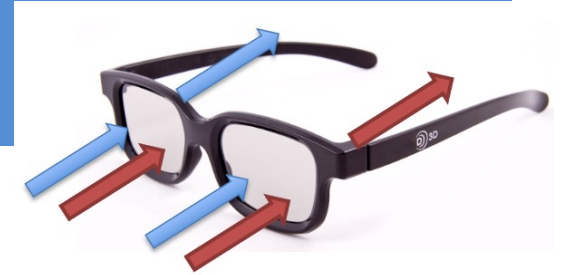
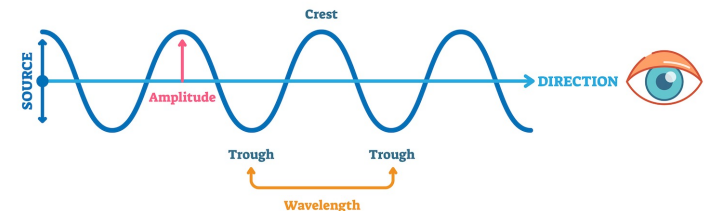
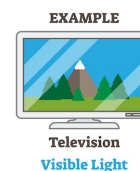
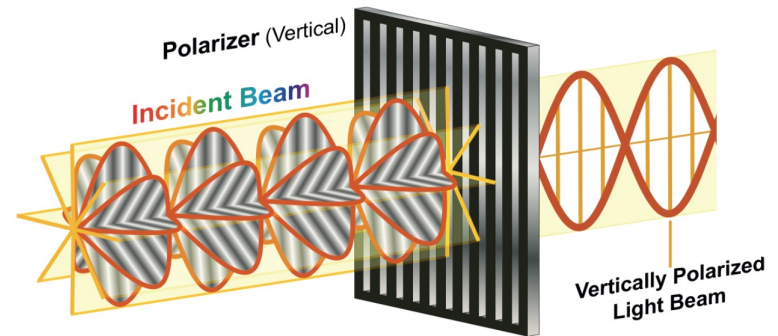


The Polarization of Light



- Transverse Waves
- Plane Polarized
- Application – Polarized Sunglasses
- Stereoscopic Vision and 3D Movies
- Filming in 3D



Preview File

Please enjoy this preview of your Student Version of the presentation. Please note within this sample file:

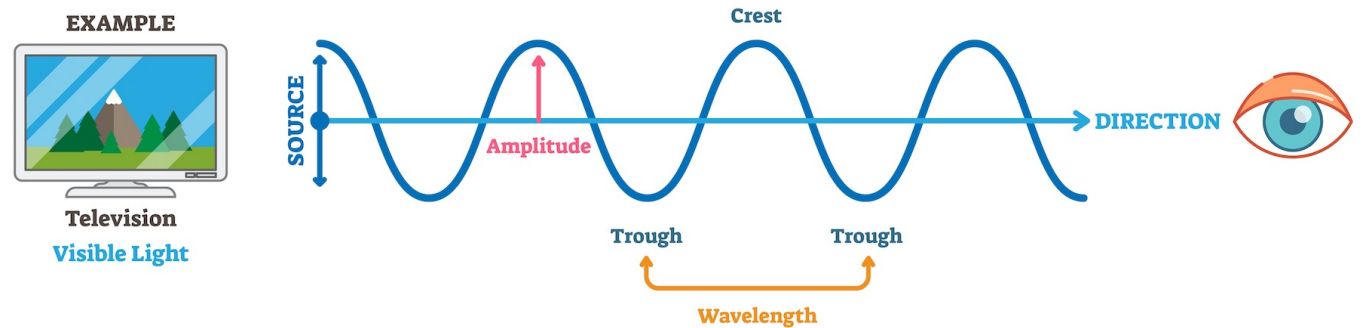
- Some slides appear blank because they have been removed
- Student versions have portions of the text removed which is given in the teacher version and appear as _____ which the students are to fill in
- Other slides may have on them, this represents writing that has been removed on this sample

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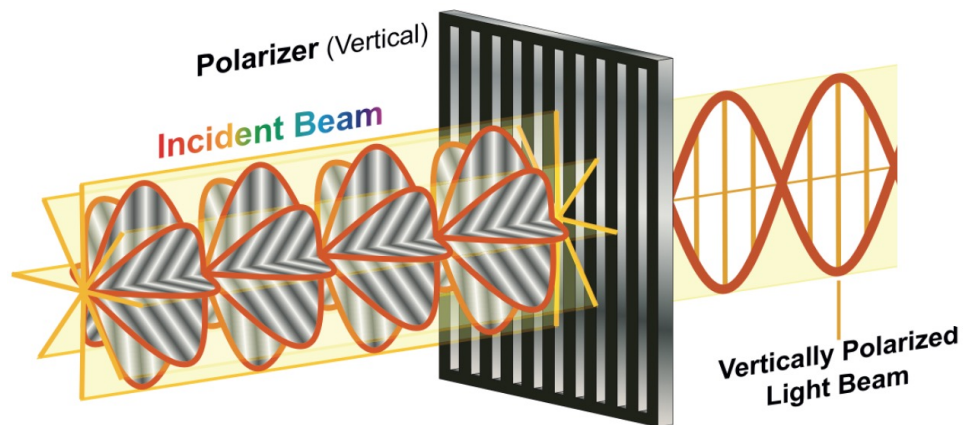
Transverse Waves

A transverse wave is a moving wave that consists of oscillations (regular fluctuations about a mean point) _____



Transverse Waves

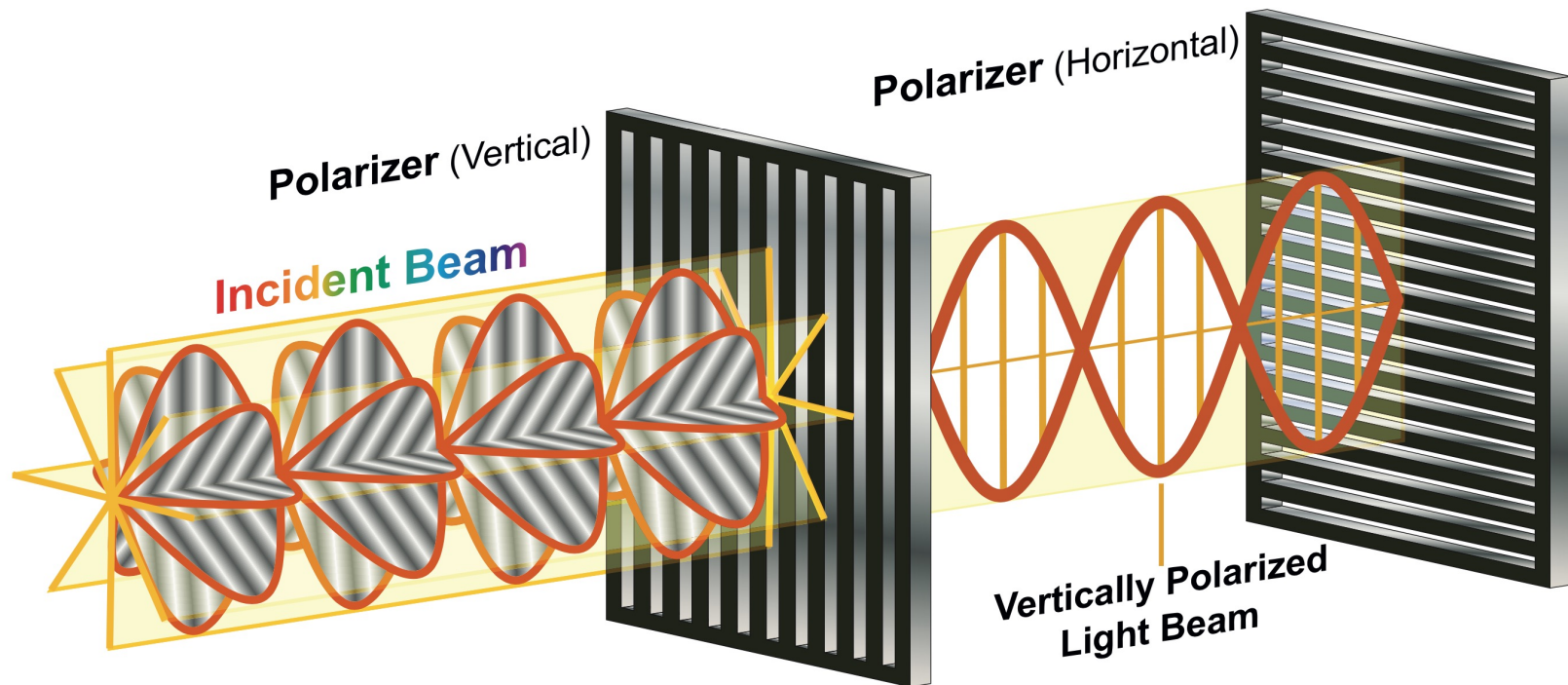
- _____
- If such a transverse wave were to pass through a filter that allowed the waves to occur only in one plane, then the wave would be plane-polarized



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Transverse Waves

If these vertically polarized waves encounter a second slit, perpendicular to the first, the wave transmission will be _____



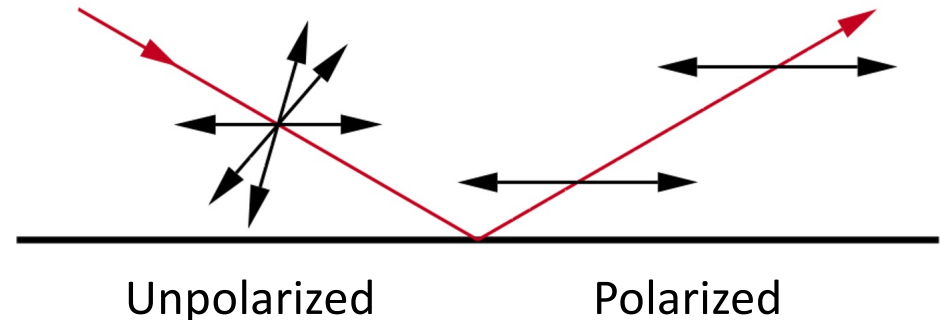
Longitudinal Waves

Research whether polarization can occur with longitudinal waves and write your finding below with an explanation of why.

Application – Polarized Sunglasses

- Light waves reflected from a non-metallic flat surface are partially polarized in the horizontal plane
- Most glare comes from horizontal surfaces, such as a body of water, the hood of a car, or a paved road

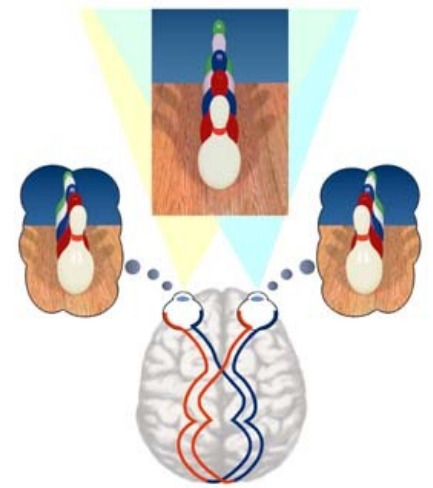
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Stereoscopic Vision and 3D Movies

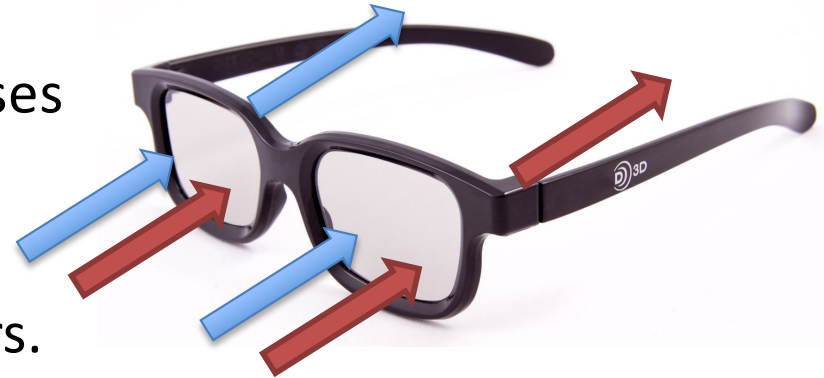
- 3D films trick your brain, bringing images projected onto a flat cinema screen to life in full, three-dimensional glory
- If you look at an object near you and close your left and right eyes in turn, you'll see that each has a slightly different view of the world
- Your left eye sees a bit more of the left side of the object, and your right eye sees a bit more of its right side
- _____



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3D Films

- The film is recorded using two camera lenses sat side by side
- In the cinema, the two reels of film are projected through different polarized filters.
- Images destined for viewers' left eye (red) are polarized on a horizontal plane, whereas images destined for their right eye (blue) are polarized on a vertical plane
- Cinema goers' glasses use the same polarizing filters to separate out the two images again, _____



Each lens blocks a different image, so each eye gets a different image which the brain interprets as 3D.