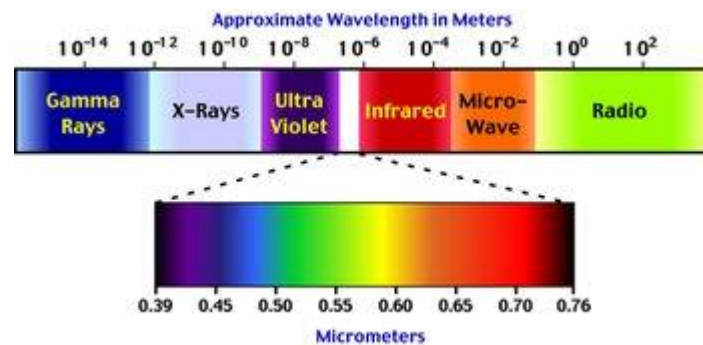


The relationship between wavelength, visibility and temperature

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The electromagnetic wavelength is a term that describes the range at which a charged particle is vibrating within the electromagnetic spectrum. The spectrum consists of seven regions. Starting from the longer wavelength to the shortest: radio wave, micro wave, infrared, visible light, ultra violet, X-ray, and gamma ray.¹



Source: PhysicalGeography.net

Visible light has a wavelength from 380 to 760 nanometers (nm). Visible light is but a small fraction of the vast electromagnetic spectrum, which is the only range of frequencies observable by the human eye. But just because the other regions cannot be seen does not mean that they cannot be sensed.¹ The visible light region is an unfathomably small. In the words of Michael Stevens, the host and creator of YouTube's Vsauce Channel says: "If the entire practical spectrum of wavelengths was laid out linearly from New York to Los Angeles, the visual portion we see would only be the size of 100 nanometers. Small enough to slip through a surgical mask."²

The wavelength size emitted by an object depends on its temperature. Hot objects emit a bigger percentage of short wavelengths. Cold objects on the other hand, emit a bigger percentage of long wavelengths.³

¹ "The Nature of Light: Origin, Spectrum & Color Frequency" <http://study.com/academy/lesson/the-nature-of-light-origin-spectrum-color-frequency.html>

² Michael Stevens, Vsauce Channel. "What Does Earth Look Like?" <https://www.youtube.com/watch?v=2IR7s1Y6Zig>

³ "How are wavelength and temperature related?" http://hubblesite.org/reference_desk/faq/answer.php.id=74&cat=light