Astronomy Stations Lab Name:

1. Telescopes

1. Why are some telescopes used on Earth while others are launched into orbit above Earth’s atmosphere?
2. Different types of telescopes collect different wavelengths of light. Describe three different telescopes.
3. Describe the difference between how a refractor & reflector telescope work.
4. Which is more important: telescope length or width? Why?
5. How do you increase the magnification power of a telescope?

2. Magnifying Glasses

Take some time to familiarize yourself with the magnifying glass.

1. How do you find the focal point of a lens?
2. Using a ruler, find the focal point of the magnifying glass.

3. Spectroscopes

Take some time to look through the spectroscopes at the lights in the classroom.

1. What is spectroscopy?
2. How is it utilized in astronomy?
3. List 2 characteristics of stars astronomers can observe through their spectrum.

4. Spectral tubes

Take some time to look through the diffraction gratings at the spectral tube.

1. What do you see?
2. How does the information from spectral tubes help astronomers?
3. Make sure to observe at least 2 elements. How are they different?

5. Binoculars

Take some time to look through the binoculars and become familiar with they operation.

1. What astronomical instrument are binoculars similar to?
2. Who first utilized this instrument to look study stars?
3. What is the drawback to this type of instrument?

6. Parallax

Stand on one X and look at the images. Move to the other X and look at the same image. Examine how your view changed.

1. Draw a picture and explain how scientists use parallax to measure the distance to stars.
2. What are the limitations of parallax?
3. Describe one other method scientists use to measure the distance to a star.

7. Mirrors

Take some time to look into the mirrors and the images they make.

1. How do you observe the focal point of a mirror?
2. What advantage do mirrors have over lenses?
3. What is the largest mirror used in a modern day telescope?

8. Microscopes

1. What is the major difference in the image seen in a compound microscope vs. the image seen in a dissecting microscope?
2. Why are we looking through microscopes during an astronomy unit? What is the parallel in astronomy?
3. What are the pros and cons of a pair of binoculars versus a telescope?