

LEARNING MATERIALS

Hologram Pyramid

When light rays travel from one media to another media with a different constant of refraction, the ray is divided into two components: refraction and reflection. The reflection component follows the same angle as the incoming ray with respect to the boundary, and the refraction component follows the Snell's rule.

In this experiment, a transparent pyramid is designed at a particular angle so that when we look at the final image, it appears as a three-dimensional movie, but what we see is in fact a reflection of the original image that looks like it is trapped inside the pyramid.

Questions for testing comprehension:

- (1) What makes a better hologram pyramid, a more transparent object or a less transparent object?
- (2) You can try different sizes of the pyramid. Which size produces a better quality?

Further reading and materials:

- (1) <https://en.wikipedia.org/wiki/Holography>
- (2) <https://www.instructables.com/DIY-Pyramid-Hologram/>