



Activity 1: Answers

How Long Is A Light Year?

Based upon the information provided in the reading *How long is a Light Year* and in the information box below, respond to the following questions.

- 1 light year is the distance that light travels in one Earth year.
- In 1 light year light will travel a distance of 9.46 trillion kilometers.

- 1.) Imagine that there is a planet with intelligent beings on it that's 20 light years away from Earth. These beings have an extremely powerful telescope and can actually make out details of what is happening on Earth. If they aim their telescope at the White House in Washington, DC, whom would they find living there as the president and first lady?

President Jimmy Carter and First Lady Rosalyn Carter

- 2.) Suppose that a child is born on Earth in the year 2000. You are on an imaginary planet that is 94.6 trillion kilometers away from Earth and looking through a very high powered telescope and you witness this child's third birthday party. How old is that child on Earth at the time you are watching the child's third birthday party? (Hint: Calculate the number of light years this planet is from Earth.)

13 years old

- 3.) On another imaginary planet in the year 2000, someone is looking through a high powered telescope aimed at Earth, and is observing America's Bicentennial celebration in Boston, Massachusetts. How many light-years away is the planet from Earth?

24 light-years away

- 4.) Are any of the 9 planets within our solar system a light year or more from Earth? Support your response by giving the distances between the planets.

No