Sample Data

**Before electricity is applied**, all gases will be colorless. They need electricity for excitation.

**After electricity is applied**, colors appear as shown below.

| Type of Gas | Colors Observed without Spectroscope | Colors Observed with Spectroscope |
| --- | --- | --- |
| Hydrogen |  |  |
| Nitrogen |  |  |
| Helium |  |  |
| Neon |  |  |
| Carbon Dioxide |  | Image Sources: NASA Space Telescope Science Institute. (2019, June 6). Spectra showing different elements. Hubblesite. <https://hubblesite.org/image/4511/category/115-spectra>  Noschese 180. (2014). Emission spectra. A picture-a-day for the school year. [https://noschese180.files.wordpress.com/2014/12/ emission\_spec.png](https://noschese180.files.wordpress.com/2014/12/emission_spec.png)  University of Texas. (n.d.). Line spectra in hydrogen. Chemistry 301 <https://ch301.cm.utexas.edu/atomic/index.php#H-atom/line-spectra.html>  Vernier. (n.d.). Spectrum tubes. <https://www.vernier.com/product/spectrum-tubes/> |
| Air |  |
| Argon |  |