

INSTRUCTIONAL GUIDE

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- HoloSpex Glasses
- Instructional Guide

Recommended for activities:

- Holiday lights



Background

The “lenses” of the HoloSpex are a computer-generated diffraction grating. However, there are not a lot of fine, parallel lines such as with a standard diffraction grating. Rather, there is a seemingly chaotic mix of curved lines branching in and out of each other. This is actually a pattern that a computer generated to assure that the gratings could take point light sources and bend, or shift, their light into a specific design. They take advantage of nodes and antinodes caused by the diffraction.

Note: The HoloSpex lenses will display a pattern only with “point” sources of light. Fluorescent tubes and incandescent bulbs will not produce the desired effect (unless viewed at a distance great enough for them to behave like small points of light.)

Activities

- Holiday lights provide the perfect point light source for use with the HoloSpex glasses.
- View a HoloSpex lens under a microscope. 20x magnification should be fine, but slightly more helps to see the computer-generated lines in detail. Try to find the pattern (the computer makes a rectangular pattern that is repeated.)
- Try shining a laser through the glasses onto a wall or screen. The pattern shines on the wall in the same way that the nodes and antinodes were displayed on the wall with the regular diffraction grating.

Related Products

Diffraction Grating Glasses Class Set (P3-6400) Get all three of our Diffraction Grating Glasses in one affordably priced, convenient set. You'll get 15 Rainbow Glasses, 15 3-D Glasses, 15 HoloSpex Glasses with a light string, and activities.

Demo Diffraction Grating (P3-6405) This Diffraction Grating Demonstration Slide has three 20mm x 10mm gratings with 100, 300, and 600 lines per mm, mounted between glass plates.

RSpec Explorer (P2-9505) Digitally capture an individual spectrum, and then compare it to a series of known spectra!