

4.2: Looking at a rainbow, what do you see?

The rainbow – with all of its myths and legends – is an indicator of the data astronomers examine.



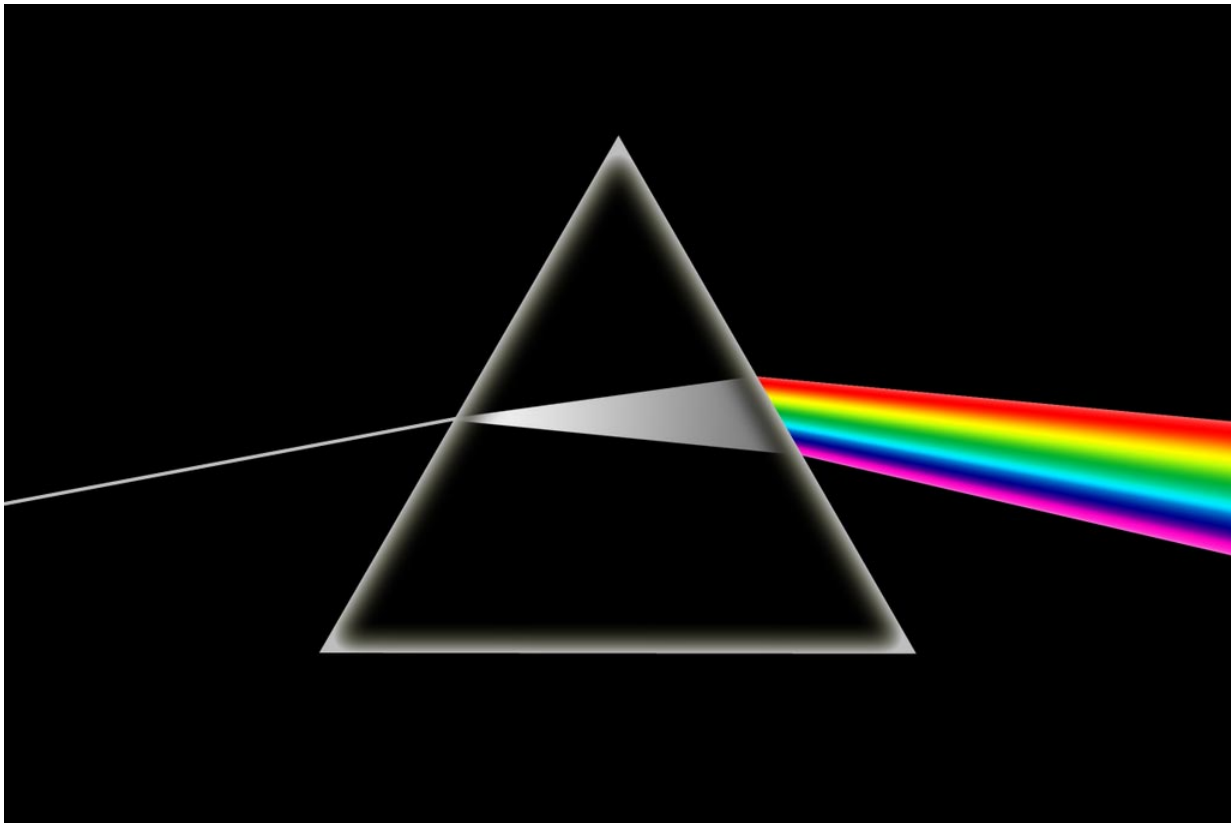
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Light

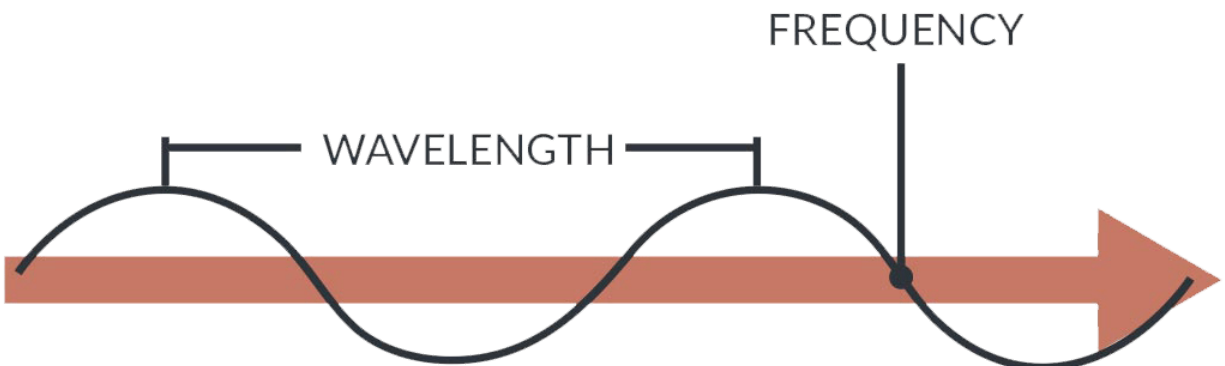
Light is **Radiative energy**, which can be split into a **spectrum**. A spectrum is the light's component colors or wavelengths. Light can be split into its component colors or wavelengths by using a prism or diffraction grating.

Light comes in particle bundles, called photons. These photons travel at **186,000 mi/s** or **300,000 km/s** (**3×10^8 m/s**). The Speed of Light, c , is an absolute; you cannot go faster than c . (the speed of light).

Light also moves in **waves**. Particles moving in waves are referred to as an **Electromagnetic wave**; a wave in which both electric and magnetic waves “interact” or vibrate. The **Wavelength** is the distance between adjacent peaks on the wave, and the wave's **Frequency** is the number of peaks that pass a specific point in a second.



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All light travels with speed $c = 300,000 \text{ km/s}$

Image courtesy of Florida State College at Jacksonville.

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