



Let's Talk About The Solar System

**STEM Education worksheet provided by
Dundee Science Centre.**

These worksheets work in conjunction with our **Let's Talk About** video series that can be found on our Instagram [@dundeesciencecentre](https://www.instagram.com/dundeesciencecentre).

They are designed to engage and educate on interesting science topics to support the curriculum for learners of all levels.



Understanding Our Universe

Stars are like shiny, twinkling lights in the sky. They're huge balls of super-hot gas that make their own light. Our closest star is the **Sun**, which gives us light and warmth during the day.

There are many, many other stars far, far away from Earth. Some stars are much bigger and hotter than the Sun, and some are smaller and cooler. They come in different colours, like red, yellow, and blue.

Humans have made up stories about the stars in the sky and joined them up like a dot-to-dot to make pictures. These pictures are called **constellations**.

We also have **eight** planets in our solar system, which can look very similar to stars when we look up at them in the night sky. But stars and planets are actually very different.

Stars are super bright, hot balls of gas that make their own light. Planets, on the other hand, don't make their own light. They're like special space rocks that go around stars.

Planets don't shine on their own; they reflect the light from their star, like how the Moon reflects sunlight at night. Stars are far away in space and give us light from really, really far, while planets are much closer and are more like neighbours in our big cosmic neighbourhood!



Create your Own Planisphere!

We are going to make a map of the sky to show you which stars you are looking at, called a Planisphere.

Step 1: Cut out **template 1** and fold along the dotted lines.

Step 2: Cut out **template 2** and slide it into the first template so that the folds hold it in place, you can see the map through the circle, and the map spins around.

Step 3: When you want to explore our solar system, spin the map to match the day, month, and time that you are looking up at the sky.

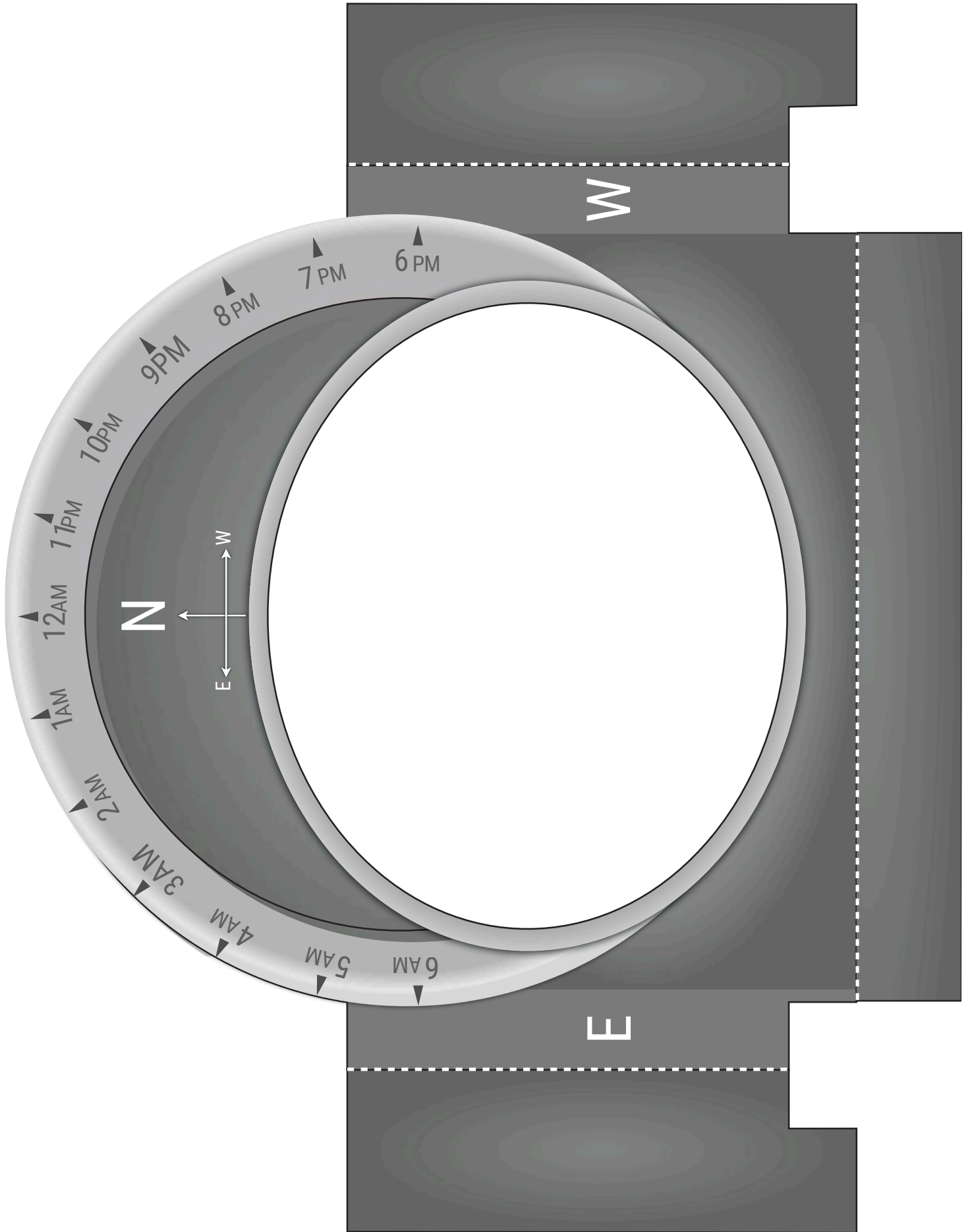
Using the Map

The map will show you the names of the constellations (groups of stars) that are above you, right now!

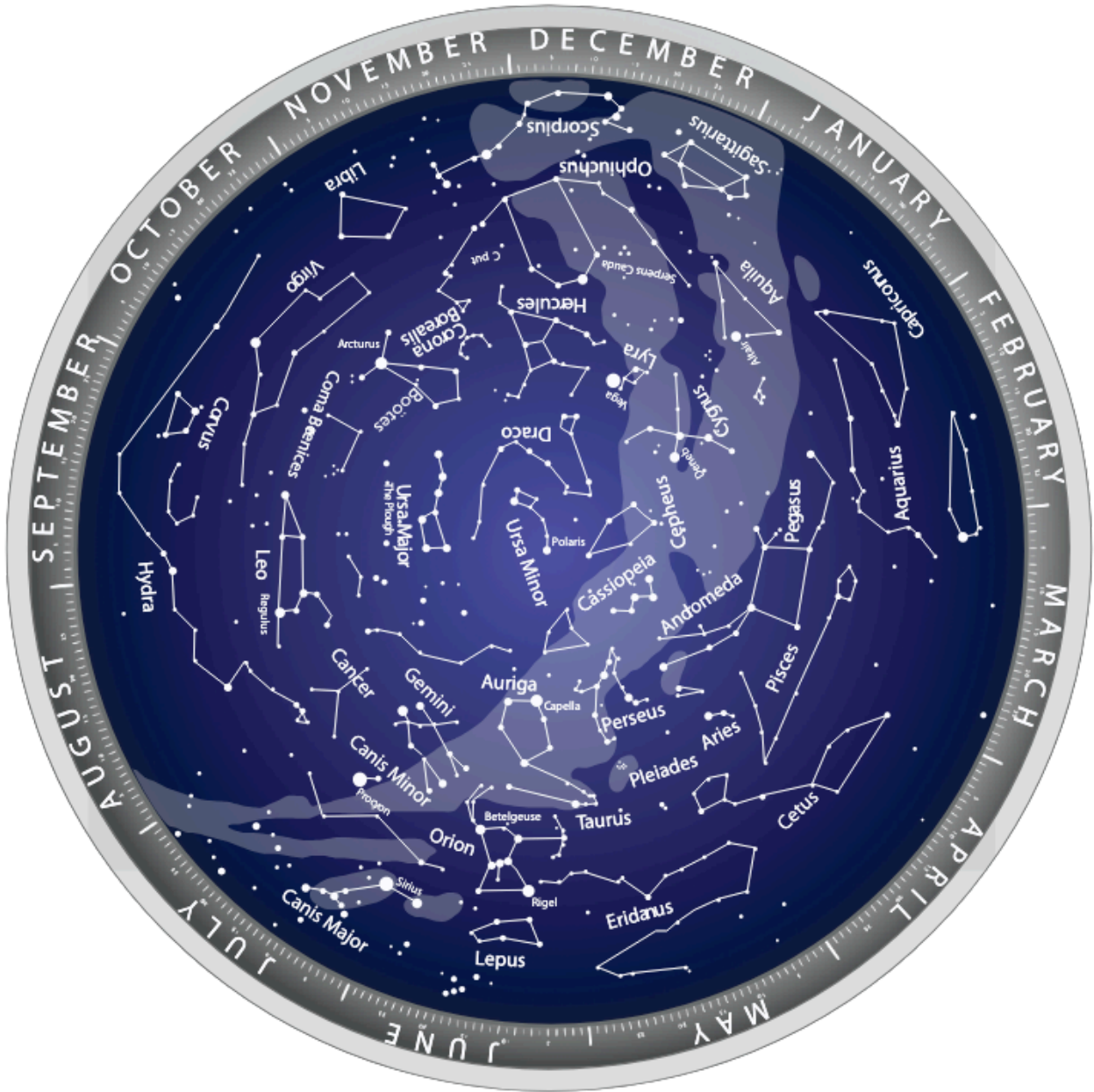
Look out for dots of light that aren't on your map. If they move across the sky as you watch, they are probably something we put in the sky, like a plane or satellite.

If they seem still and are in a different place every night, then they are one of the planets!

Template 1



Template 2

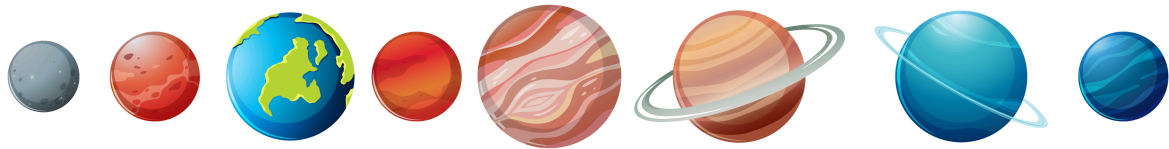




Planet 9

Do you know how many planets there are in the solar system? Can you name them? From closest to the sun to furthest away, there are:

Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune



But many scientists think there might be a 9th planet! It's likely a lot bigger than Earth, but it's so far away that it's really hard to find.

Scientists are doing lots of mathematical calculations and pointing huge telescopes way out past Uranus, trying to see something move. Still, it's tough to find anything because there are lots of stars, dust, and other particles in space.

If you want to take part in trying to find Planet 9, check out this really cool science project:

<https://www.zooniverse.org/projects/marckuchner/backyard-worlds-planet-9>



Create Your Own Planet!

Planets all look different because their atmospheres and surfaces are made of different things. Earth looks blue, green, and white because we have oceans, land, and clouds.

Other planets are blue, but not because they have liquid water like Earth does. Neptune and Uranus are both blue because of a gas called methane. While Mars looks red because it is covered in a thick layer of iron oxide dust.

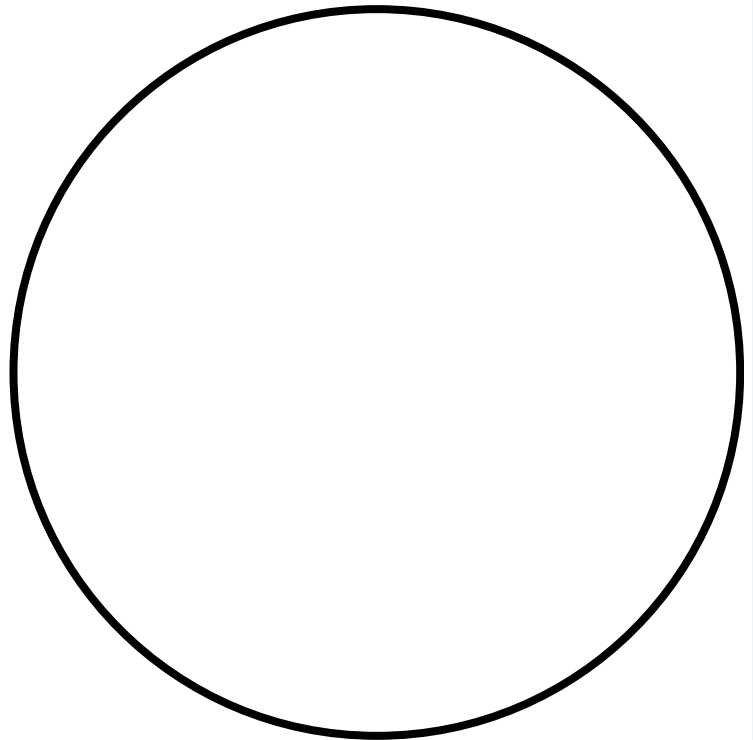
What will your planet look like?

Name:

Distance from the sun:

Who lives here?:

What is the weather like?:





Create Your Own Rocket!

Step 1: Print out the rocket template and colour it in!

Step 2: Cut out the template titled **rocket tube** and roll it around the straw to make a tube shape. Once you have done this, secure it with a piece of sticky tape.

Step 3: Pinch one end of the paper tube to close it and add tape to seal it shut.

Step 4: Tape the paper tube to the back of the rocket, with the sealed end at the top and the open end at the bottom.

Step 5: Insert the straw into the paper tube and blow really hard to launch the rocket.

The template for this activity is on the next page.



Create Your Own Rocket Template

Rocket Tube

