” and “Radiation.” Feel free to click on any of the blue underlined text for further information.
3. Draw the layers and features of the Sun in the space below.

4. Write a description of each layer and feature of the Sun in the table below.



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Layers and Features of the Sun		
Layer or Feature	Location	Description
Core		
Radiative zone		
Convection zone		
Photosphere		
Chromosphere		
Corona		
Sunspot		
Solar Flare		
Prominence		



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5. What type or types of radiation does Earth receive from the Sun, and how is each produced?
6. How does radiation energy reach Earth?
7. How do solar flares affect the amount of radiation emitted from the Sun?
8. Compare and contrast prominences, flares, and coronal mass ejections (CMEs) in the table below.

Prominences	Flares	CMEs



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Under the “Activity” section, be sure to click *solar cycle* and answer the remaining questions.

9. What is the solar cycle?

10. What is the effect of variations in the number of sunspots?

11. How does the scale, proportion, or quantity of sunspots affect the significance of space weather?