



DATA SHEET

SOLAR SYSTEM: NEPTUNE

Like its closest neighbour, Neptune is an ice giant in the outer solar system. Most (> 80) of the planet's mass is made up of a hot dense fluid of icy materials—water, methane and ammonia—above a small, rocky core. Of the giant planets, Neptune is the densest.

Neptune does not have a solid surface. Its atmosphere (made up mostly of hydrogen, helium and methane) extends to great depths, gradually merging into water and other melted ices over a heavier, solid core with about the same mass as Earth. There may be an ocean of super hot water under Neptune's cold clouds. It does not boil away because incredibly high pressure keeps it locked in place.

SOME FACTS ABOUT NEPTUNE

- 1 Neptune is 30.1 Astronomical Units (AU) from the Sun. (4.5 billion kilometres)
- 2 Temperature at 1 bar pressure/K = 70
- 3 Neptune's atmosphere consists of hydrogen with some helium and methane
- 4 It's mean density is: $1.64 \times 10^3 \text{ kg m}^{-3}$
- 5 It's comparative volume is 44 (Earth = 1)
- 6 One day on Neptune takes about 16 hours (the time it takes for Neptune to rotate or spin once). And Neptune makes a complete orbit around the Sun (a year in Neptunian time) in about 165 Earth years (60,190 Earth days).
- 7 Neptune is our solar system's windiest world. Despite its great distance and low energy input from the Sun, Neptune's winds can be three times stronger than Jupiter's and nine times stronger than Earth's.

