

## Design Challenge #8

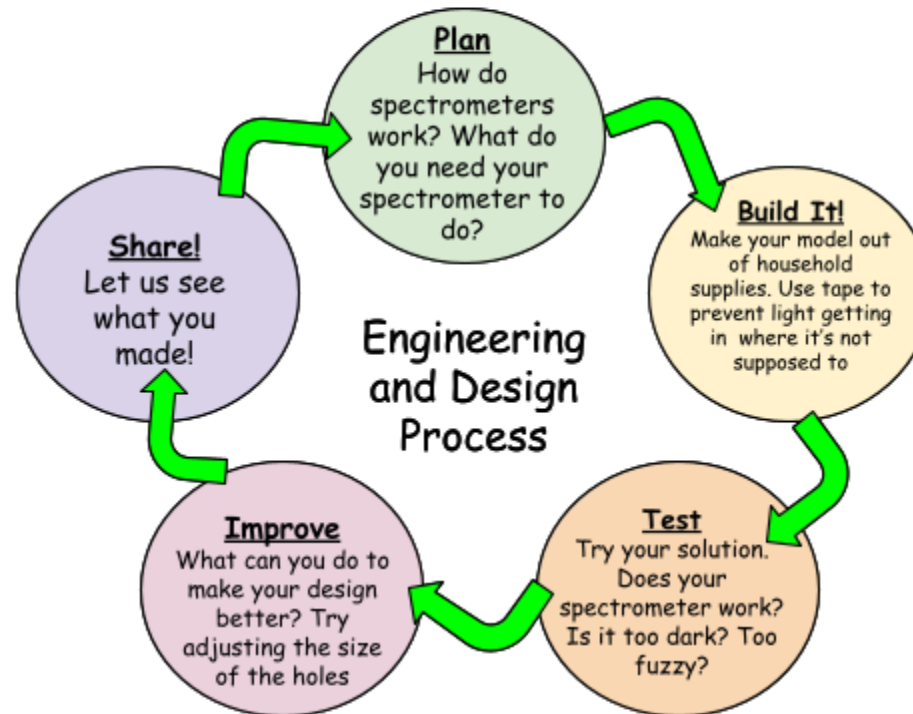
Build a spectrometer! A spectrum is the unique light signature created by every element. Astronomers analyze these light patterns to see which elements are most abundant in stars, planets, and moons.

### Materials

- A Paper Towel Tube
- A CD or DVD
- Scissors/utility blade
- Thick or dark paper
- Tape
- Protractor
- Pencil
- Paint (if you're feeling fancy)

### SAFETY RULES

- NEVER point spectrometer at direct sunlight



### Did You Know?

Light gives us evidence for the beginnings of the universe! Scientists measure light to see that galaxies are moving away from us. As wavelengths get longer, they shift towards the red end of the electromagnetic spectrum!

### Share Your Success!

- Take your family on an adventure! Explore different types of light and see how the spectra are different!
- Paint the spectra of a unique source of light
- Share photos of your design process or spectra with Ms. Jeanette!

Emotions, like light, operate on a spectrum. By paying attention and being mindful we can identify our emotions and their purpose. How are you feeling today? How did you know?

## [The Electromagnetic Spectrum](#)