



GLOW

SPACE TRAVELERS

PLANET

Primary Education Group 5-8,
Secondary Education Year 1-2


CultuurStation



Start les 1

GLOW

Every year in November, light festival Glow takes place in Eindhoven. Dozens of national and international light artists showcase their work at various locations in the city of light.

This year, Glow takes place from November 9th to 16th.

- Have you ever seen a GLOW artwork?
- Which one do you remember and why?
- What else can you tell about GLOW?



Explore the Universe Together

With bulging pockets and full bags, a small group of curious children sneaks out at night. They call themselves “The Space Travelers” and are going on an adventure tonight! They see countless beautiful stars. In awe, they watch comets flying by.

What else might there be to discover in that vast dark sky?! They go on an exploration through space, searching for the most beautiful planet!

Planets in all the colors of the rainbow soon come towards them. Red, yellow, green. One even more beautiful than the other. Stars zoom by and seem to wink. The Space Travelers are amazed. There is so much beauty to see in the universe: UFOs, funny space creatures, bizarre planets.

And look! An astronaut waves cheerfully at them!





A planet slowly comes closer. Strange space creatures jump around and shout in an alien language: Ksssh blabla kss-wa. The Space Travelers decide to introduce themselves. After a cup of space tea, they quickly leave to discover more.

And suddenly, they see it. As small as a marble, a shiny green-blue planet. The Space Travelers stare in awe at their home planet: How beautiful it is there... From so far away, they can really see how land, sea, and sky all belong together! They can't see where one country ends and another begins, and they are too far away to see people and animals. But it is clear that there is life on this planet. And it looks so small and fragile in that vast space!

"That's the most beautiful planet in the universe!" they shout excitedly. "We've found it!" The children decide to return home to tell everyone who will listen how beautiful and fragile Earth is. A new mission is born:

That little green-blue planet deserves all our attention.



The 'Earth Overview Effect'

The "Earth Overview Effect" is a feeling that astronauts often get when they look at Earth from space.

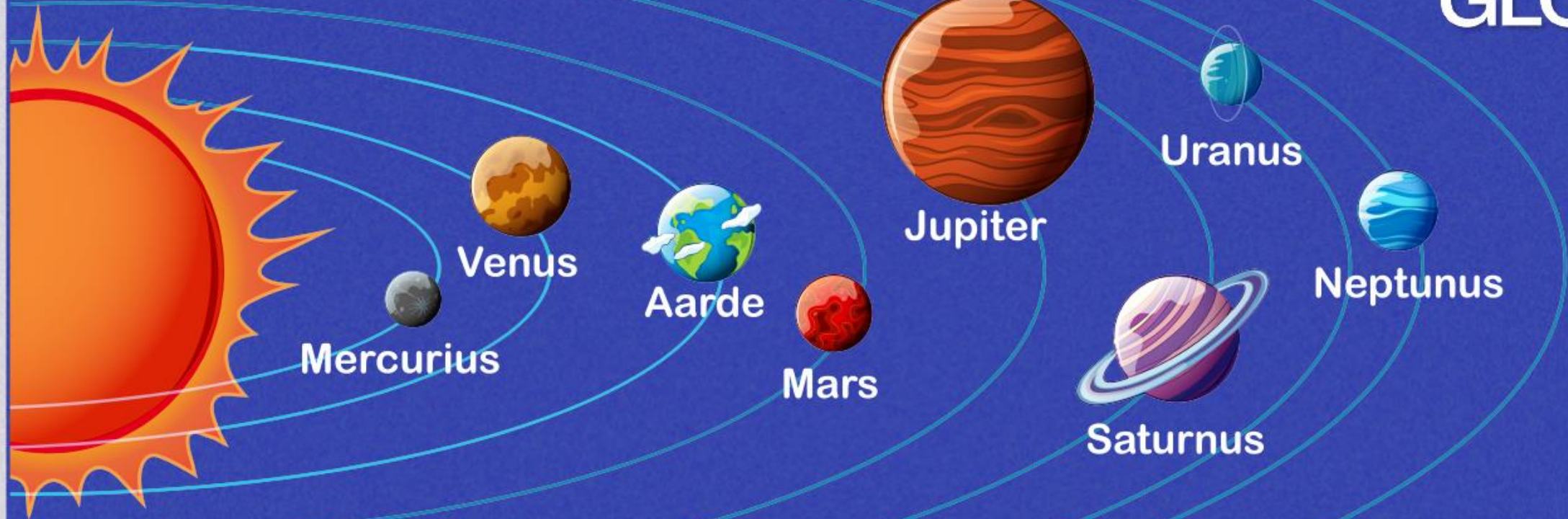
When they can see the entire planet at once, they suddenly understand how beautiful and fragile Earth is.

They see no countries or borders, just one big blue planet with thin clouds around it.

This feeling often makes them very aware of how important it is to take good care of our planet.

The Earth Overview Effect shows that we all live together on this one Earth and that we need to protect it.





All planets orbit the sun: Our solar system has eight planets that all orbit the sun. Earth is the third planet from the sun.

The Earth rotates and moves: The Earth rotates on its own axis in 24 hours, giving us day and night. At the same time, the Earth orbits the sun in 365 days, which forms a year.

The Earth is at just the right distance from the sun: This is called the "Goldilocks zone." It's not too hot and not too cold, allowing water to exist in liquid form, which is essential for life.



Mars, the 'red planet,' is most similar to Earth: Scientists study Mars because there are signs that water once existed there. Maybe one day, we will find signs of life on Mars.

Saturn has beautiful rings: Saturn is known for its impressive rings made of ice and stones. This makes the planet one of the most beautiful in our solar system.

Everything on Earth is connected: From the air we breathe to the oceans and forests, everything is in balance. What we do in one part of the world can affect the rest of the planet.

- Why is it important to take care of Earth, considering how unique and fragile it is?
- What does it mean that everything on Earth is connected? Can you give an example?
- What would the world look like if Earth were not in the "Goldilocks zone"?
- Why do scientists think Mars might be suitable for life, and what do you think that life would look like?
- How can we ensure that future generations have a healthy and beautiful Earth to live on?

OPDRACHT

Design and create your own colorful planet using paint, pastel chalk, and pencil. Use these materials to add texture and depth to your planet.

Make multiple planets and choose the best one.

Then, add LED lighting so your planet will glow and shine.

Your artwork, along with 3,000 other planets, will be displayed during GLOW in the Rabobank Eindhoven, creating a fascinating universe.

Let's get started!

GLOW 

How to draw a flat planet so it looks round.

Step 1: Start by painting a circle on your paper. Use a wide brush to apply the base layer.

Step 2: Add shadows to one side of the planet with a darker shade of the same color. This will make the planet look round.

Step 3: Use a lighter shade of the base color to highlight the other side of the planet. This will make it look like light is shining on the planet.

Step 4: Add dots, stripes, or small circles with a fine brush.

Step 5: Add darker colors with chalk to create shadows. Gently smudge the chalk to make a smooth transition.

Step 6: Use a thin pastel chalk or pencil to draw lines or craters to add details to the planet.



Let's get started!

GLOW 



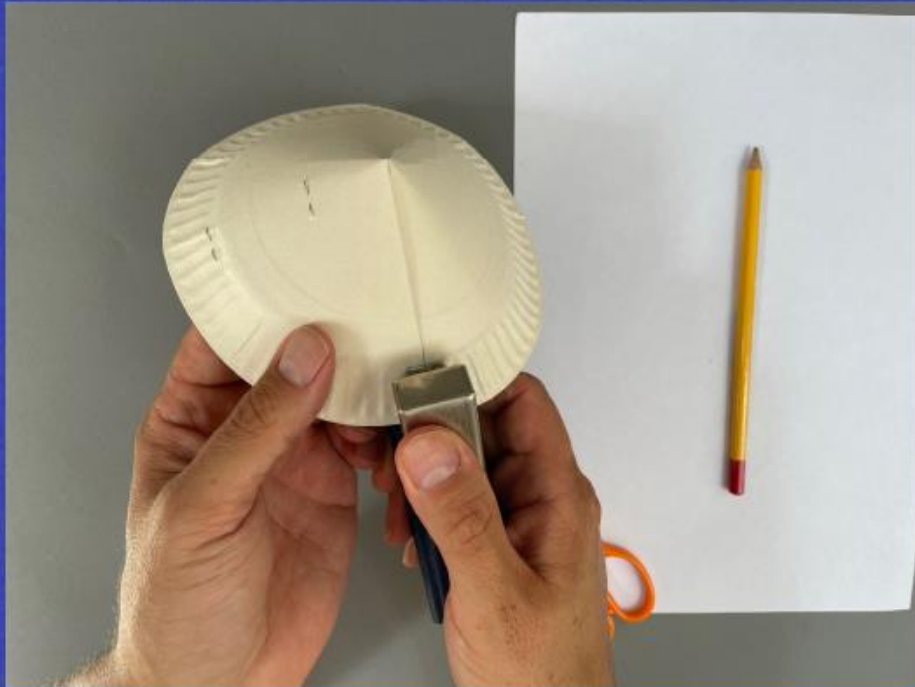
Determine the center of the plate and draw a line to the edge.



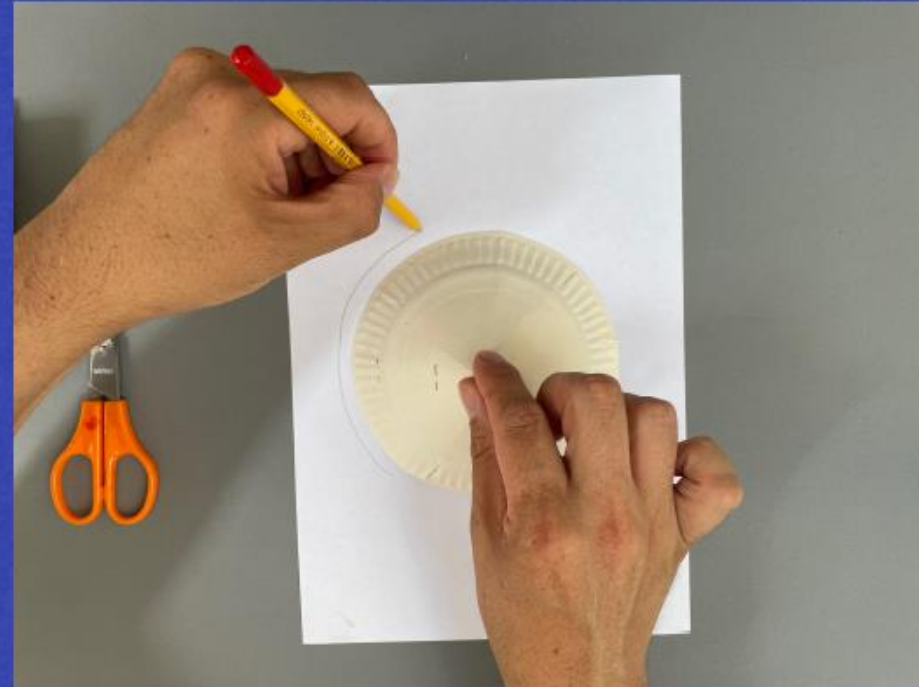
Cut the plate to the center.

Aan de slag!

GLOW 



Fold a cone from the plate and staple the ends together.



Place the cone on the white A4 drawing paper and draw a line around the cone, half a centimeter larger than the diameter of the cone.
Tip: make multiple circles so you can create different planets.
Then choose the best one.

Let's get started!

GLOW 



Start by painting a circle on your paper. Use a wide brush to apply the base layer. Add shadows to one side of the planet with a darker shade of the same color. This will make the planet look round.



Don't use too much water. This will prevent your paper from buckling and result in brighter colors. Add dots, stripes, or small circles with a fine brush.



Start les 2

LED

Today, you will finish your planet and add an LED so your planet will glow and shine. But what is an LED exactly?

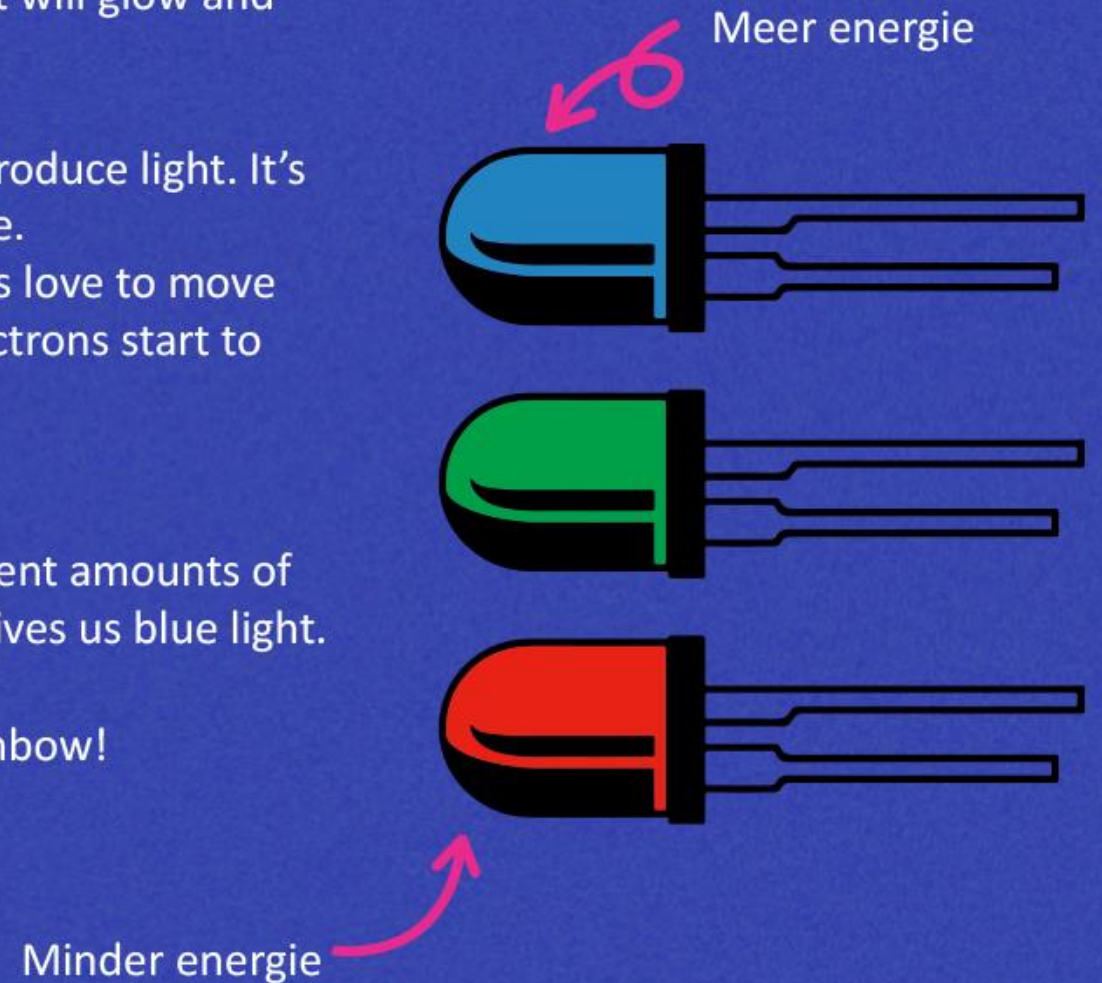
An LED is a special type of light source that uses electricity to produce light. It's like a very small light bulb, but much more efficient and durable.

Inside an LED are tiny particles called electrons. These electrons love to move around, and when we send electricity through the LED, the electrons start to move. As they move, they give off tiny bits of light.

That's what we see as the light from the LED!

LEDs come in different colors because the electrons have different amounts of energy. Some LEDs have electrons with a lot of energy, which gives us blue light. Others have electrons with less energy, which gives red light.

With these three colors, you can create all the colors of the rainbow!



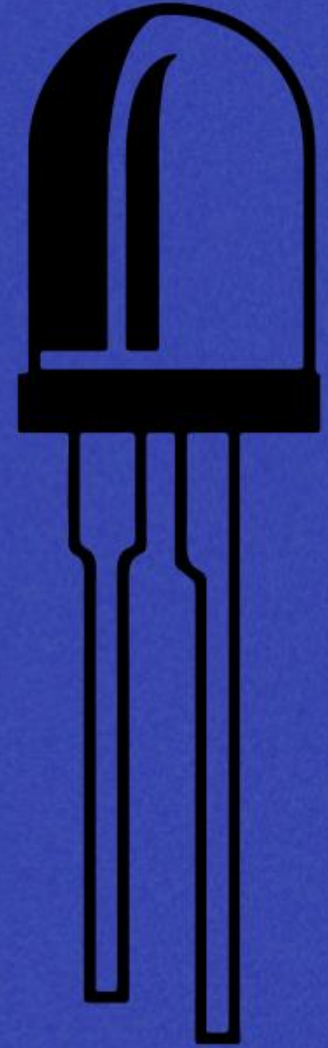
LED

What makes LEDs extra cool is that they require very little electricity to work, so they are very energy-efficient.

They are used everywhere, like in flashlights, televisions, cars, and even phones, to help us see and light things up.

They are an important part of modern lighting and technology because they are more energy-efficient and environmentally friendly than older light sources like incandescent bulbs.

So, in short, an LED works by using electricity to make tiny particles move, and when those particles move, we get light!



Let's get started!

GLOW 



Use pastel chalk to give the planet more shape. The parts with chalk are less light-permeable, which creates a nice effect when the planet lights up.



Add darker colors with chalk to create shadows. Gently smudge the chalk to make a smooth transition.

Use a thin pastel chalk or pencil to draw lines or craters to add details to the planet.

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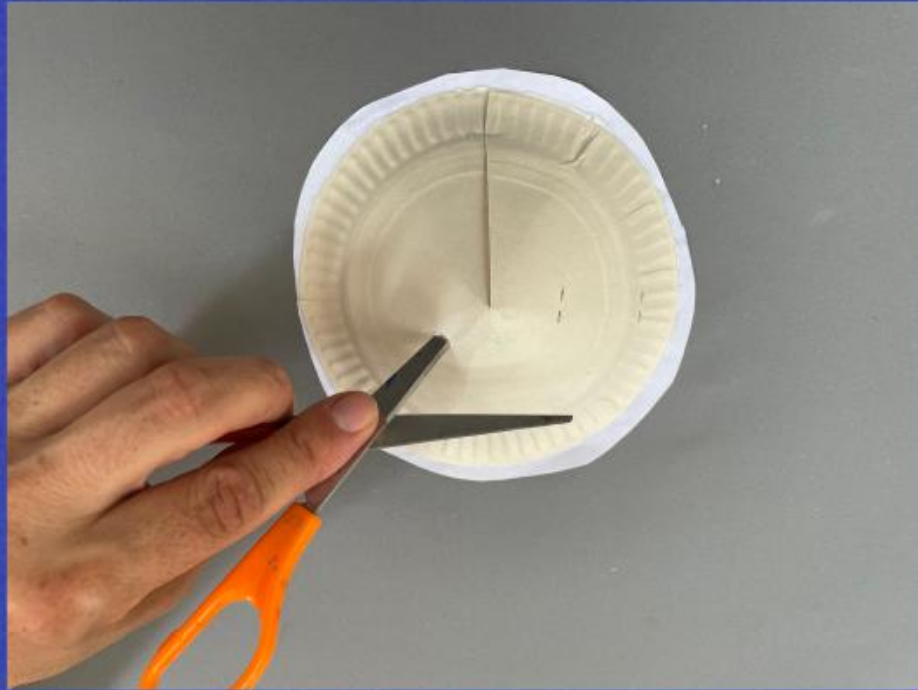
Press the two parts together to make sure they are securely attached.



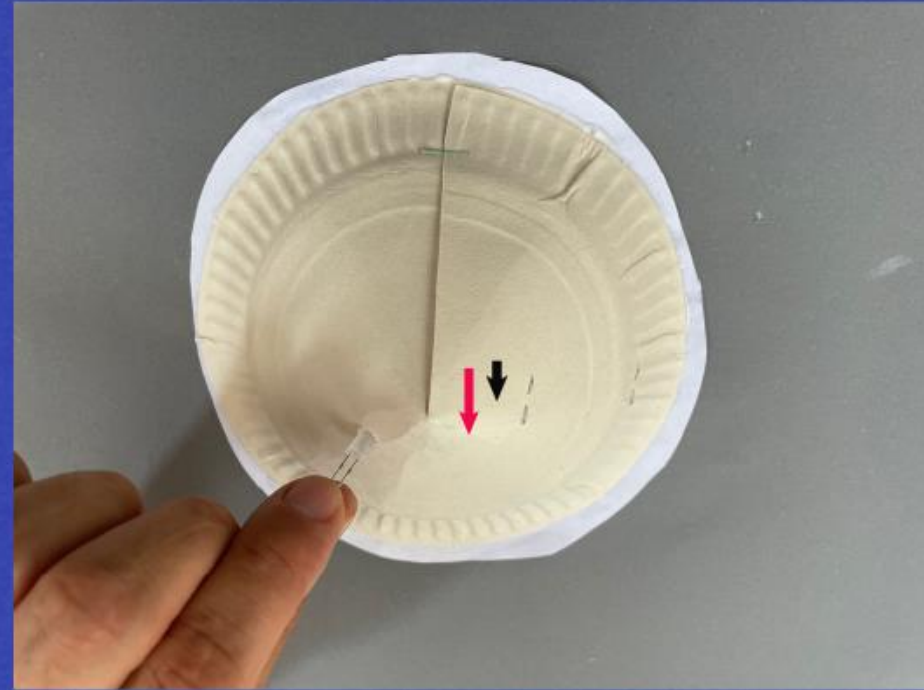
Attach the planet to the cone. If the planet is not completely round, you can carefully reshape it.

Let's get started!

GLOW 



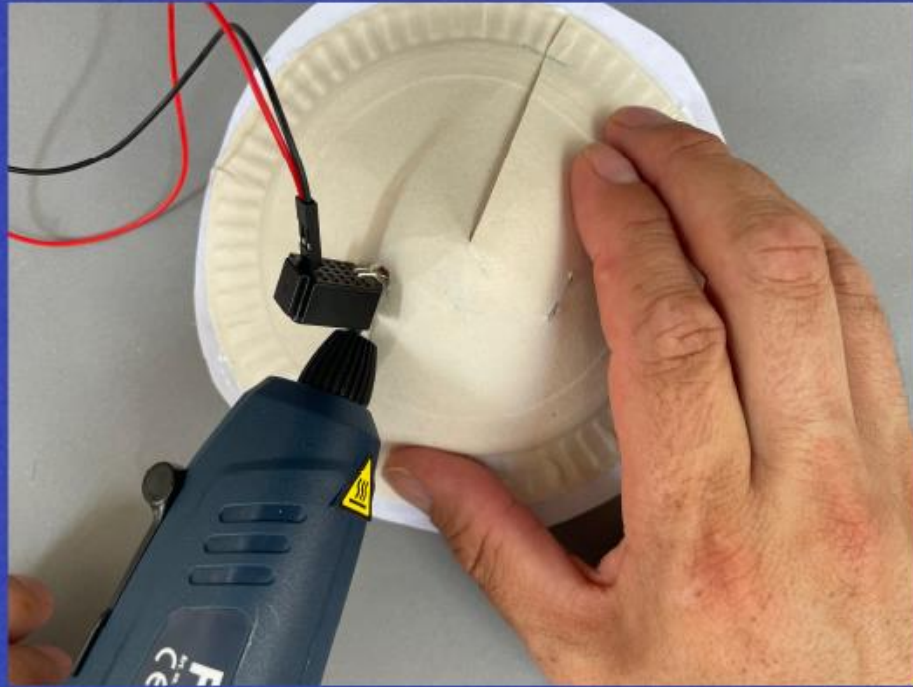
Poke a hole in the cone with the tip of a pair of scissors for your LED, about 15 cm below the tip.



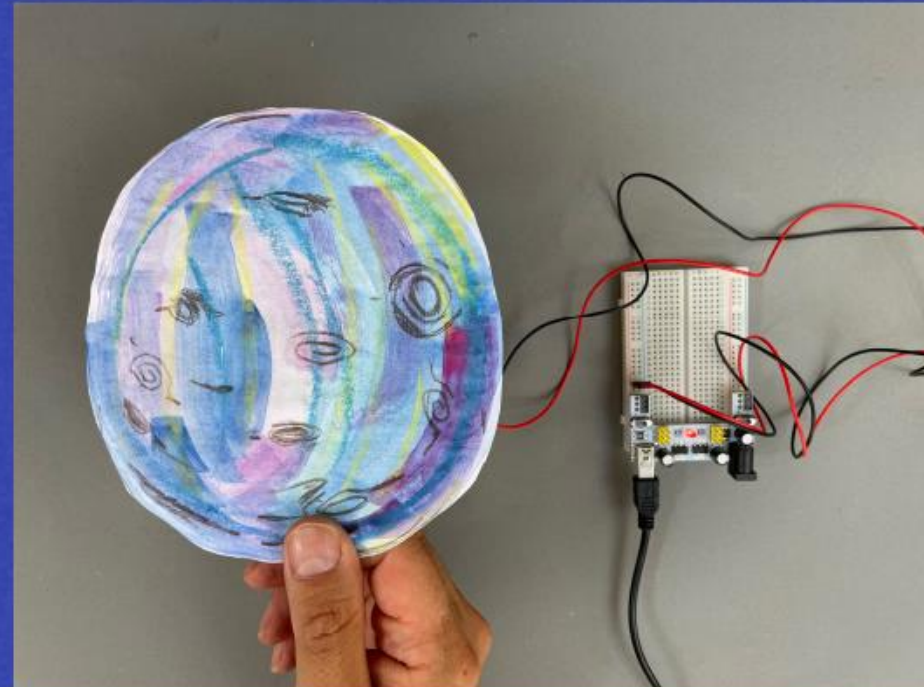
Test: The hole should be just large enough to insert the LED light through it.

Let's get started!

GLOW 



Attach the breadboard with a drop of hot glue.



Test if the planet works by inserting it into the larger breadboard. The red cable must align with the red stripe.

GLOW 

- *How did the process go?*
- *What makes your planet unique?*
- *What name will you give your planet?*
- *Is there life on your planet? If so, what does it look like?*