

## What is a Light-year?

On Earth, we measure distance in inches or centimeters, yards or meters, miles or kilometers. But space is vast and distances between stars or galaxies are humongous. Scientists need something bigger to measure such distances.

Astronomers measure distances in light-years. Although "light-year" sounds like it measures time, it doesn't. **A light-year is the distance light travels in one year.**

What is the nearest star to Earth? Our sun is the nearest star. It is about 150,000,000 km away. The next closest star to Earth is Proxima Centauri. Proxima Centauri is 40 trillion (40,000,000,000,000) kilometers from Earth. Such a large number is difficult to understand and use in calculations. For this reason, astronomers use a different unit of measurement when they talk about distances between stars.

In one year, light travels 9.5 trillion km. If there were a star 9.5 trillion km from Earth, it would take one year for its light to reach us. By the time the star's light reached us, the light would be a year old. Looking at stars is a little like looking back in time. So how far away is Proxima Centauri in light-years? To find the answer, divide the distance from Earth to Proxima Centauri (40 trillion km) by the distance in one light year (9.5 trillion km) The answer is 4.2 light-years.

Name: \_\_\_\_\_

<p>1. Why do scientists measure distance in light-years?  <input type="radio"/> A A light-year is shorter than other measurements.  <input type="radio"/> B They need a bigger unit to measure large distances.  <input type="radio"/> C Since they're measuring distances between stars, they need to measure light.  <input type="radio"/> D They like to confuse people.</p>	<p>2. How did the light-year get its name?  <input type="radio"/> A It was named for the time it takes light to travel in one year.  <input type="radio"/> B It was named for the distance that light travels in one year.  <input type="radio"/> C It was named for a scientist named Light.  <input type="radio"/> D It was named because someone thought it was pretty.</p>
<p>3. What is the closest star to Earth?            _____            _____</p>	<p>4. How long does it take light to travel to Earth from Proxima Centauri?  <input type="radio"/> A 40 years  <input type="radio"/> B 150 years  <input type="radio"/> C 4.2 years  <input type="radio"/> D 9.5 trillion years</p>
<p>5. If a star was 19 trillion km from Earth, how long would it take for its light to reach us?  <input type="radio"/> A 200 years  <input type="radio"/> B 5 years  <input type="radio"/> C 20 years  <input type="radio"/> D 2 years</p>	<p>6. A light-year is the distance that light travels in one year.  <input type="radio"/> A False  <input type="radio"/> B True</p>
<p>7. Proxima Centauri is the name of a galaxy.  <input type="radio"/> A False  <input type="radio"/> B True</p>	<p>8. In one year, light travels 9.5 billion km.  <input type="radio"/> A False  <input type="radio"/> B True</p>
<p>9. Andromeda is the closest star to Earth after the sun.  <input type="radio"/> A False  <input type="radio"/> B True</p>	<p>10. According to the reading passage, which of the following is probably true?  <input type="radio"/> A The sun's light takes one light-year to reach Earth.  <input type="radio"/> B Proxima Centauri is closer to Earth than the sun is.  <input type="radio"/> C The light that reaches Earth from distant stars is very old.  <input type="radio"/> D Scientists disagree about using light-years to describe distances in space.</p>