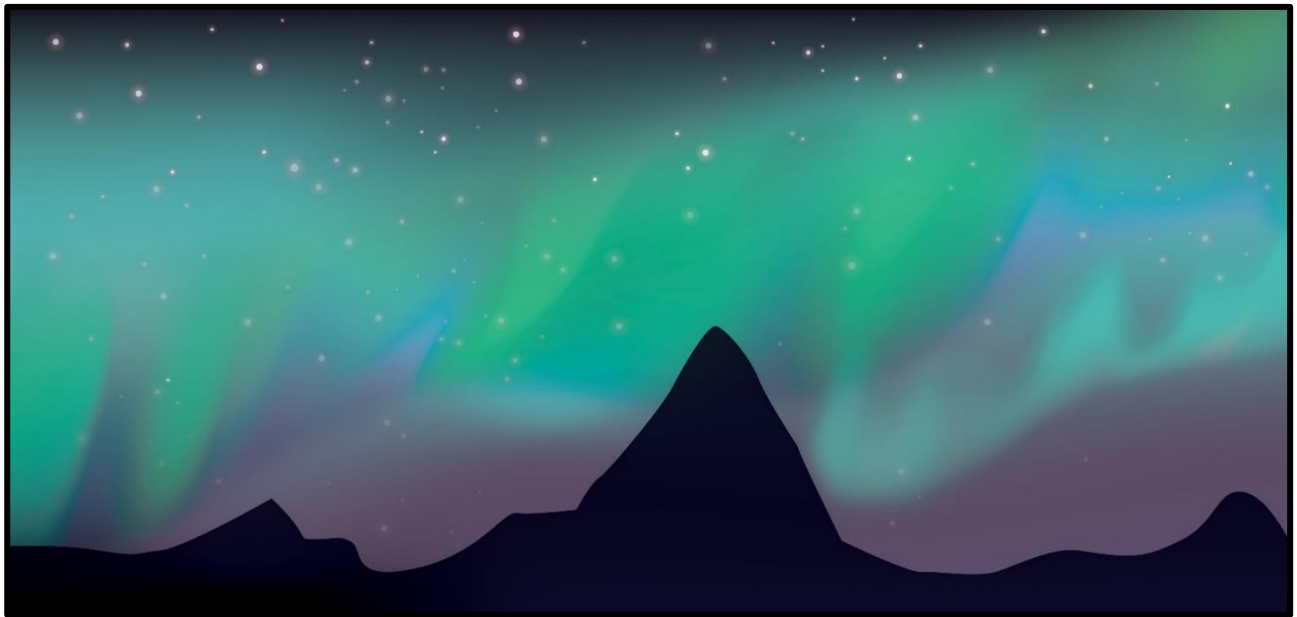


Deepening Understanding

YR5 Non-Fiction Text

The Northern Lights: Earth's Magic



If you are lucky enough and if you are in exactly the right place at the right time, you might just experience one of the most breath-taking sights that our wonderful world has to offer: the Aurora Borealis, or in other words, the Northern Lights.

This natural phenomena has to be one of the most spectacular light displays in the whole world - a beautiful celestial dance performed high up in the ebony of the night sky that dazzles and intrigues simultaneously. Undoubtedly, the Northern Lights are one of Mother Nature's most jaw-dropping sights but what are they and how can you see them?

What are the Northern Lights?

The Aurora Borealis was first named by the Italian physicist and astronomer Galileo in 1619. Given that the Northern Lights can literally resemble the dawn of a new day, he named them after the Roman goddess of the dawn 'Aurora' (meaning 'dawn, morning light') and the Greek name for the north wind. This fascinating natural wonder is an unpredictable ghostly ebb and flow of atomic particles that can create



breath-taking arcs or curtains of graceful, rippling light far up in the Earth's upper atmosphere. They are an electrical phenomena and, depending on the conditions and the mix of different gases, can appear as a whole multitude of colours, ranging from a ghost-like grey to a bright yellow green in colour - sometimes with a hem of pink. Interestingly, the exact colours that everyone sees varies from person to person and is dependent on the sensitivity of the eyes to colour and light.

What causes the Aurora Borealis and where you can spot them?

To see the Northern Lights, you would have to trek to some of the most inhospitable places in the world - high altitude regions. Electrons (electrically charged particles) emanating from the sun are drawn to the Earth's magnetic field, causing a ring to form around the North Pole. This natural halo - the auroral oval - passes over the Arctic regions including northern Scandinavia (more commonly known as Lapland), Alaska, Canada, southern Greenland, Iceland and Siberia. As the electrons, brought by solar winds, mix with gases in our atmosphere, the gas starts to glow. Quite simply, the size and brightness of the auroral oval depends on the strength of the solar wind. The natural wonder that is the Aurora Borealis is then created.

Did you know that, occasionally, the Northern Lights can be witnessed as far south as southern England or even down to the Mediterranean?

At the South Pole, the Aurora Australis or the Southern Lights, has features almost identical to the Aurora Borealis and changes simultaneously with changes in the northern auroral zone. The Aurora Australis is visible from high southern latitudes in Antarctica, southern countries in the continent of South America such as Argentina and Chile, Australia and New Zealand. People on earth have been in awe of the Aurora Borealis for thousands of years. Unsurprisingly, our ancestors believed them to be spirits or gods or celestial warriors. Now people are able to observe and scientifically understand this natural wonder both from the ground and from space aboard the International Space Station. Due to the invention of light-sensitive cameras, the Northern Lights have been photographed and recorded in more detail than was ever possible in the past. Astronauts have taken stunning visual images of the Northern Lights which appear as a luminescent corona encircling the globe.



When is the best time of year to see them?

Given that this amazing light show needs a backdrop of darkness, the months between late September and the beginning of March are the best times to visit the Arctic regions. Once there, there is only one thing to then do: go out after darkness and look up. After that, it is purely down to good fortune.

So close your eyes and imagine that you are in the Arctic Circle. You are standing in a glowing landscape of white and all you can hear is the gentle crunch of snow beneath your feet; all you can see in the great expanse above you is an inky black sky, bejewelled with more stars than you could ever have believed was possible. Suddenly, a faint wisp of dazzling green catches your attention and before your eyes it transforms into a brilliant, shimmering, mesmerising blanket of ethereal green flowing and dancing across the blackness of space.

If you have ever doubted that magic exists, go to see the Northern Lights; you may just find yourself believing in magic after all.

