

# Good morning, Universe!

It's a clear day at NG Kids Space HQ and preparations are just about complete for your mission: to explore our solar system! Are you ready, cosmic cadets? 5...4...3...2...1... We have lift off!

## 1. Mercury

First stop is the planet Mercury, the smallest of all the planets. It's covered with craters – the largest is 1,300km wide – and the planet's surface has extreme temperatures.

### Cosmic fact

It would be difficult to pack for a holiday on Mercury. During the day, temperatures can reach around 430°C, but at night they can drop to -170°C, making it one of the coldest planets in the solar system!

## 3. Earth

Did you know it takes a whole year for Earth to travel round the Sun, 149,600,000km away? Water covers most of the Earth's surface – that's why it looks blue from up here. Earth is the only planet where living things have been found... so far!

### Cosmic fact

Our Moon orbits Earth every 27.3 days and is our nearest neighbour in space!

## 5. Ceres

It's time to visit your first dwarf planet, Ceres. Why isn't it known just as a planet, like the others? Because it doesn't 'clear' the area around its orbit, although it still orbits the sun and is almost round in shape. It would be great to visit, but it's time to move on!

### Cosmic fact

Our solar system is now made up of eight planets and three dwarf planets – Ceres, Pluto and Eris (Xena).

## What is a planet?

In August this year, astronomers agreed that a planet is a body that orbits around a star without being a star itself; is almost round in shape; and has enough gravity to 'clear' the area around its orbit of debris, like rocks.

## 7. Saturn

You're over Saturn now, the second largest of the planets. You're so close to its famous rings that you notice they're made of rock and ice. This planet is visible to the naked eye for around 10 months of the year. Suddenly there's a blinding light. You duck down and close your eyes. It must be a supernova – an exploding star!

### Cosmic fact

Saturn is 855 times bigger than Earth!

## 9. Neptune

You race on to Neptune. Huge storms are going by at speeds of 1,200kmph! Some of the storms last for a few years, then fade away. There are six known rings and 13 moons around Neptune – this planet has lots going on!

### Cosmic fact

Neptune's largest moon is Triton, and spouting geysers on its surface throw up dark material 8km into the air – better watch out!

## 11. Eris (Xena)

You leave Pluto behind and zoom on to your last destination, Eris – the largest dwarf planet in our solar system. Eris is the most distant known object from the Sun. It has taken a while to get here, but the journey has been awesome!

### Cosmic fact

Eris has had many names, including 2003 UB313, Lila and now Xena!

## 2. Venus

Your next stop? The brightest object in the sky apart from the Moon... it's Venus. You see a thick layer of poisonous sulphuric acid clouds, which means there may be acid rain storms on the planet – uh-oh! But you're amazed by the giant volcanoes and deep valleys covering its surface.

### Cosmic fact

Venus spins in the opposite direction to the other planets, except Uranus. Its surface temperature is around 480°C and is hot enough to melt lead!

## 4. Mars

Here you are at the red planet. Looking at Mars you see blasting sandstorms and colossal craters. Mars has the largest volcano in our solar system, Olympus Mons, which is 27km high – three times the size of Mount Everest. What's that flying fireball outside your window? Check out the comet!

### Cosmic fact

The surface of Mars is red because of the iron-oxide dust (like rust) that covers its surface.

## Did you know?

Comets are made from ice and dust. Sometimes you can see their blazing 'tails' streaking across the night sky.

## 6. Jupiter

Wow! Look at the size of that planet. It's Jupiter – the largest of all the planets. It's so big that more than 1,300 Earths could fit inside it! As you go past, you spot its 16 moons – the four largest were discovered by the astronomer Galileo in 1610.

### Cosmic fact

Jupiter's famous Great Red Spot is a storm on the planet that started 340 years ago!

## 8. Uranus

Next on your journey you see a planet that seems to have been knocked over – it's Uranus! Scientists think a giant space rock may have pushed it on its side. Uranus takes 84 years to orbit the Sun, and its four seasons each last for 21 years!

### Cosmic fact

Uranus has 27 known moons and 11 thin rings.

## 10. Pluto

Your next stop is Pluto, which used to be known as a planet, but not now. Because its orbit overlapped with Neptune's, poor Pluto was stripped of its title, leaving just eight planets in our solar system. It's now known as a dwarf planet, along with Ceres and Eris (Xena). It's almost time to land!

### Cosmic fact

Pluto has five known moons - Charon, Styx, Nix, Kerberos and Hydra.

## Did you know?

Astronomers think that the Sun and the planets formed about 4.6 billion years ago!

## The Sun

The Sun is the super-star of our solar system – all heat, light and energy comes from this star. The Earth, other planets, meteorites and comets all orbit (go round) the Sun. It's huge and very, very hot, with a diameter of 1,392,000km and a temperature of 15,000,000°C. Scorching!

Here's a new way of remembering the names of all the planets, and the dwarf planets, too! MY VERY EDUCATED MOTHER CLEARLY JUST SHOWED US NEW PLANETS – EXCELLENT!