



Launch Cosmos - Redshift

Don't forget to record data and observations as you work through this activity. All of the questions and reminders from the activity are listed in order below.

1. Record the coordinates of your starting place.

RA -

Dec -

2. The instructions for this activity ask you to observe spectra with a high (>10) signal-to-noise ratio. How does this step make it easier to observe spectra?

3. Record the range of redshifts captured in your SAS table for stars.

Lowest redshift -

Highest redshift -

Range -

4. Don't forget to record any observations of the spectra that you are curious about.

5. The rest wavelength for Hydrogen Alpha is _____. Why do we need to know this number?

6. Record the observations you made while looking at the location of the Hydrogen Alpha lines of the stellar spectra.

7. Record the range of redshifts captured in your SAS table for galaxies.

Lowest redshift -

Highest redshift -

Range -

8. Record your observations of galaxy spectra. First note the number of lines recorded and then consider the following three things: the location of various lines, anything that changes, and anything that stays the same.

9. Choose one of the patterns you noticed above. Restate the pattern to make a statement about spectra. Create a collection of five spectra that demonstrate what you have written. You will need to use a separate sheet.

10. Using one of the galaxies that you observed in SAS, demonstrate the calculation for redshift. You need to report:
 - a. The galaxy or star you chose
 - b. The line you used to in your calculation
 - c. The rest and observed wavelength of that line
 - d. The redshift equation and result
 - e. The reported z - for that line from SAS

11. Describe what you observed when working with the Redshift simulator.