Polar Lights

Aurora Borealis

Aurora Australis

October is National Stamp Collecting Month!
Polar lights are created when streams of electrons from solar wind concentrate along Earth's magnetic poles and polarized gases in the upper atmosphere. Following the base of Earth's magnetic field, midwest to the northern lights make their first appearance. In the far north, the aurora borealis or northern lights have been a source of wonder for centuries, inspiring poets, painters, writers, and scientists alike.

Students write two polar facts in the white section.

Fantastic Frigid Facts

- The Earth's magnetic poles are not stationary but move slowly over time. This movement is called polar wandering.
- The aurora borealis is a natural light show produced in the polar regions when charged particles from the sun interact with Earth's magnetic field.

Historical Perspectives

- The first recorded observation of the aurora borealis was by Icelandic Bishop Ólafur Salti in 1128. The bishop described the phenomenon as a "magnificent and most wonderful spectacle, such as none had ever seen before.
- In the 19th century, French scientist Jean-Baptiste Biot and French mathematician Pierre-Claude François Arago made significant contributions to the understanding of the aurora borealis. They proposed that the aurora was caused by charged particles from the sun interacting with Earth's magnetic field.

Science Experiments

- Students can create their own aurora by using a circular polarizer and a light source. As they view the polarizer, they can observe the pattern of light and dark, similar to what is seen in the aurora borealis.
- Students can also observe the aurora by using a magnifying glass and a sheet of paper. They can see the pattern of light and dark as the magnifying glass is moved over the paper.

Ice Age Creatures

- The woolly mammoth, a large, herbivorous mammal, was common in the polar regions during the Ice Age. Their remains have been found in Arctic regions, including Alaska and Siberia.
- The woolly mammoth was a key species in the ecosystem of the Ice Age, and its extinction marked the end of the last Ice Age.

Penguins and Polar Power

- The penguin is an important species in the polar regions. They are known for their ability to dive deep into the Arctic waters, where they feed on fish and krill.
- Penguins play an important role in the Arctic food web, and their decline could have significant impacts on the ecosystem.

Fur, Flippers 'N' Feathers

- The walrus, a large, aquatic mammal, is a key species in the polar regions. They are known for their thick layer of blubber, which helps them survive in the cold waters.
- The walrus plays an important role in the Arctic food web, and its decline could have significant impacts on the ecosystem.

FOOTNOTES


REFERENCES