

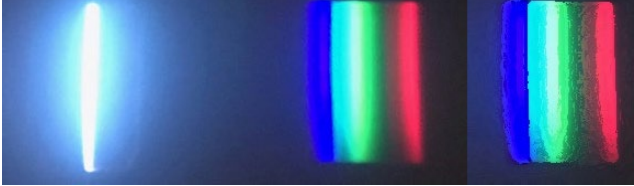


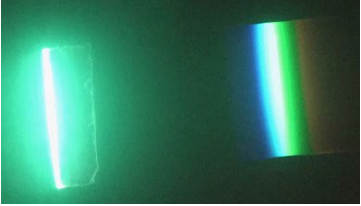

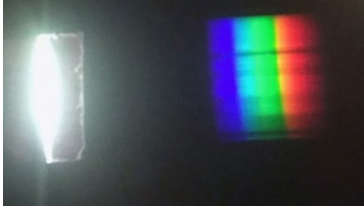
Looking at the stars

Engineer's Workbook

Engineer's Name: *Example*

Date:

Bring the tables and colored pencils to the light sources around the room and complete the table below.

| Light Source Description | Color with Naked Eye | Draw Spectrum (naked eye / spectrum) |
|--|----------------------|---|
| Light bar: White | <i>White/blue</i> |  |
| Light bar: blue | <i>Blue</i> |  |
| Light bar: Red | <i>Red</i> |  |
| Light bar: Green | <i>Green</i> |  |
| Candle | <i>Yellow</i> |  |
| Sun (indirect way) Warning! Do not look directly to the sun | <i>White</i> |  |

Question for reflection

| | |
|---|--|
| <p>If a spectrograph is a special tool that shows us what light is made from, what do you think makes up the light emitted by the sun?</p> | <p><i>Many elements but mostly hydrogen.</i></p> |
| <p>Do you think that there are kinds of light that cannot be seen with the naked eye?</p> | <p><i>Yes, like gamma rays.</i></p> |
| <p>If light exists that cannot be seen, how could it be possible to observe it?</p> | <p><i>Special device that detects those waves.</i></p> |
| <p>Does the spectrum of any of the lights change if you move farther away or closer to it? Explain</p> | <p><i>The intensity change</i></p> |
| <p>What do you notice about the spectrum of individual-colored lights? How do the different colored light's spectra compare to one another?</p> | <p><i>Colors get isolated</i></p> |
| <p>Which spectra look exactly the same?</p> | <p><i>None is exactly the same</i></p> |
| <p>Which spectra look similar, but are not necessarily exactly the same? Explain your answer.</p> | <p><i>The candle seems like the sun but high intensity on the yellow</i></p> |
| <p>Write your observations based on the sources that your group explore.</p> | <p><i>The pink LED provides an interesting spectrum</i></p> |