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# History Is Written in the Stars

*Grandpa?*

What is it, Teresa?

*Is it possible to travel back in time?*

No, I don't think so. Most people say it can never be done. Mind you, we can easily *look* back into the past, if we want to. Looking back is easy, but we can't actually go back there ourselves. We just have to look up at the stars to see into the past.

*What do you mean?*

Well, do you know the name of the nearest star to us, and how far away it is?

*Yes, it's the sun. And right now, it's not far away at all, Grandpa. It's just over there behind that cloud!*

Good one, Teresa. You have a fine sense of humor, and you're quite right, too! Our sun really *is* the closest star. It's about 93 million miles (150 million kilometers) away from Earth. That's a long way for us if we want to go there, but it is really close compared to any of the other stars we can see. So, after the sun, what is the closest star to Earth, Teresa?

*The sun is the only star I know about.*



Well, the closest star to Earth, after the sun, is called **Proxima Centauri**. Before I tell you how far away it is, I want to ask you something else. Has anyone ever told you about the speed of light?

# The Fastest Thing in the Universe

Don't worry if you are unsure about the speed of light. Let's see if you can figure out the speed for yourself. It's easy. Have you been taught in school how to calculate speed?

*Yes. Our teacher said that we just divide the distance we've gone by the time that it took us. Is that right?*

Yes. That's exactly right. Scientists know that light takes 8.3 minutes to reach us from the sun. Using your calculator, we can figure out exactly how fast light can go.

*Okay. I'll have to divide 93 million miles by 8.3 minutes, right?*

Yes. That will give you the speed in miles per minute.

*Okay, let's see. I type in 93 million and divide by 8.3. That equals ... Wow!*

What is it?

*It says 11,204,819! Okay, let's round that number down to make things easier. That means the light is traveling at 11 million miles every minute (18 million kilometers per minute)! Oops. I think I must have made a mistake there, Grandpa. That can't be right, can it?*





The calculator is right, Teresa. It's good that you're questioning your answer, too. I like that. Now, there's only one thing left to do. The speed of light is usually given in distance per second, not distance per minute. How can you change your answer to reflect the speed of light in distance per second?