

## Light Pillars



Light pillars are an optical phenomenon in which a vertical beam of light appears to extend above and/or below a light source. Light pillars typically occur in arctic regions due to the temperatures required for such an event. When the atmosphere becomes extremely cold, flat ice crystals form in the air close to the ground. These crystals reflect natural and artificial light, taking on the color of the light source. The phenomenon is known as a sun pillar if the light comes from the sun (usually when it is near the horizon). The light source could also be the moon but is most common from terrestrial sources of light such as streetlights. This phenomenon could be used to investigate properties of light and how the behavior of light waves change as they pass through different mediums.

### Additional Resources:

EarthSky [What is a sun or light pillar?](#)

### Performance Standards

1 <sup>st</sup> Grade	4 <sup>th</sup> Grade	Middle School	High School
1-PS-1.3. Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.	4-PS-2.2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.	MS-PS-4.2. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.	HS-PSP-3.1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.



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