

Name _____

The Solar Wind: A Cosmic Breeze and Its Impact on Space Weather

Short Answer Key

1. The solar wind carries charged particles that, when they enter Earth's atmosphere near the polar regions, collide with gases and release energy in the form of colorful light, creating auroras.
2. The magnetosphere is Earth's protective shield against the solar wind. It deflects most of the solar wind's harmful particles away from our planet.
3. Geomagnetic storms can result in interference with radio and GPS signals, damage to power grids, and potential harm to astronauts in space.
4. The solar wind's variability is influenced by the Sun's 11-year cycle of magnetic activity, with more intense solar wind during periods of high solar activity.
5. Scientists study and monitor the solar wind using spacecraft equipped with specialized instruments. Understanding the solar wind is crucial for predicting and preparing for space weather events.

