Here is a walk you could lead along our **Planet Path**.

Our Planet Path is a **scale model** of the Solar System.

Please note that **two different scales are used**: The sizes, and the distances.

There are some questions that you can ask along the way. Answers are in **bold**! Good luck!

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**We are about to go on a journey through the Solar System!**

Start at the **red and yellow ball** near the Lovell telescope.

This ball represents the object at the **centre** of our Solar System.

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**1. What is the object at the centre of the Solar System? The Sun**

The Sun is a star. It is our nearest star, and sits at the Centre of our Solar System. It is very hot; about 6,000°C on its surface, and around 15 million °C at the core. The Sun is a medium sized star, even though compared to Earth it is huge! If the Sun were the size of a football, the Earth would be one single grain of sand!

The Sun gives out light and heat into the Solar System.

Close to this ball, you will find **four circular metal discs** on the ground.

These are the first four planets. See if you can find them!

The planets are: **Mercury, Venus, Earth and Mars**

These four planets are the small rocky planets (rocky because they are made of rock!)

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**2. Which of the four rocky planets is the largest? The Earth**

**3. Which of the four rocky planets do you think is the hottest? Venus**

It’s not Mercury, even though Mercury is the closest to the Sun! Venus has a very thick atmosphere (a lot of air). This acts like a thick duvet, trapping in the heat. This means Venus is the hottest planet in the Solar System at 470°C! That’s even hotter than the planet Mercury, which is 450°C on the day side (and -150°C on the night side!).

4. Which of the four rocky planets do you think is the coldest? Mars

Mars is the furthest of the four rocky planets from the Sun, so it is the coldest, with an average temperature of -55°C (ranging from about -150°C to 20°C). Some people think that Mars is hot, because it looks red. However, its red appearance comes from it being covered in red rocks and red dust.

5. How long does it take for the Earth to spin around once (turn on its axis)? One day (24 hours)

Walk along the path towards the Whispering Dishes. Try and find Jupiter along the way!

Jupiter can be found in the grass opposite the door to the Space Pavilion (building 2). It is represented by a ring of small metal discs in the grass. If you are visiting in spring, Jupiter may be a large circle of daffodils!

At Jupiter, you have already travelled 800 million kilometres through the Solar System! In real life, it would take a rocket about 2 years to travel from Earth to Jupiter!

6. What is the planet Jupiter made of? Gas

Jupiter and the next three planets (Saturn, Uranus and Neptune) are known as the gas giants, because they are all large planets and made of gas. They are like big balls of cloud. You wouldn’t be able to walk on a gas giant; you’d fall straight through! These planets are all far from the Sun too, so they are all very cold. Jupiter’s surface has an average temperature of about -145°C.

7. Have a guess... how many times wider than the Earth, do you think Jupiter is? Eleven times wider

Did you know that all the planets spin, not just Earth? Jupiter spins round quicker than any of the other planets – it spins once every 10 hours!

All this spinning causes fierce whirlwinds on Jupiter, and makes the planet bulge in the middle! One of the nearby interactive outdoor exhibits shows this bulging around the equator: the rope spinner.

Now go further towards the Whispering Dishes. Find Saturn in between the two dishes and stand on it.

Saturn is again represented by a ring of small metal discs in the grass. If you are visiting in spring, Saturn may be a circle of daffodils.

8. Which is bigger, Saturn or Jupiter? Jupiter

Jupiter is the biggest planet in the Solar System. Saturn is the second biggest; about 9.5 times wider than Earth. Saturn is most famous because of its large ring system. Saturn’s rings are not solid, they are made up of millions of small pieces of ice and rock orbiting around Saturn (like a mini asteroid belt). Did you know Saturn is not the only planet to have a ring? In fact, all of the gas giants have rings (Jupiter, Saturn, Uranus and Neptune) but Saturn’s are by far the biggest. Saturn is about 1,400 million kilometres (1.4 billion km!) from the Sun, and has an average temperature of -180°C.

9. Are the planets in the Solar System spaced out evenly? No
10. Which two planets haven’t you seen on the Planet Path yet...? Uranus and Neptune

These two planets are so far away from the Sun, you’d have to go all the way into the Jodrell Bank Gardens to find them! (But there may not be time to do this now!)
See the section below if you want to find them!

11. There used to be another planet, but in 2006 scientists decided it wouldn’t be classed as a planet anymore.
   a) What is this object? Pluto
   b) What kind of object is it classed as now? A dwarf planet

It was decided Pluto was too small to be considered a planet. It is about half the size of Mercury and about two thirds the size of our Moon.

Finding Uranus and Neptune

Uranus can be found behind the Planet Pavilion (building 1). Look next to the path, between the Planet Pavilion and the Comet Lodge. It is represented by another ring of small metal discs in the grass.

To find Neptune, you’ll have to go all the way into the gardens, and walk around the Galaxy Garden. You will find it on the ground, just off the path, again represented by a ring of small metal discs in the grass.

Travelling even further

Beyond our Solar System, the next closest star is Proxima Centauri. This star is 4.2 light years from the Sun, which is around 40 trillion km (that’s 4,000 billion km, or 4 million million km!)

Using our scale of distances that we’ve used on the Planet Path, this star would be around 4,000 km away from Jodrell Bank. To reach this distance, you would have to travel to the city of Asyut in Egypt, the city of Shamakhi in Azerbaijan, or the Eastern edge of Nova Scotia in Canada!