Path of light - lab report example

Science, Physics

Path Of Light

Topic: Path of Light Objective: To determine the path followed light. Light is an electromagnetic radiation of any wavelength. In a vacuum light travels at a speed of 3. 0 x 108 m/s = 300, 000, 000 m/s (Lynch and Livingston 6). There are various sources of light with most of them being thermal. Light behaves like a particle and wave. Light has various properties. One such property which the experiment tries to prove is to determine the path travelled by light.

Using a ruler to draw lines on the opposite ends of the card, at the center of the intersection lines holes are punched in the centre of the index cards. The cards are placed so that they stand vertically at distances equal from each other. A flash light is placed at the end of the row of the index cards and lit, after switching off the lights in the experimental room. The light can be seen passing through all the holes.

Figure 1: Path of light

It can be concluded that light travels in a straight line. In the same way, the holes are in alignment and that since light travels in a straight line; it was observed passing through all the holes. The property of light travelling in a straight line is known as rectilinear propagation. Considering that the sizes of the holes are to be reduces, the light will continue travelling in a straight line but in a more restricted. When the cards were shifted a shadow is formed since the path of light is a straight line and does not bend around the object (Avison 2). Another direct effect of light’s path being a straight line is the casting of shadows by opaque objects.

Light travels in a straight line as long as it is not interacting with anything.

When it changes direction by encountering a different substance, it can be absorbed, reflected, and refracted.

The concept of the path of light being a straight line is applicable in various areas including the manufacture of mirrors both for domestic and industrial use, movie theaters that use projectors where light is restricted, cameras, human vision, and the casting of a shadow by light on opaque objects explains the formation of day and nights, as well as eclipses.

Works Cited

Avison, John. Physics for CXC. Cheltenham: Nelson Thornes, 2009. Print.

Lynch, D., and Livingston, C. Color and Light in Nature, Cambridge, UK: Cambridge University Press, 2009. Print.