What is the difference between \textit{refraction} and \textit{reflection}?

\textbf{Refraction} - light passes through an object and the light bends.

\textbf{Reflection} - light bounces off of an object.
**Diffraction** - The bending of light around a barrier or through an opening.

**Diffraction of Particles and Waves**

- Light Source
- Waves Bend into Shadow
- Barrier
- Particles Producers Straight Shadows
- Particles
- Waves

**Diffraction Reflection Refraction**
Push Here for a Light Video

Light is an example of an **electromagnetic wave**. The electromagnetic spectrum is arranged from **long** to **short** wavelength or from **low** to **high** frequency.

Microwave has a **lower** frequency than ultraviolet in the electromagnetic spectrum.

X-ray has a **shorter** wavelength than infrared in the electromagnetic spectrum.

*Reflection* makes you see yourself in the mirror.

In the spectrum of visible light, **Red** has the longest wavelength.

A pencil placed in a glass with water seems to appear bended due to **refraction**.

A concave lens is **thinner** in the middle than at the edges.

Convex lenses form images that appear **larger**.

*Diffraction* is the bending of waves around barriers or through openings.
What is the entire range of electromagnetic waves called?

The emission of energy in the form of electromagnetic waves is called __________.

Wavelengths

<table>
<thead>
<tr>
<th>Radio Waves</th>
<th>Infrared Waves</th>
</tr>
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<tbody>
<tr>
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<td>Microwaves</td>
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<td>Gamma Rays</td>
</tr>
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Along the electromagnetic spectrum, do wavelengths go from: high to low or low to high?
Frequencies

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Therefore, along the electromagnetic spectrum, frequencies go from: high to low or low to high?

Put these colors in order!!

Violet  Green  Indigo
Orange  Red
Yellow  Blue
the bending of a wave as it passes at an angle from one medium to another.

- occurs when light or any other wave bounces off an object.

- the bending of waves around barriers or through openings.

- diffraction
- refraction
- reflection
- shadow edges
- mirror
- prism

Concave or Convex??

- thicker in the middle, than at edges
- thicker at edges, than in the middle
- objects appear smaller
- objects appear larger