

Answer on Question #47002, Physics, Optics

If the sun is 150 million km away from the earth, how long does it take sunlight to reach the earth: 0.5 s

1500 s

45 s

500 s

Solution

Speed of light is $3 \cdot 10^8 m/s$. Then $150 \cdot 10^{10}$ mete it will pass in

$$\frac{150 \cdot 10^{10}}{3 \cdot 10^8} = 500 s$$

Hence it will take light 500 s to reach earth.