

Hubble Space Telescope - Educator's Guide (Ages 12-15)



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

- NASA and the European Space Agency operate the HST
- The HST is solar-powered with batteries for back-up
- Astronomical data from the HST is processed into images on Earth
- The HST not visible from everywhere on Earth

Astronomy background information

The Hubble Space Telescope (HST) has been revolutionising astronomy since it was deployed on April 25, 1990. It is a reflector telescope with a 2.4 m (7ft 10in) aperture. Above the atmosphere the HST gets a clearer view of the Universe than Earth-based instruments.

The HST is a bright object in the sky but unfortunately, not everyone can see the HST. This is because the HST's orbit around the Earth is inclined to the equator at an angle of 28.5° matching the latitude of its launch site. If you are too far north or south, the HST will never be visible in your skies.

The HST 3D model displays the logos of the organisations that operate it, NASA and the European Space Agency. The twin dish antennas for transmitting data back to Earth are clearly visible. The HST orbits the Earth every 95 minutes. It is powered by two large solar arrays but six large rechargeable batteries take over when the HST is in the Earth's shadow (about a third of each orbit).

Night Sky App Essential Settings

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

Turn On these Effects:

Show Satellites
Show Trajectories and Orbits
Environment Based Horizon

Turn Off these Effects:

Show Starlink Satellites
Show Rocket Bodies
Day Time Effect
Real Sky Representation
Show Glass Mythology
Show Constellation Lines

Accessible Learning:

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

