

Teacher's Note

Answers:

- The planets line up as follows from the sun - Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto.

Some answers are given but check with science books, encyclopedia or other related materials to check student's work.

Mercury: Nearest planet to the sun. Orbiting at average distance 58 million kilometres. Second smallest planet. Surface is rocky with craters and ridges. Caloris Basin is largest crater, 1300 kilometres across. Rotates on its axis very slowly. Temperatures range from 430°C on the sunlit side to -170°C on the dark side. Atmosphere is almost non-existent, minute amounts of helium and hydrogen plus traces of other gases.

Venus: Second planet from the sun. Slightly smaller than earth. Surface is dry, dusty and rocky it also has mountains, volcanoes and craters. Spins slowly backwards as it orbits the sun. Brightest object in the sky after the sun and moon because its atmosphere reflects sunlight strongly. Hottest planet, max. surface temp. approx. 480°C. Clouds around the planet contain droplets of sulphuric acid. Space probes have landed on Venus taking photos. Two large highland regions called Aphrodite Terra and Ishtar Terra.

The Earth: Third of the planets orbiting the sun. Only planet known to support life. About 70% surface is water 30% land. Four main layers, inner core, outer core, mantle and crust. Inner core approx. temp. of 4000°C. Atmosphere screens out some harmful radiation from the sun and stops meteorites from reaching the surface. The atmosphere is about 500 km deep. The earth has one natural satellite, the moon. Temperature ranges from -88°C to 58°C.

Mars: Fourth planet from the sun. Also known as 'The Red Planet' because of the red dust. Red dust in the atmosphere gives the sky a pink colour. Northern hemisphere has large plains, southern hemisphere has craters and impact basins. Surface also has canyons. 'Olympus Mons' is a 600 km wide by 25 km high extinct volcano. Mars has two moons called Phobos and Deimos.

Jupiter: Fifth planet from the sun. Largest planet, diameter about 11 times bigger than the earth. Prominent cloud feature called 'The Great Red Spot'. It has one thin, faint, main ring. It has 16 known Jovian moons, the four largest moons are called the Galileans. Atmosphere is mainly hydrogen and helium.

Saturn: Sixth planet from the sun. Equatorial diameter of about 120,500 km. Clouds form belts. It has thin but wide system of rings. Saturn has 18 known moons. Atmosphere of mainly hydrogen and helium.

Uranus: Seventh planet from the sun. Third largest. Diameter about 51,000 km. Atmosphere of hydrogen, helium and methane gases giving the planet a blue-green hue. Temp. at the cloud top about -210°C. Encircled by 11 rings consisting of rocks and dust lanes. There are 15 known Uranian moons.

Neptune and Pluto: Two furthest planets from the sun. Average distance about 4,500 and 5,900 million km away. Neptune is a gas giant. Atmosphere hydrogen, helium and methane. It has four tenuous rings and eight known moons. Pluto is small and little is known about it. It is a rocky planet with only one known moon called Charon.

Suggested Activities:

- ❖ Visit: <http://www.calm.wa.gov.au/tourism/lsexpeditions/astro99.html>
- ❖ Visit: <http://www.bbc.co.uk>
- ❖ Visit: <http://www.star.le.ac.uk/edu/>

Learning Area: Sci. **Strands:** IS, EB. **Substrands:** IS1,2,3,4.

Overarching: 1,2,3,4,5,6,7,8,10. **Linking Subjects:** Eng. & Arts.