

Mercury's Extreme Environment & Surface Features

Mercury is the closest planet to the Sun and has one of the most extreme environments in the Solar System. It has no atmosphere to protect it, meaning temperatures change drastically from scorching hot to freezing cold. Mercury's surface is covered in craters, cliffs, and rocky plains, shaped by impacts and volcanic activity. Let's explore what makes Mercury such a unique and challenging world.

Mercury Data

Diameter: 4,880 km (3,032 miles)

Distance from the Sun: 57.9 million km (35.98 million miles)

Temperature: -180°C (-290°F) at night, 430°C (800°F) during the day

Day Length: 176 Earth days

Year Length: 88 Earth days

Moons: 0

- Mercury's Surface & Environment
- Craters: Mercury's surface is full of impact craters caused by asteroids and comets crashing into it. Some of the largest craters, like the Caloris Basin, are over 1,500 km wide.
- Extreme Temperatures: Mercury has no atmosphere to trap heat, so days are extremely hot (430°C), but nights are freezing cold (-180°C).
- No Atmosphere: Unlike Earth, Mercury has almost no air, meaning no wind, weather, or protection from space rocks.
- Cliffs & Ridges: Mercury's surface has giant cliffs, called scarps, that were formed when the planet's crust shrank as it cooled.

Name_____. **Date:** _____

Why does Mercury have so many craters compared to Earth?

How does Mercury's lack of atmosphere affect its temperatures?

What is the name of the largest impact crater on Mercury?

What are the giant cliffs on Mercury's surface called?

Why doesn't Mercury have weather like Earth?

How does Mercury's size compare to Earth's?

If you could visit Mercury, what challenges would you face?

How is Mercury's surface similar to the Moon's?
