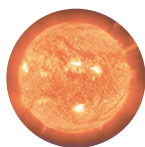




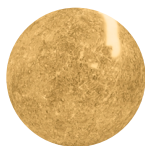
Planets come in all sizes. Some are very small like Pluto (see next page), and some are very large like Jupiter (see the blue circle on the next page). The circles show how the sizes of the planets in our solar system compare with one another.

The atmospheres and temperatures of the planets also vary. Of the planets listed below, which one is most like Earth? Which one is the most different?



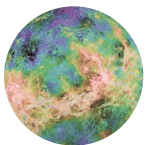
Sun

- Diameter: 1,400,000 km (870,000 miles)
- Makes one full rotation every 25 Earth days
- Average temperature at the center: 15 million°C (27 million°F)
- Average surface temperature: 5527°C (9980°F)
- Outer layer is composed mostly of hydrogen, with some helium and smaller amounts of other gases



Mercury

- Average distance from the sun: 57,910,000 km (35,984,000 miles)
- Diameter: 4,878 km (3,031 miles)
- Orbits the sun every 88 days
- Makes one full rotation every 59 days
- Surface temperature: -183°C to 427°C (-297°F to 801°F)
- Atmosphere: no significant atmosphere



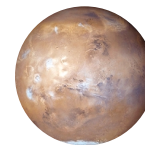
Venus

- Average distance from the sun: 108,200,000 km (67,232,000 miles)
- Diameter: 12,104 km (7,521 miles)
- Orbits the sun every 224 days
- Makes one full rotation every 243 days
- Surface temperature: 475°C (887°F)
- Atmosphere: carbon dioxide, rains sulfuric acid



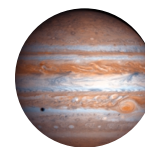
Earth

- Average distance from the sun: 149,600,000 km (92,957,000 miles)
- Diameter: 12,756 km (7,926 miles)
- Orbits the sun every 365 days
- Makes one full rotation every 24 hours
- Average surface temperature: 15°C (59°F)
- Atmosphere: nitrogen and oxygen with smaller amounts of other gases



Mars

- Average distance from the sun: 227,940,000 km (141,635,000 miles)
- Diameter: 6,794 km (4,222 miles)
- Orbits the sun every 687 days
- Makes one full rotation every 24 hours
- Average surface temperature: -23°C (-9°F)
- Atmosphere: carbon dioxide and some nitrogen and argon



Jupiter

- Average distance from the sun: 778,330,000 km (483,632,000 miles)
- Diameter: 142,984 km (88,846 miles)
- Orbits the sun every 12 years
- Makes one full rotation every 10 hours
- Surface temperature: -149°C (-236°F)
- Atmosphere: mostly hydrogen and helium





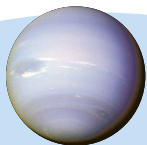
Saturn

- Average distance from the sun: 1,429,400,000 km (888,188,000 miles)
- Diameter: 120,536 km (74,898 miles)
- Orbits the sun every 29 years
- Makes one full rotation every 10 hours
- Surface (atmospheric) temperature: -180°C (-292°F)
- Atmosphere: mostly hydrogen and helium



Uranus

- Average distance from the sun: 2,870,990,000 km (1,783,950,000 miles)
- Diameter: 51,118 km (31,763 miles)
- Orbits the sun every 84 years
- Makes one full rotation every 17 hours
- Surface temperature: -214°C (-353°F)
- Atmosphere: mostly hydrogen and helium with traces of methane



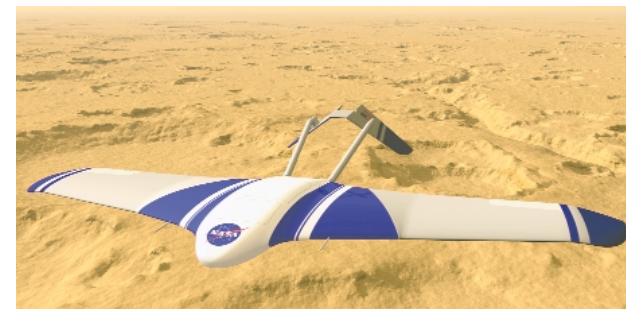
Neptune

- Average distance from the sun: 4,504,300,000 km (2,798,840,000 miles)
- Diameter: 49,528 km (30,775 miles)
- Orbits the sun every 165 years
- Makes one full rotation every 19 hours
- Surface temperature: -214°C (-353°F)
- Atmosphere: methane, hydrogen, and helium



Pluto

- Average distance from the sun: 5,913,520,000 km (3,674,490,000 miles)
- Diameter: 2,320 km (1,442 miles)
- Orbits the sun every 248 years
- Makes one full rotation every 6 days, 9 hours, 17 minutes
- Surface temperature: -233°C (-388°F)
- Atmosphere: nitrogen with traces of methane and carbon monoxide



Mars Flyer

Chemists at NASA are always planning ahead. One of the many ideas that they are considering is a remote-controlled plane called ARES that would fly on Mars. Among other experiments, the plane would test the planet's atmosphere and radio the results back to Earth. If you designed a plane to fly on Mars, what would it look like, and what would you test?

Jupiter

Saturn

Uranus

Neptune

Earth

Venus

Mars Mercury Pluto

