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

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

- Mercury is a planet in the Solar System visible from Earth
- Mercury is a rocky planet smaller than Earth
- The planet has a short orbital period
- Mercury resembles the Moon in appearance but has different physical properties

Astronomy background information

Mercury is the smallest and closest planet to the Sun. Its orbital period is just 88 days. The planet is composed of rock and metal and is about a third the size of the Earth. Thanks to Mercury's small size, its gravity is lower than Earth's. Mercury's surface is an almost airless, cratered wasteland superficially like the Moon's but while liquid water cannot exist on Mercury there are small ice deposits at its polar regions.

Despite its small size, Mercury's density is similar to Earth's density. This shows that it's rich in dense material deep inside, presumably it has a very large iron core. Spacecraft missions have shown that the planet also has a strong magnetic field, it's the only rocky planet other than Earth to have one. A small planet should have a solid core. However, Mercury's magnetism implies that the iron core of Mercury is still hot and molten which is unexpected and unexplained.

Due to its proximity to the Sun Mercury's surface gets very hot (over 400°C). However, Venus is hotter (over 450°C) as its thick atmosphere has trapped solar heating in a "runaway Greenhouse effect".

Night Sky App Essential Settings

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

Turn On these Effects:
Environment Based Horizon
Draw Trajectories and Orbits

Turn Off these Effects:
Show Satellites
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