

# The Joyful Light Spectrum

Use diffraction grating glasses to motivate study of the visible portion of the electromagnetic spectrum.

## Materials Needed

Contact the DuPage Regional Office (Dr. Mary Biniewicz STEM Coordinator [mbiniewicz@dupageroe.org](mailto:mbiniewicz@dupageroe.org)) to obtain diffraction grating glasses for the students. Also needed are: science notebook or paper, colored pencils or markers.

## Procedure

Walk around your house with your diffraction grating glasses on. Look at several different light sources: lamps, ceiling lights, light fixtures and outdoor streetlamps.



**Safety: NEVER look at the sun!!**

Record Your Observations in words and drawings. Optional: take photos through the glasses.

Share Your Results with your class. Investigate how the glasses work.

## Teacher Notes

### Discussion Questions

What source produced the coolest spectrum?

What is the light spectrum? Find pictures and explanations to share with the class.

How do the diffraction grating glasses work, i.e., produce patterns of colors?

What is the electromagnetic spectrum? Find pictures and explanations.

### **Resources:**

[https://science.nasa.gov/ems/09\\_visiblelight](https://science.nasa.gov/ems/09_visiblelight)

<https://www.rainbowsymphonystore.com/blogs/blog/how-do-diffraction-grating-glasses-work>

<https://www.real-world-physics-problems.com/diffraction-glasses.html>