Name: Period:

Apply your knowledge of the evidence and science supporting the Big Bang Theory to complete ONE of the following activities and answer the questions. Submit the results to your teacher through the drop box.

Option 1: Bug Light Spectrum

Using a spectroscope, compare the spectra produced by the yellow “bug light,” the white, incandescent light and the blue/purple bug-zapper light.

Answer the following questions about your observations:

1. What is/are the main difference(s) between the spectra of each of the lights? Be specific about colors and wavelengths of the various spectra.
2. Reviewing this website: <https://www.dodsonbros.com/led-lights-flying-insects/>. Can you draw a conclusion about why these lights may be different, based on the science and your observations?

Option 2: Doppler Demonstration

Design, execute and record a demonstration of the Doppler Effect. Each submission must include the following things to be considered complete:

* Video or Audio recording of the demonstration
* Written, Audio or Video explanation that must include answers to the following:
  1. When the Doppler shift can be observed in the demonstration
  2. What type of shift (red or blue), and
  3. How it can be identified from the action in the recording (i.e.. increase or decrease in frequency)

***UPLOAD ALL WORK TO SYNERGY OR CONTACT YOUR TEACHER FOR ALTERNATIVE WAYS TO SUBMIT YOUR WORK***