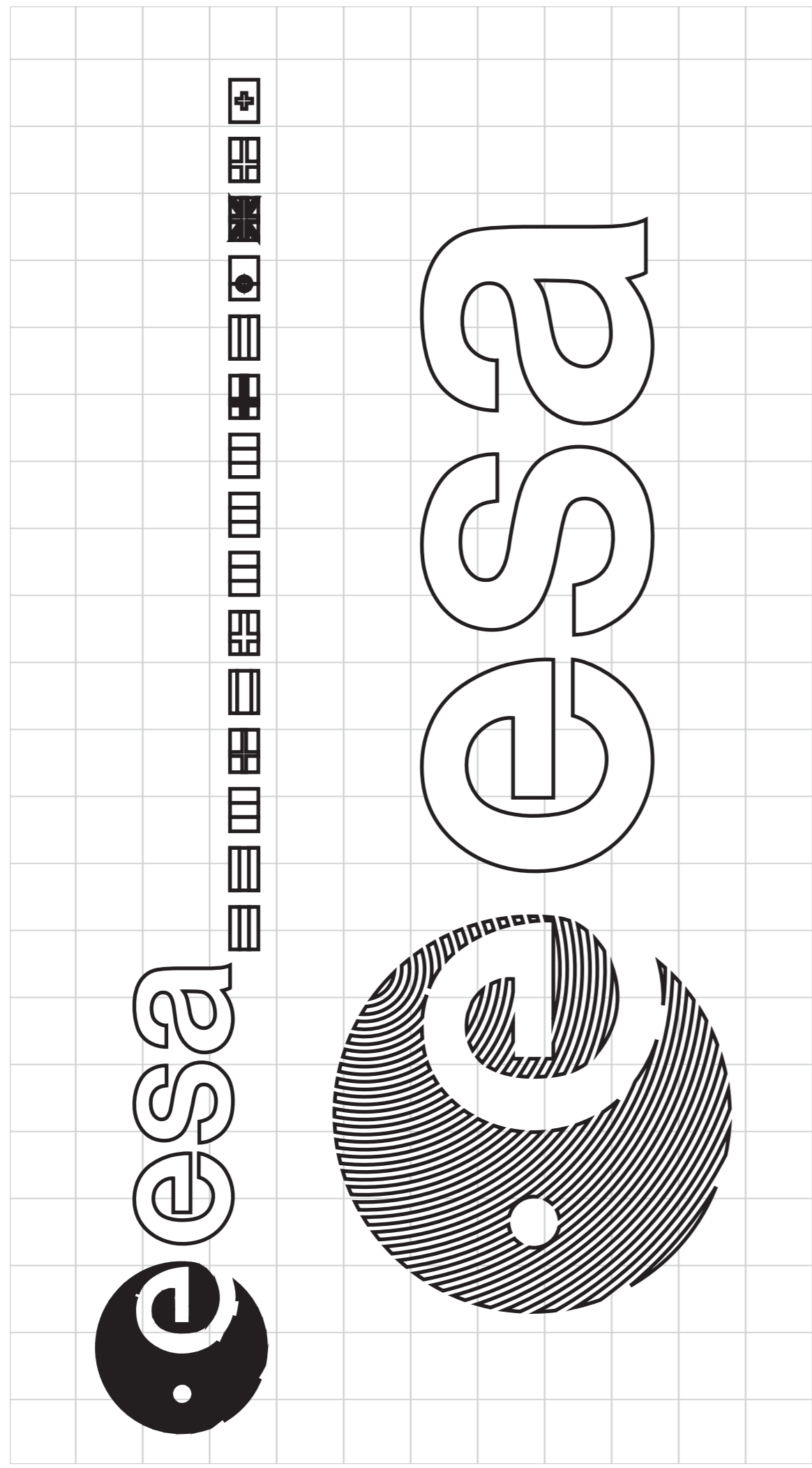


Colour the ESA logo!

<http://sci.esa.int/education>

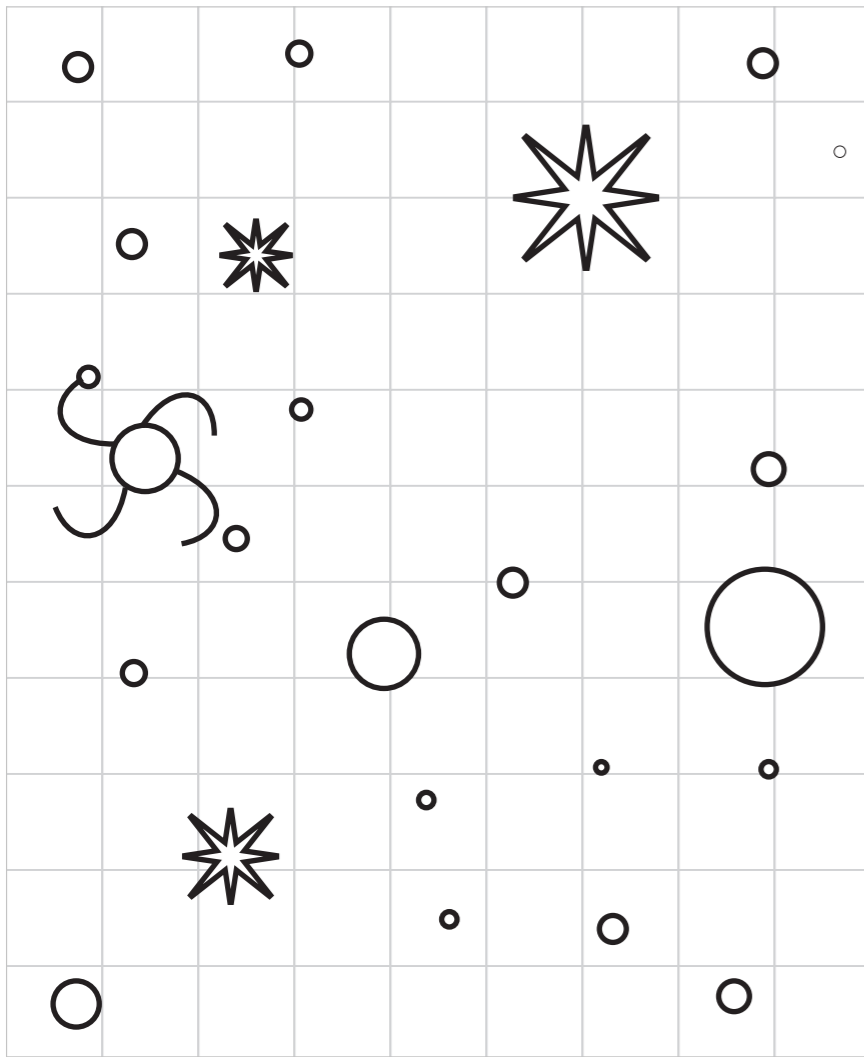


STAR LIGHT



COLOUR BOOK



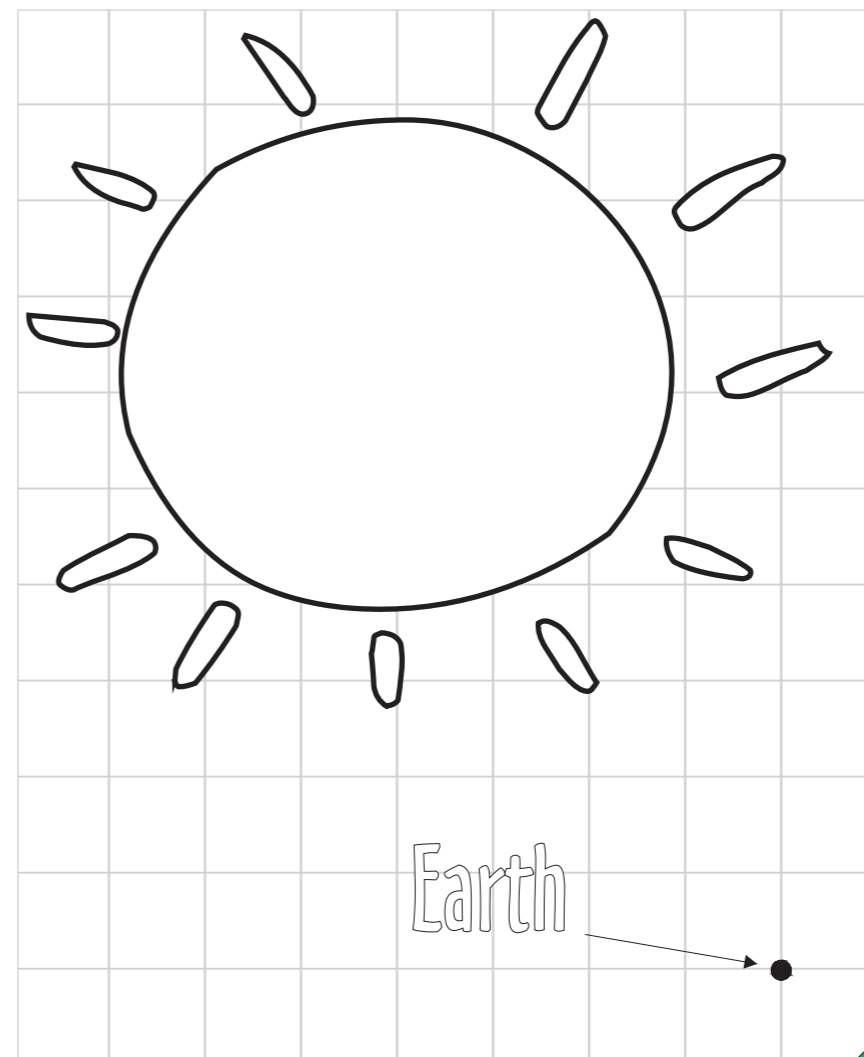


What is the Sun?

Walk outside on a clear day and say "Hello!" to the Sun! (But don't ever look directly at the Sun: you may damage your eyes!)

Have you ever wondered what the Sun is?

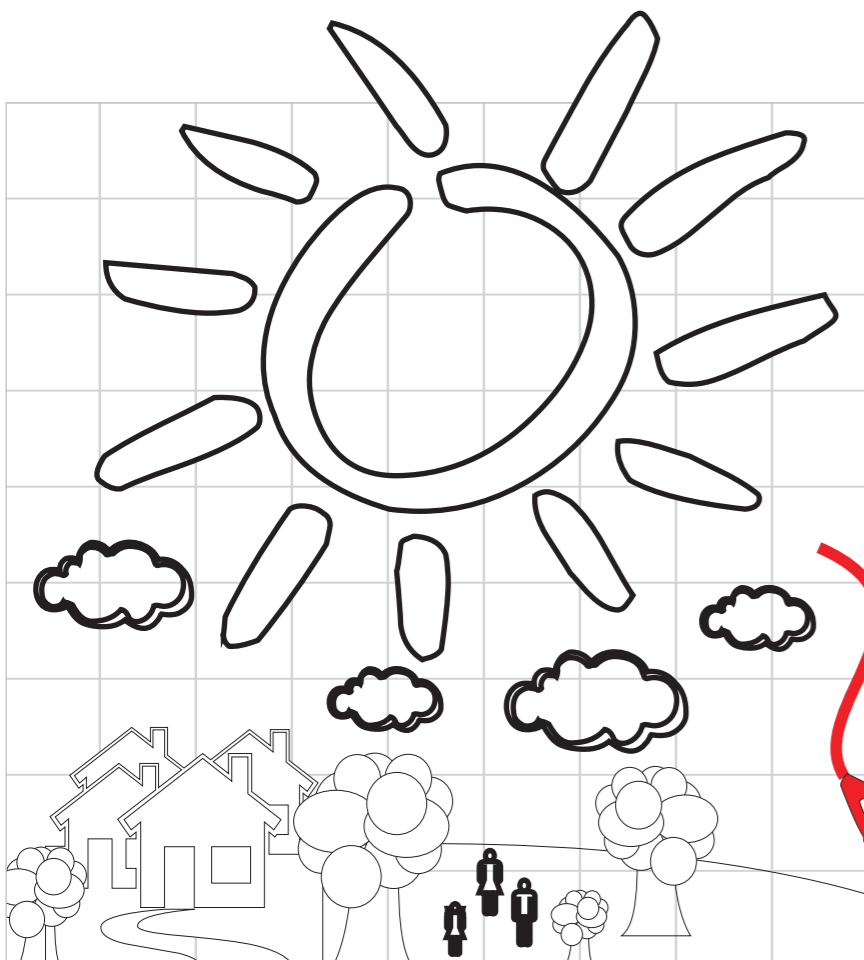
It is a star, just like all the other thousands of stars you see at night.



How big is the Sun?

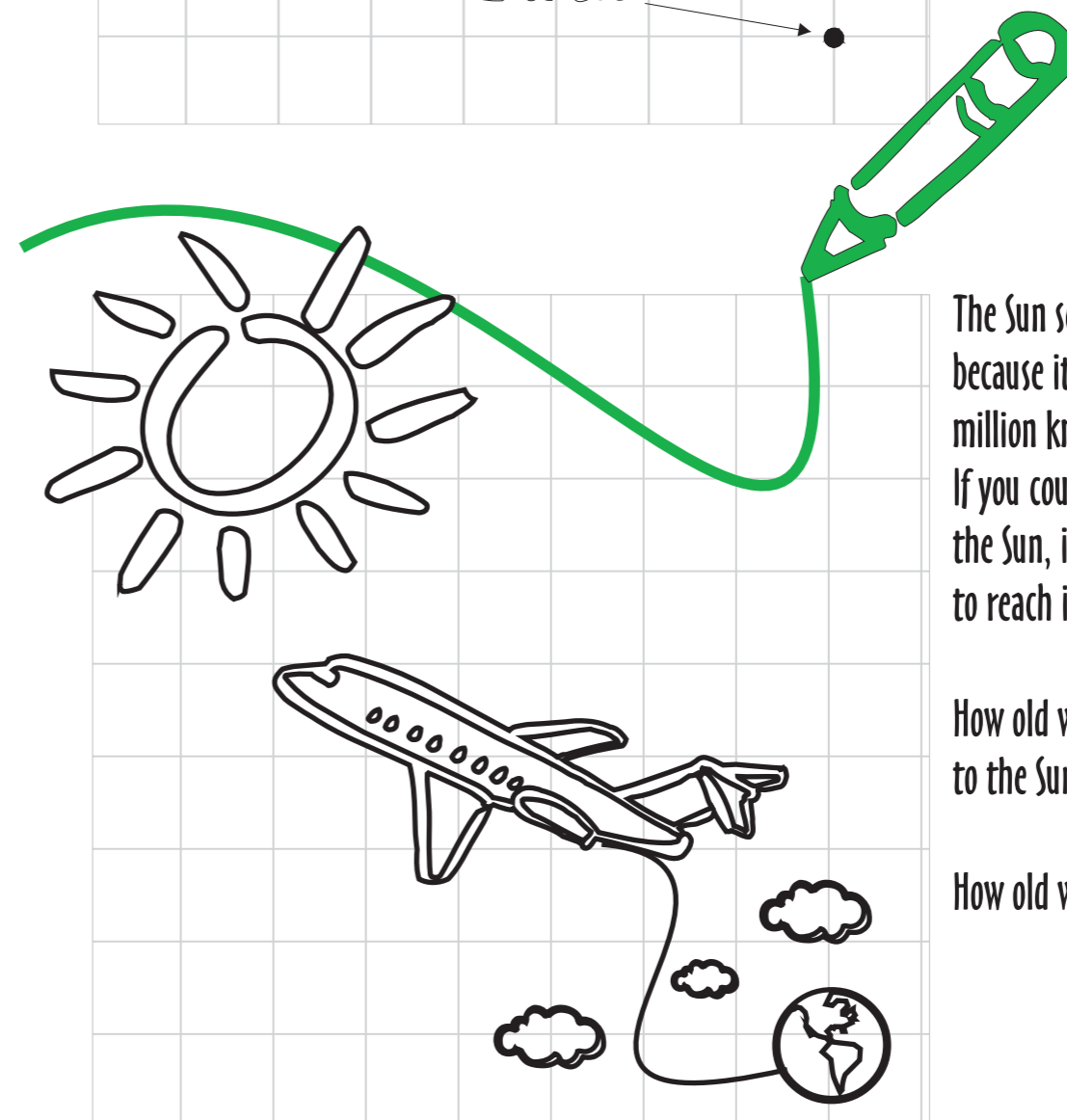
The Sun is very big! Imagine this large circle is the Sun. Then the little dot would be the size of the Earth, our own planet.

The Sun would fit more than 1 million Earths inside it.



The Sun is very important because it gives us the heat and light we and all plants and animals need to live.

Without the Sun, the Earth would be a frozen ball of ice.

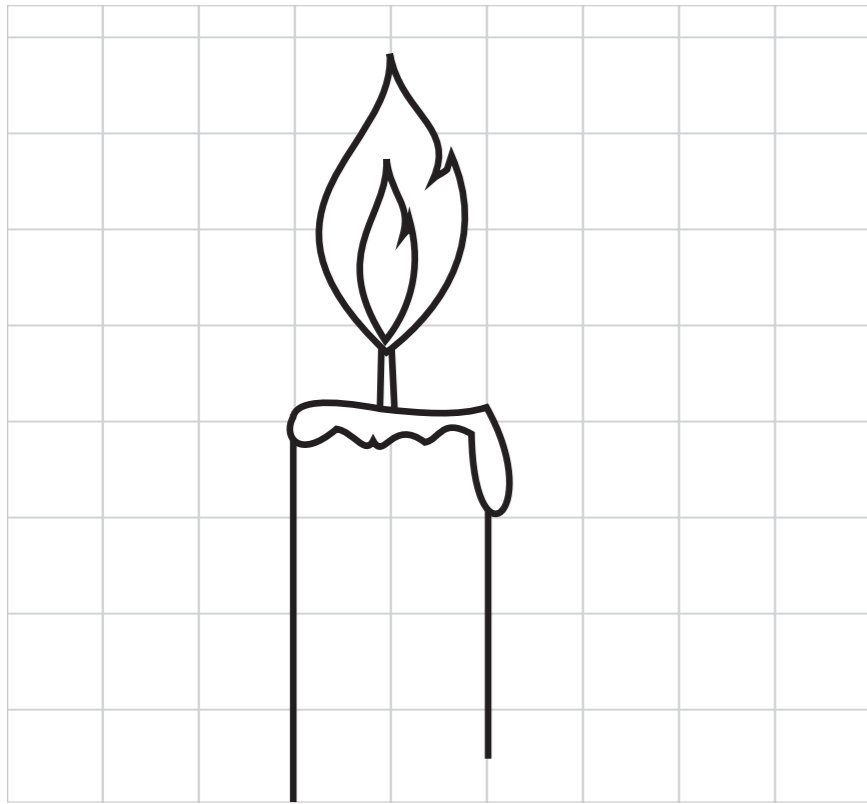


The Sun seems small when we look at it because it is very far away. The Sun is 150 million km from Earth!!

If you could somehow fly an airplane to the Sun, it would take you 26 years to reach it.

How old would you be when you got to the Sun?

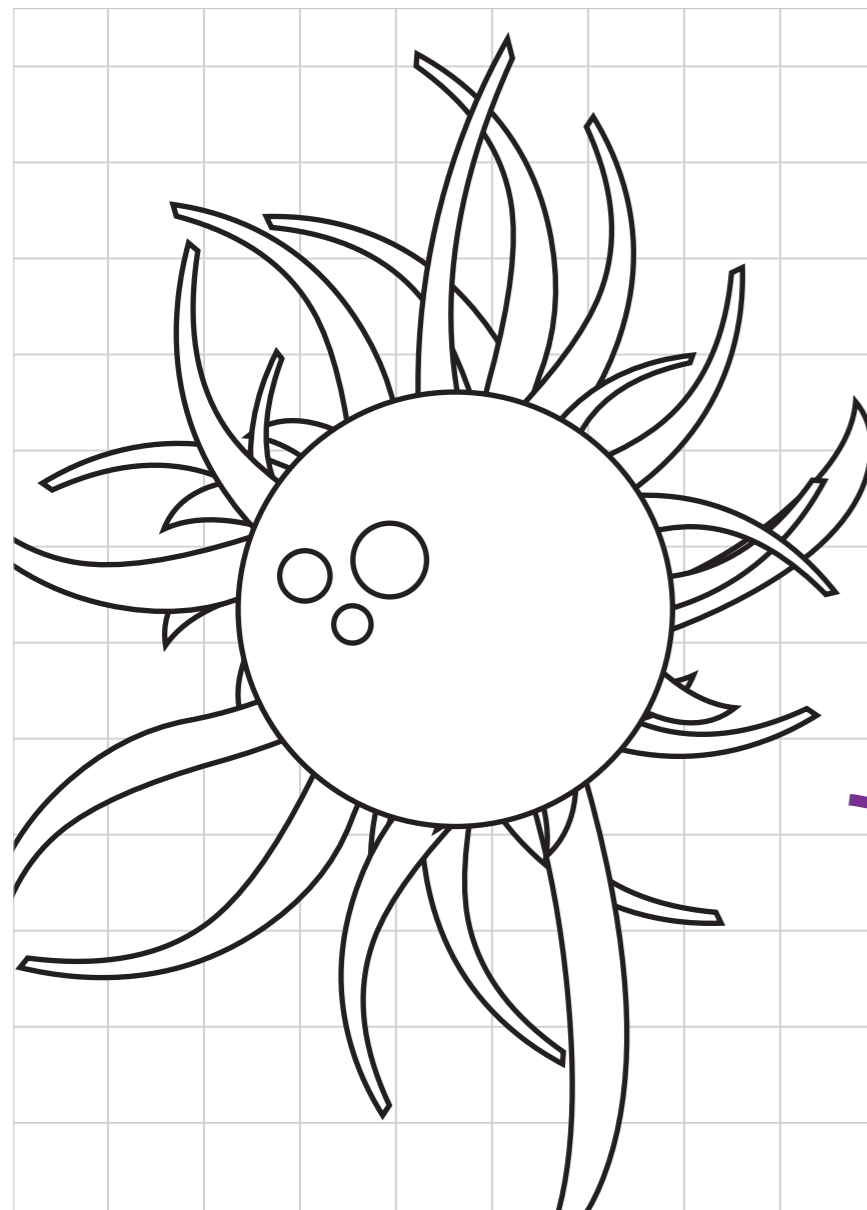
How old would you be when you got back?



How does the Sun work?

The Sun is a very big ball of very hot gases. The flame of a candle is also made of hot gases. A candle gives off light and heat just like the Sun.

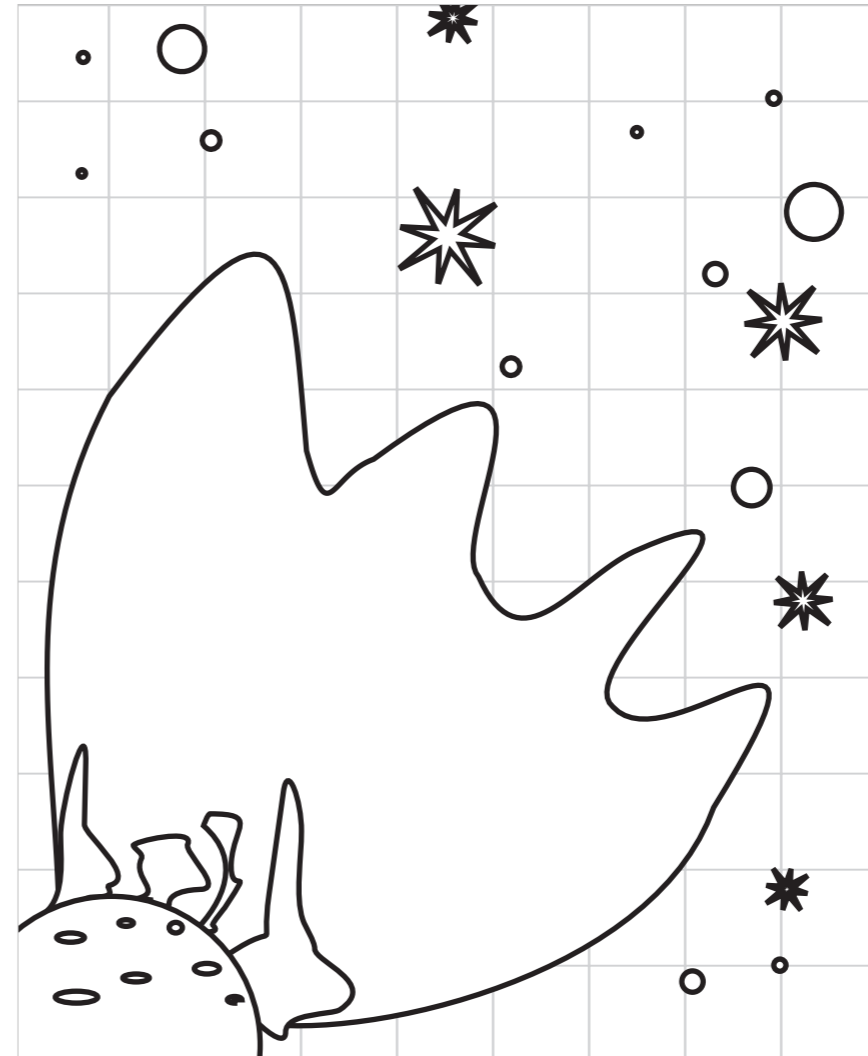
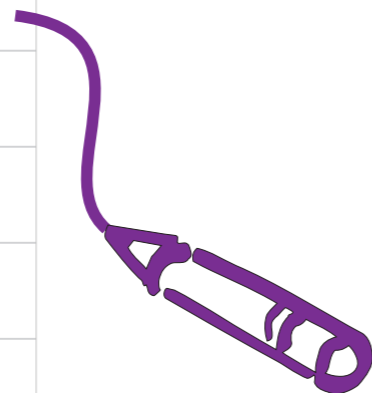
If you look closely at the candle, you can see brighter and darker spots in the flame. The hot gases on the Sun also show darker and lighter spots and the gases move and flow.



The Sun is very hot!

The Sun's surface is 6000 degrees (C) hot. Many, many times hotter than boiling water! And the inside of the Sun is even hotter! 15 million degrees (C)!!

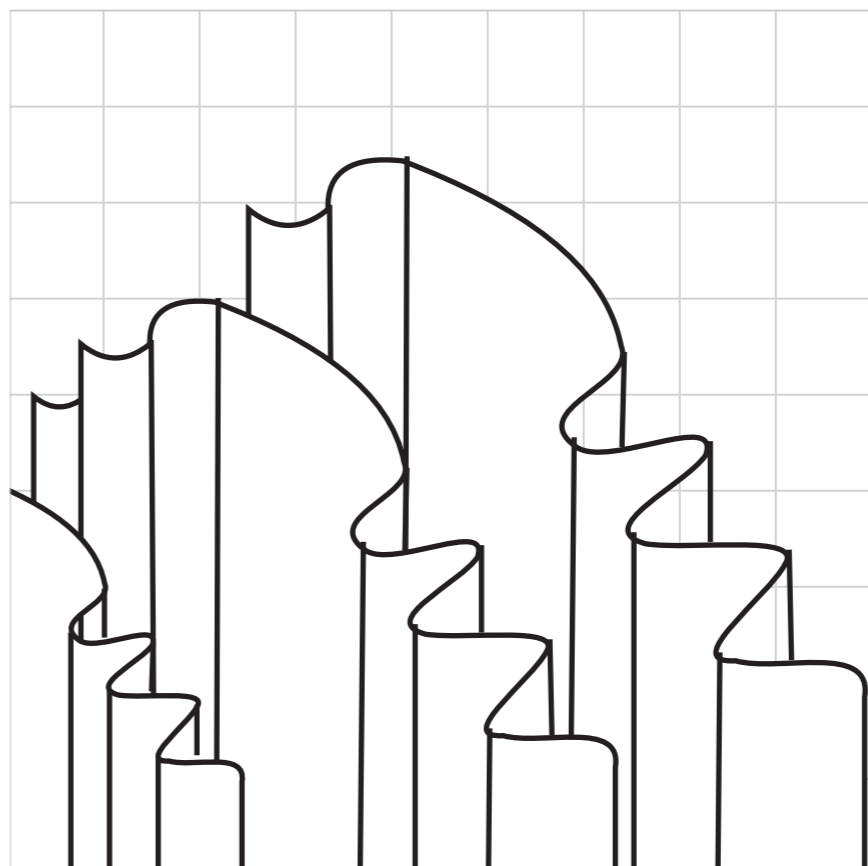
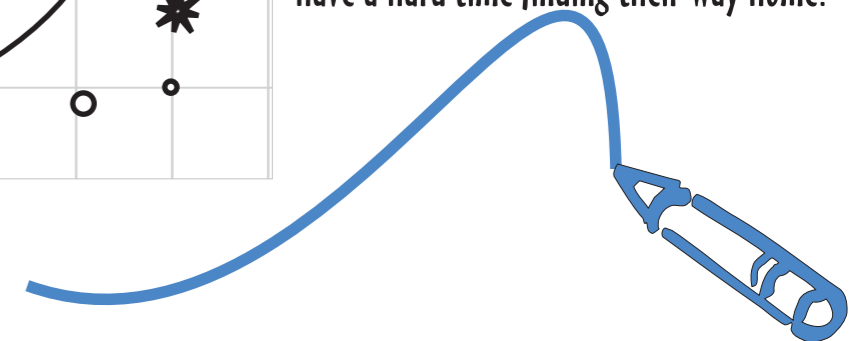
On the surface of the Sun there are sometimes darker regions called sunspots. The sunspots look small but most are in fact bigger than the Earth!



On the Sun there are also huge explosions called solar flares, which appear as very bright areas. The energy released during a flare can be equal to 10 million volcanic eruptions.

Sometimes huge bubbles of gases erupt from the Sun and blast material into space. If this cloud of gas hits the Earth it can disrupt electricity, TV and radio signals and make navigation difficult.

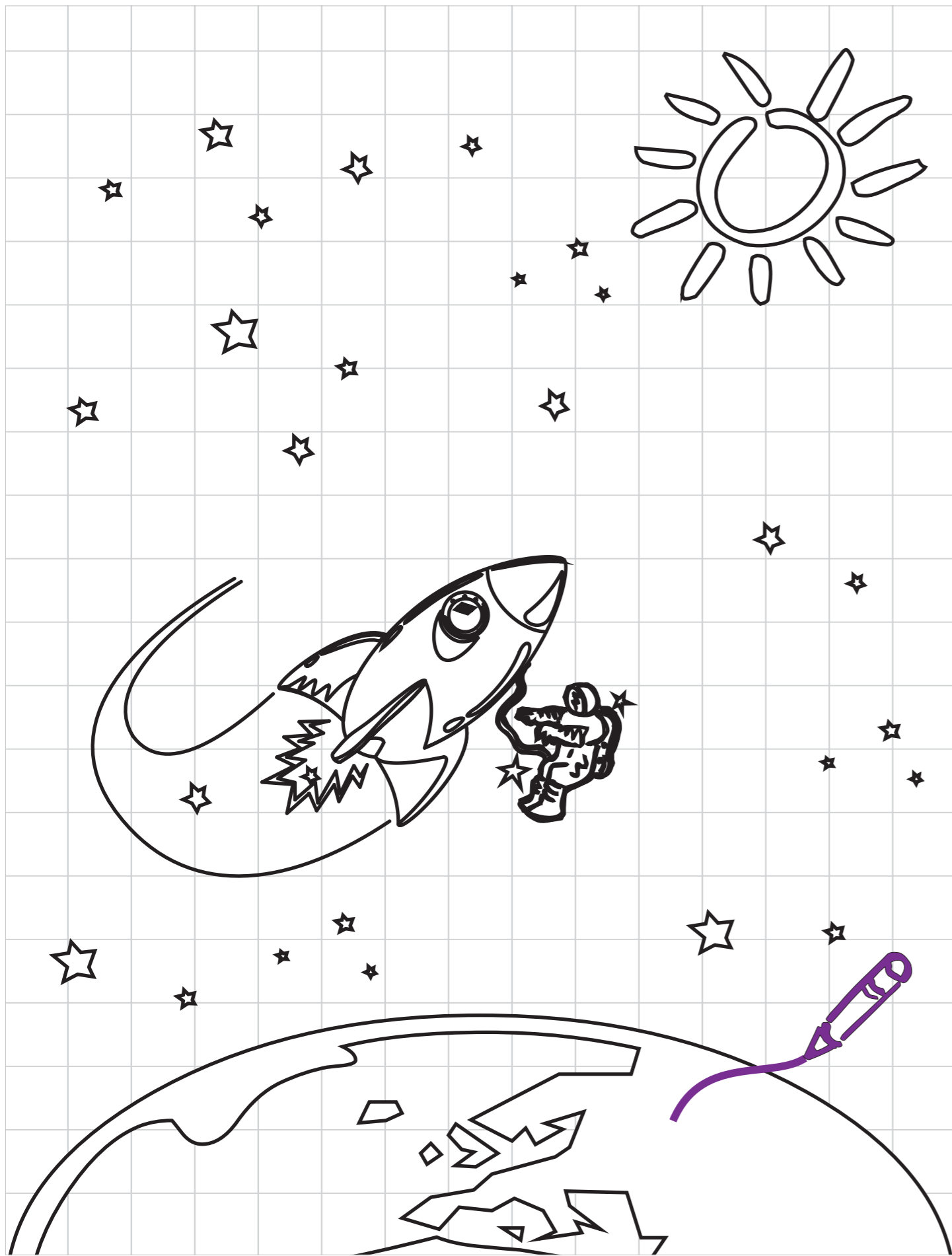
Did you know that homing pigeons get confused during these disturbances and have a hard time finding their way home?



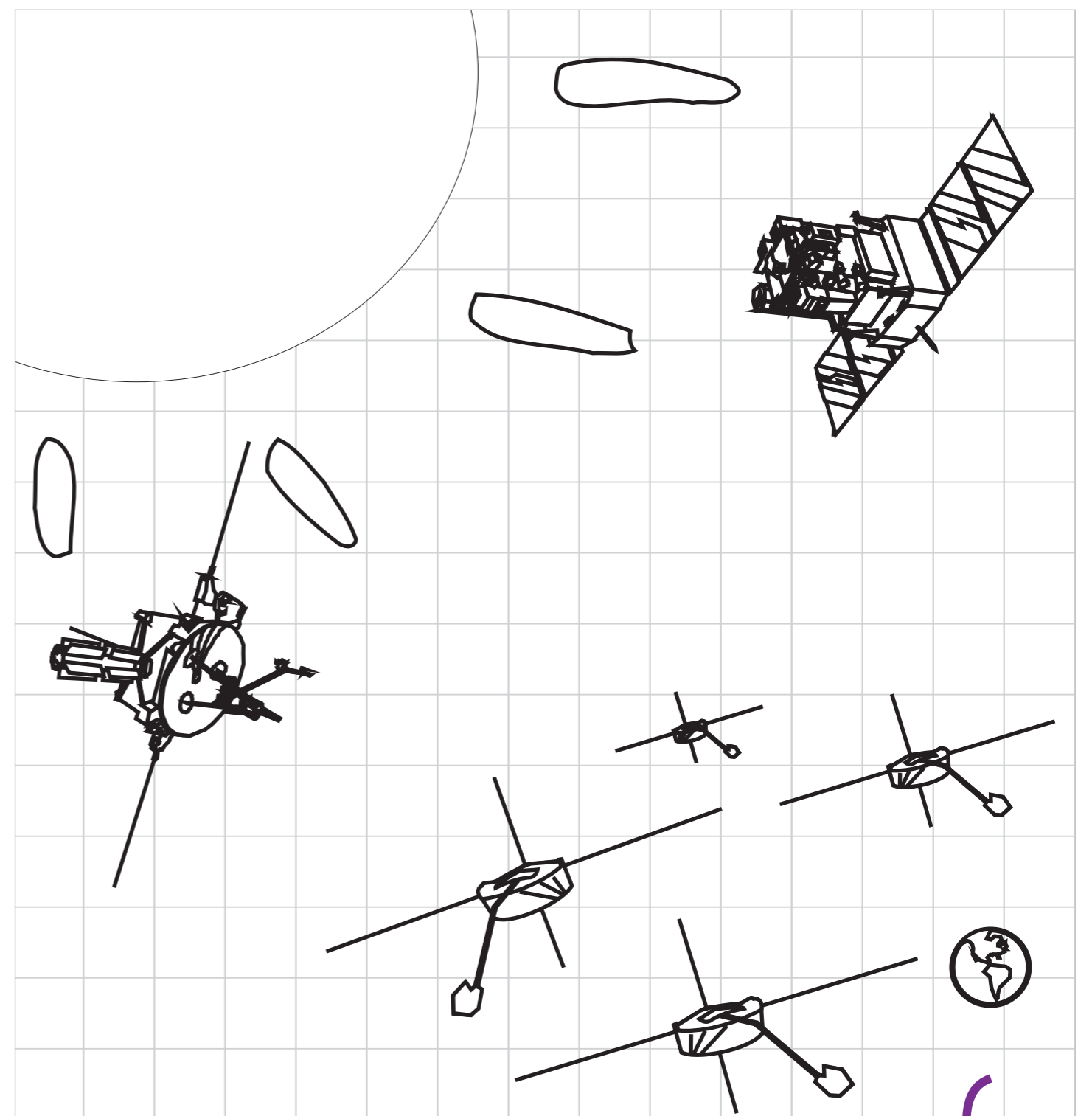
The Solar Wind

The steady stream of tiny particles blowing away from the Sun is called the "solar wind". It takes about two to five days for this wind to reach the Earth. Sometimes gusts in this wind causes beautiful lights in the sky called aurora. These lights look like moving sheets of colours high in the sky at night. Have you ever wondered why a comet's tail always points away from the Sun?

The tail is in fact gas that is blown away from the comet by the solar wind!



Sometimes the Sun sends out particles with very high speed. These can go through metal and can be very dangerous for the astronauts orbiting around the Earth.



The Sun, our very own star is so important!
It lights the daytime sky and gives us warmth just as the night stars give us their special beauty.

The European Space Agency's SOHO, Ulysses and Cluster spacecraft help us to know more about the Sun and to learn more about the "weather" in the space around the Earth. Just like the weatherman on TV tells you what the weather will be like tomorrow, scientists use satellites to monitor the Sun and predict how the "weather in space" will be.