

Discovering Uranus - Educator's Guide (Ages 12-15)



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

- Uranus is the seventh planet from the Sun
- How it was discovered by William Herschel in the 1700s
- Uranus is categorised as an ice giant planet
- The planet has a usual axial tilt

Astronomy background information

Uranus was unknown before the invention of the telescope. The planet was a chance discovery by astronomer William Herschel. On March 13, 1781, Herschel observed a star he couldn't identify in Taurus. He saw it again on March 17 when it had moved slightly against the background stars. This showed the "star" was orbiting the Sun beyond Saturn.

Uranus is about four times as wide as Earth, with no solid surface and a massive mainly hydrogen and helium atmosphere. Beneath this is a large and hot mantle of high-pressure water, ammonia and methane. Astronomers call these compounds "ices" so Uranus is called an "ice giant". From space, Uranus is a pale green-blue sphere with almost no distinguishing features

Its strangest feature is its odd inclination; Uranus rotates tilted at 98° on its side. A giant impact in the distant past was probably responsible for this unique orientation. Uranus is surrounded by a ring system which is much darker than that of Saturn. The rings are made of fine dust and boulder-sized lumps and are believed to be remnants of a moon that was smashed by a high-velocity impact.

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
Draw Trajectories and Orbits
Environment Based Horizons
Show Constellation Lines

Turn Off these Effects:

Show Satellites
Daytime Effect
Show Ecliptic Line
Show Glass Mythology

Accessible Learning:

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

