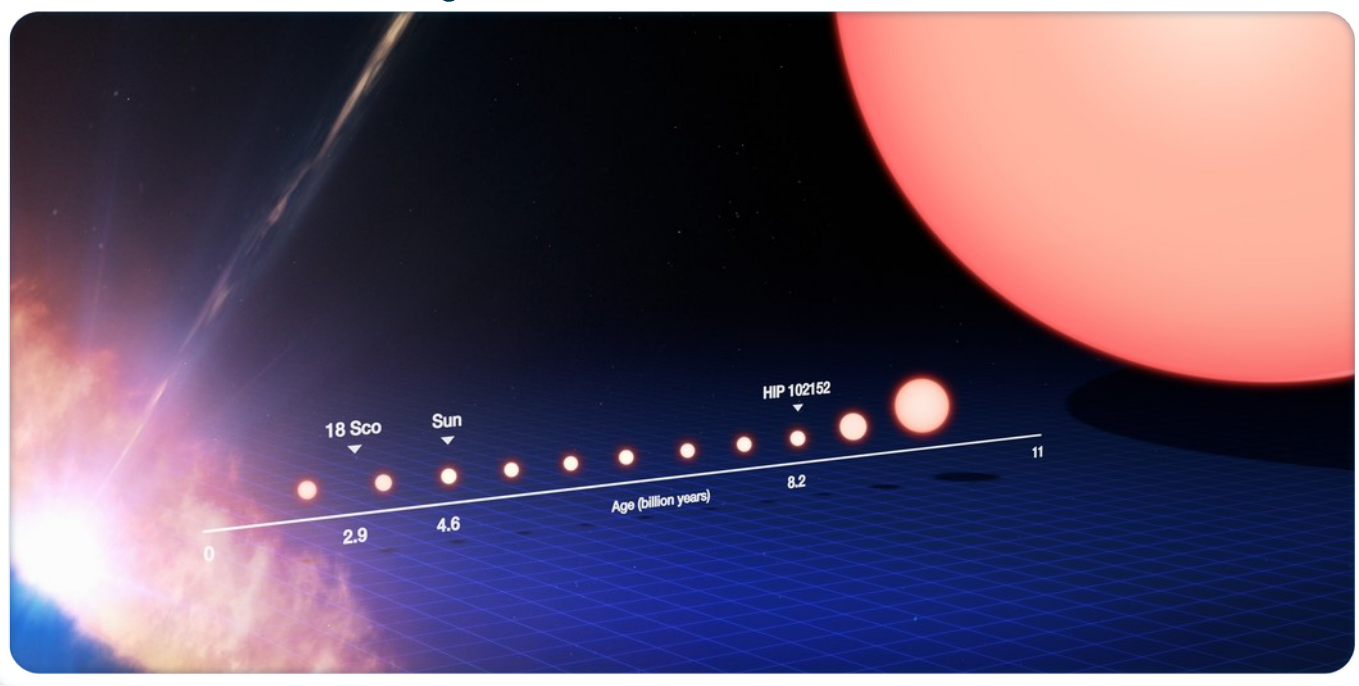




The Future's Bright



The Sun looks so calm and peaceful in the sky but its light is immensely powerful. It sustains all life on Earth and it can be very harmful to stay out in it for too long. To study the Sun, astronomers have built special telescopes to safely view it. But we've only had these for a few hundred years. This means we've only been studying the Sun for a tiny part of its life.

Without a time machine it's really hard to study what our star was like in the past, or what it will be like in the future. To get around this, astronomers look for stars that are as similar to the Sun as possible, but at different points in their lives. We call these stars "solar twins". This picture shows a selection of them; ranging from the youngest on the left to the oldest on the right. Studying these rare "solar twins" allows astronomers to see what our star used to be like, and what it will be like in the future.

Not very far from Earth (compared to the huge vastness of space) astronomers have just discovered the oldest solar twin ever! The star is almost double the age of the Sun: at 8.2 billion years old it is 2/3rds the age of the Universe. The star is called HIP 102152 and you can see it labelled to the right of this picture. This solar twin gives us a great opportunity to see what the Sun will be like when it gets old!

So, what will the Sun be like in 4 billion years? Well, it will be much brighter for a start. By this time the Sun will be so hot that Earth's oceans will have boiled away. The ice caps will have melted forever and snow will be ancient history. Like our neighbouring planet, Venus, Earth will become a dry, empty landscape unable to support life of any kind. But you're not planning on living that long anyway, right?

COOL FACT



A final twist in the story is that both the Sun and its new solar twin show an unusually small amount of certain chemicals. These are the chemicals that are common on Earth. This is a clue that this alien star might also be the parent of several rocky planets!

