

Circumpolar Constellations Educator's Guide (Ages 12-15)



At the end of these Night Sky activities students will understand:

- Why the constellations move in the sky
- Many constellations rise over and set under the horizon
- The circumpolar constellations are always above the horizon
- Why Polaris is called the Pole Star

Astronomy background information

The Earth rotates on its **axis** every day. The Earth's axis is the imaginary line running between the north and south poles. The Earth's movement means that our view of the sky changes over time. As the Earth rotates the positions of the constellations will change. Many constellations rise over the horizon, move across the sky and set. However, some constellations do not rise and set and are visible throughout the night. These are known as the **circumpolar constellations**.

In the northern hemisphere, the star **Polaris** in the constellation of Ursa Minor is located in space almost exactly above the Earth's North Pole. This means that Polaris does not seem to move as it is so close to the sky's centre of rotation. For this reason Polaris is also known as the Pole Star or North Star. The circumpolar constellations are all located around Polaris in the sky. Different constellations will be circumpolar depending on your location but if you live in the northern hemisphere examples include Ursa Major, Ursa Minor, Cassiopeia, Draco, Cepheus and Camelopardalis.

Night Sky App Essential Settings

Go to Night Sky Settings  and make sure the following Preferences are set.

Turn On these Effects:

Real Sky Representation
Environment Based Horizons
Daytime effect
Show Glass Mythology
Show Constellation Lines
Stop Text and Lines Disappearing

Turn Off these Effects:

Show Trajectories and Orbits
Show Ecliptic Line

Accessible Learning:

- Text size can be increased in the Preferences section
- Star numbers can be reduced by sliding two fingers down the screen

