How long does it take sunlight to reach the Earth?

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But the story of light gets even more interesting, when you think about the journey light needs to make inside the Sun.

You probably know that photons are created by fusion reactions inside the Sun's core. They start off as gamma radiation and then are emitted and absorbed countless times in the Sun's radiative zone, wandering around inside the massive star before they finally reach the surface.

What you probably don't know, is that these photons striking your eyeballs were ACTUALLY created tens of thousands of years ago and it took that long for them to be emitted by the sun.

Once they escaped the surface, it was only a short 8 minutes for those photons to cross the vast distance from the Sun to the Earth.

As you look outward into space, you're actually looking backwards in time.

The light you see from your computer is nanoseconds old. The light reflected from the surface of the Moon takes only a second to reach Earth. The Sun is more than 8 light-minutes away. And so, if the light from the nearest star (Alpha Centauri) takes more than 4 years to reach us, we're seeing that star 4 years in the past.

There are galaxies millions of light-years away, which means the light we're seeing left the surface of those stars millions of years ago. For example, the galaxy M109 is located about 83.5 million light-years away.

If aliens lived in those galaxies, and had strong enough telescopes, they would see the Earth as it looked in the past. They might even see dinosaurs walking on the surface.

Source: Universe Today