



3-DIMENSIONAL GLOW-IN-THE-DARK

SOLAR SYSTEM

MOBILE MAKING KIT

EXPLORE THE SOLAR SYSTEM FROM THE COMFORT OF YOUR HOME WITH THIS SPECTACULAR COSMIC MOBILE. WATCH THE PLANETS GLOW IN THE DARK AS THEY SPIN AROUND THE SUN! THIS GIANT MOBILE IS 75 CM H 75 CM WIDE WHEN BUILT. INCLUDES BONUS WALL CHART AND FUN FACTS.

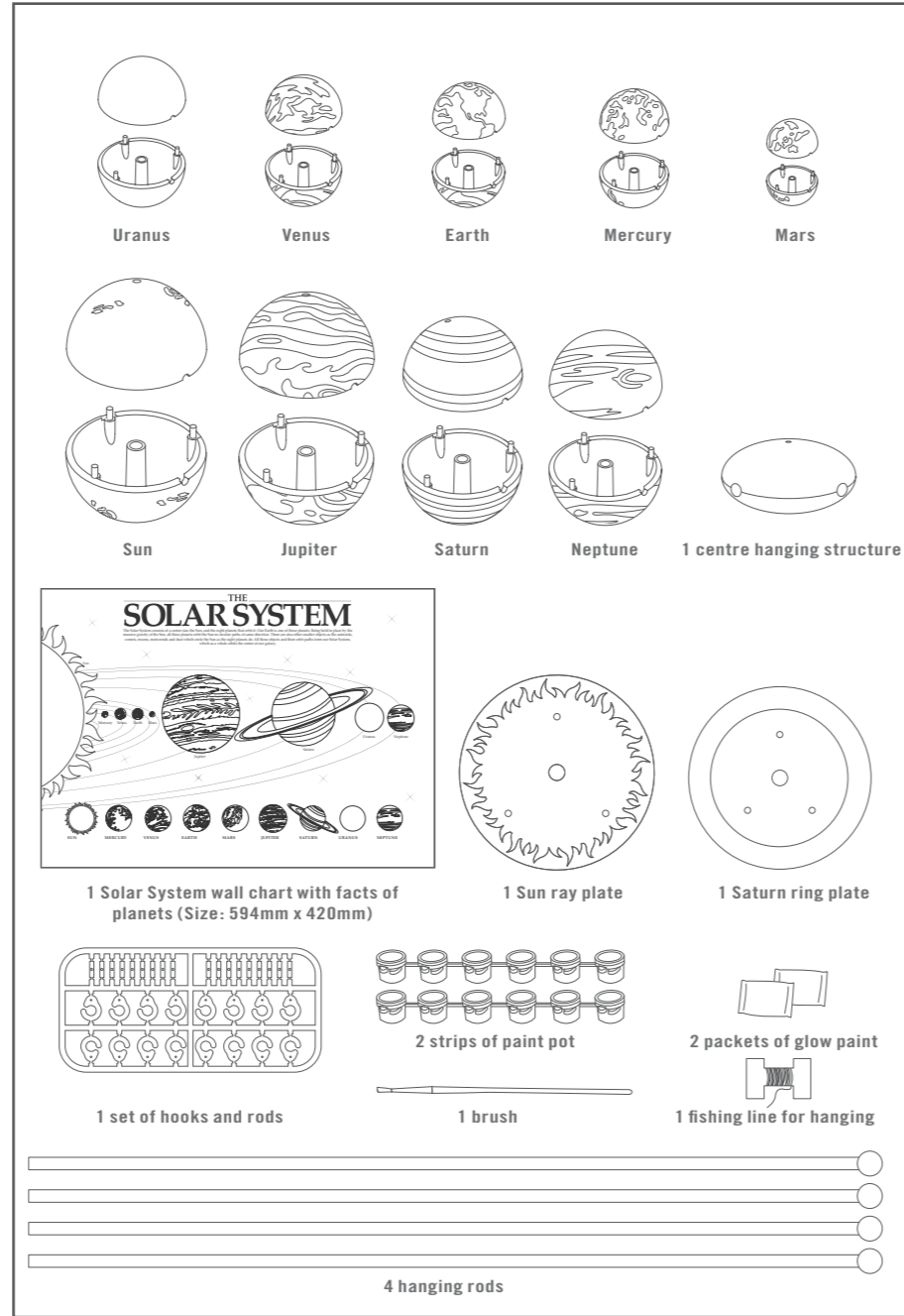
A. BEFORE YOU START

1. Please read through these instructions before you start.
2. Intended for children of ages over 8.
3. Adults assistance and supervision required.
4. This kit and its finished product contain small parts and small balls which may cause choking if misused. Keep away from children under 3 years old.
5. Do not place the materials in the mouth.

B. OTHER ATTENTION

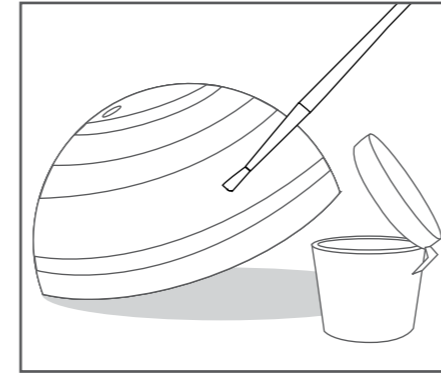
1. Always work on a solid, level working surface and try to keep the area neat and clean.
2. If clothes are stained by paint, wash immediately. Dried paint may leave mild stains on clothing even when they are washed. Put on your apron or wear old working clothes as necessary.
3. This is only an inspirational science craft. Due to the requirement of balancing and the limitation of the mobile size, the proportion of the planet size and distance could not reflect the real proportion of the Solar System.

C. CONTENTS



D. ASSEMBLY

1. PAINTING THE PLANETS

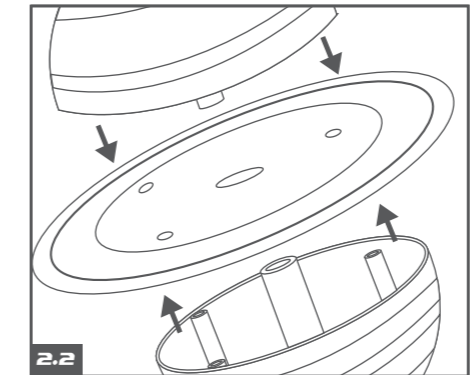
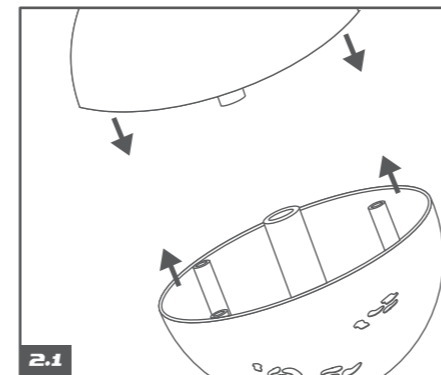


Match the pairing hemisphere models to form the planets. Look for the planet name embossed inside the hemisphere. Hold the pillar structure inside the hemisphere model for painting. Follow the package box for colour schemes. You may also create your own colour scheme! Here are some painting and colour mixing tips:
 Yellow + Blue = Green
 Yellow + Red = Orange
 Red + Blue = Purple
 Avoid mixing more than two colours together, because that will make the

final colour look muddy. Intensify the colour by applying a second layer of paint when the first layer is dry.

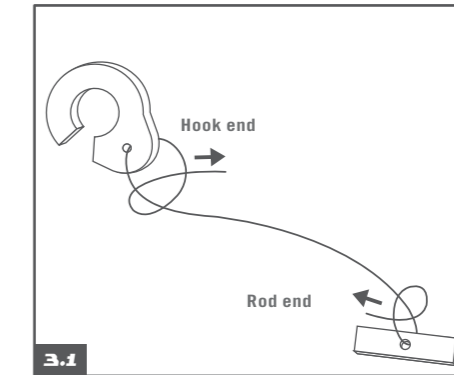
Glow Highlight... after the hemisphere has been painted, highlight some details with the glow paint. The details will glow in the dark like magic. Experiment mixing the glow paint with other colour paint. It gives the glow paint a colour tint effect.

2. ASSEMBLING THE PLANETS

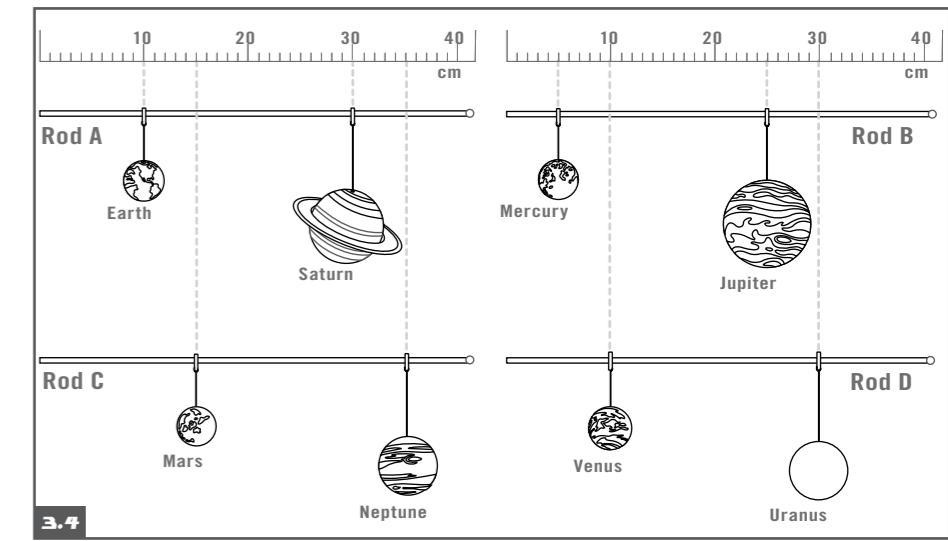
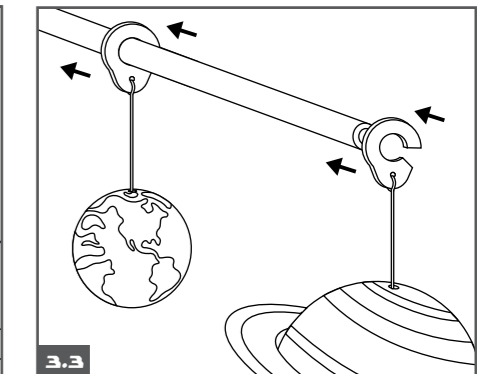
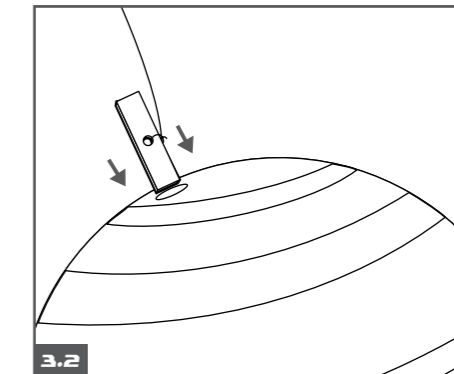


Snap the corresponding hemispheres together after the paint is completely dry as in diagram 2.1. It may take a few hours to dry completely in room temperature. For the Saturn, remember to put the "ring" plate in between the two hemispheres before snapping them together as in diagram 2.2. Leave the assembly of the Sun until step 4.

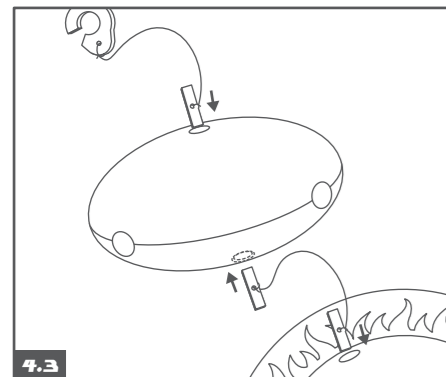
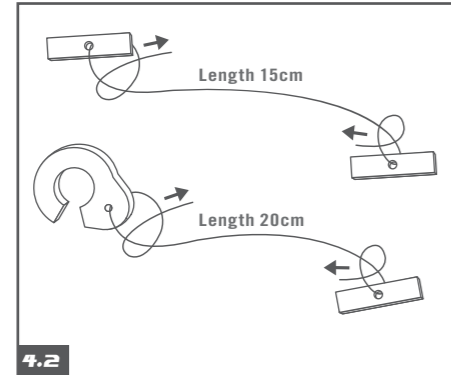
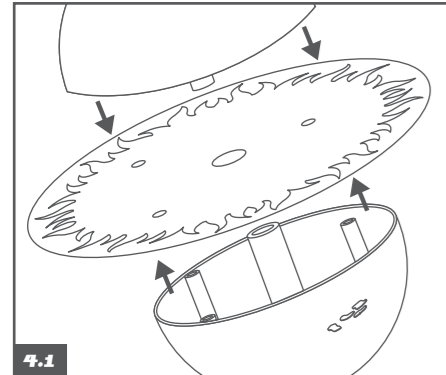
3. HANGING THE PLANETS



Make 9 hanging lines as in diagram 3.1. The length could vary from 10 to 20 cm. Insert the "rod end" of the fishing line into the small holes on top of the planets as in diagram 3.2. Slide the "hook end" of the fishing line onto the hanging rods as in diagram 3.3. Please refer to diagram 3.4 for the position of different planets in each rod.

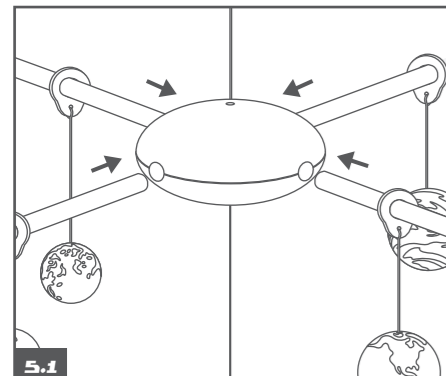


4. ASSEMBLING THE SUN AND THE CENTRAL HANGING STRUCTURE



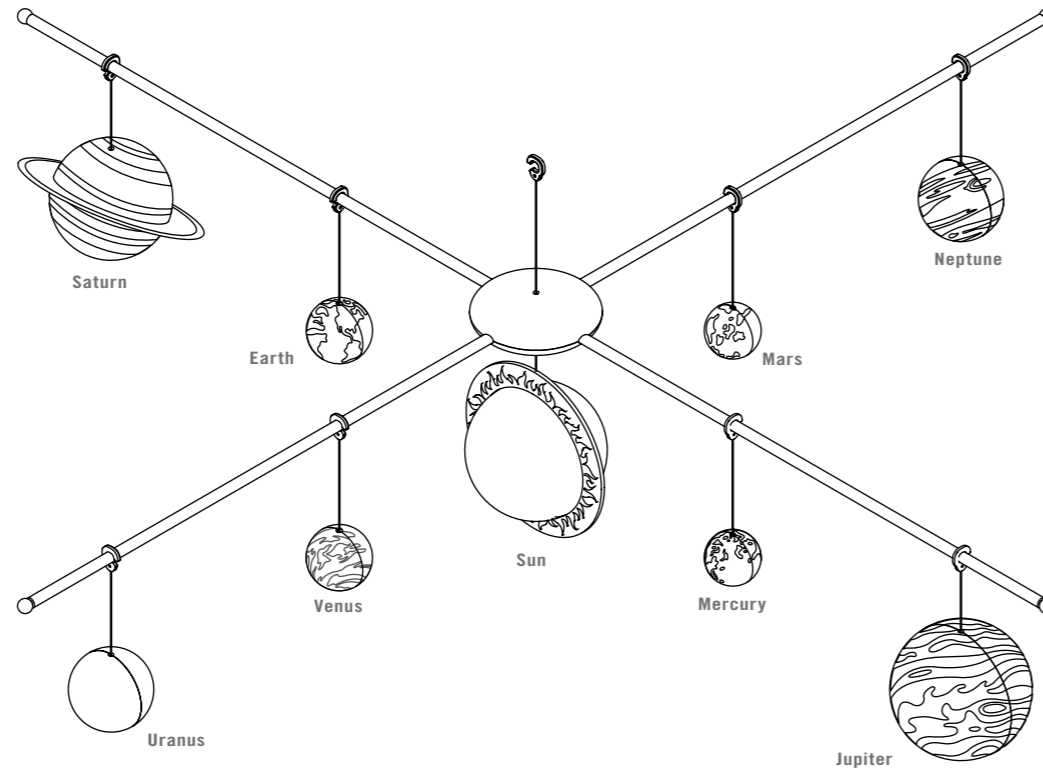
Snap the hemispheres of the Sun together. Remember to put the “ray” ring plate in between as in diagram 4.1. Make 2 hanging lines as in diagram 4.2. Insert the hanging lines made in diagram 4.2 to the central hanging structure and the Sun as in diagram 4.3.

5. ASSEMBLING AND HANGING YOUR MOBILE



Insert the hanging rods (with planets) into the central hanging structure as in diagram 5.1. Adjust positions of the planets again to balance the whole mobile.

Now hang your very own Solar System mobile to the ceiling or a window. Please ask an adult for assistance.



HOW TO MAKE IT GLOW...

Expose the mobile to room light or torch light for a minute. Turn off the light and watch them glow like magic! Recharge them as necessary and they will glow again and again. This glow-in-the-dark fun is as unlimited as your imagination.

E. FUN FACTS

- Until about 400 years ago astronomers still believed that the Sun and other planets orbited the Earth. One astronomer, Galileo, was arrested for suggesting that the Earth goes round the Sun!
- The Sun is hot — very hot. On the surface, the temperature is 5,500°C. In the centre, it's a blistering 15.6 million °C.
- The Sun makes heat and light by nuclear reactions. It uses up four million tonnes of hydrogen fuel every second. But there is still enough left to keep the Sun shining for five thousand million years!
- During a solar eclipse, the Moon casts a shadow on the Earth's surface. Under the shadow, it goes dark and chilly, as though night had come in the middle of the day.
- On Mercury, daytime and night-time each last for a Mercury year and a half (a year on Mercury lasts 88 Earth days). If you lived on Mercury, you would have two birthdays every day!
- The surface of Mercury is baking hot and freezing cold at the same time. The side facing the Sun reaches a sizzling 430°C, but the side facing away from the Sun is a freezing -180°C.
- Venus is a nasty place to visit. The surface temperature is as hot as the inside of an oven, and the pressure from the atmosphere is immense. You would be instantly roasted and crushed.
- The surface of Venus is covered with volcanoes. Above the surface are thick yellow clouds made of droplets of acid, and permanent hurricane force winds.
- If the Earth were much closer the Sun all the water would boil away. If it were further away, all the water would freeze. Either way, life as we know it could not exist.
- Earth is the only planet where the rocky surface is cracked into giant plates. The plates move a few centimetres a year — about the same speed as your fingernails grow.
- There are 380 kilograms of Moon rock on Earth. They were brought back by the astronauts of the six Apollo missions who had landed on the Moon.
- Three giant volcanoes rise from the Martian surface. Largest is Olympus Mons, at 26 km high. That's four times as high as Earth's highest mountain, Everest.
- Nineteenth-century astronomer Percival Lowell thought he had seen lines on

the surface of Mars through his telescope. He decided they were canals built by Martians.

- Jupiter dwarfs the other planets. All the others put together would fit inside it, and it could swallow up 1,321 Earths.
- Colourful bands of clouds smother Jupiter. The Great Red Spot is a vast swirling storm, 26,000 kilometres across. It's the biggest storm in the Solar System.
- At the last count Jupiter had 63 moons — four big and the rest tiny. One of the big ones, called Io, swarms with active volcanoes that spray fountains of liquid sulphur.
- Saturn is immensely heavy, but not very dense. If you could find an ocean of water large enough to put Saturn in, the planet would float!
- Saturn's spectacular rings are made up of thousands of millions of chunks of ice. And the wide rings are made up thousands of ringlets.
- By the time the Sun's rays have travelled the 4,500 million kilometres to Neptune, they are so weedy that they hardly warm the surface at all. So Neptune's surface is a freezing -214°C.
- Poor Pluto was officially a planet until 2006, when experts at the International Astronomical Union decided to demote it. Now it is officially a minor planet.
- A long journey lies ahead for the New Horizons space probe. It left Earth in 2006 bound for Pluto and beyond. It won't arrive until 2015!

QUESTIONS & COMMENTS

We treasure you as a customer and your satisfaction with this product is important to us. In case you have any comments or questions, or you find any parts of this kit missing or defective, please do not hesitate to contact our distributor in your country, whose address is printed on the package. You are also welcome to contact our marketing support team at Email: infodesk@4M-IND.com, Fax (852) 25911566, Tel (852) 28936241, Web site: WWW.4M-IND.COM