

# Hidden Rainbows

## Try It Out

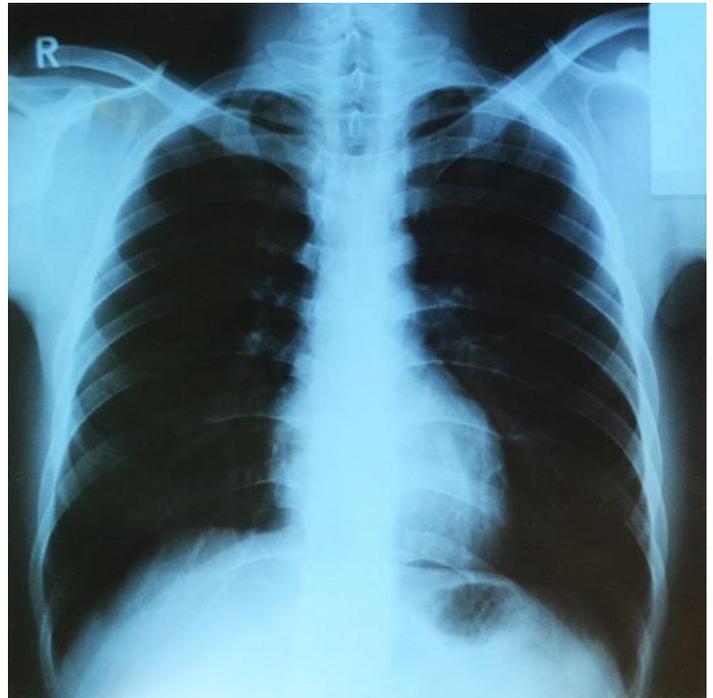
Hold the prism up so you can look through it. (That's the clear thing, and don't look at the sun!) What do you see, especially at the edges of things, like the street or the trees? Try looking through the spectroscope, too. (That's the black thing.)

## What's Going On?

Sunlight is a mixture of many colors, but it looks white to our eyes. To see the colors separately, you can use a prism. A prism **refracts** (bends) light, and the different colors of light travel at different speeds inside the glass. So they get bent different amounts and emerge all spread out. The spectroscope simply adds a scale to a prism, so you can measure the different wavelengths of light.

## Why Does It Matter?

Spectrometry is the study of interactions between light and matter, like the interaction of the light in the prism. This phenomenon is the basis for many technologies that are much more complex than the basic spectroscope you looked through. "Light" sometimes includes things we can't see, and those invisible forms of light are what make X-ray and MRI tests work.



*X-ray image of a person's chest. X-rays are a form of high energy electromagnetic radiation (light)*

## Wonder While You Walk...

The sun *also* sends us "light" that we can't see, like infrared radiation. We perceive this as heat. What other invisible light does the sun send?