Names: _____ _____

_____ _____

Grade	

Telescopes

Pre-Lab Quiz

Record you team's answer as well as your reasonings and explanations.

1.
2.
3.
4.

Part 1: The Galileoscope

1. What are some of the differences between refracting and reflecting telescopes? (Drawing a diagram may be helpful.)

2. Is the Galileoscope a refracting or reflecting telescope? What kinds of celestial objects would you be able to see with it? What kinds of objects would not be ideal for observing with the Galileoscope?

3. Why does the objective lens of the Galileoscope consist of two separate lenses fused together? You may need to research this answer.

4. Find and explain your method for determining the focal length of the objective lens in meters. You will need this answer for later.

Focal Length:	

5. Describe the view using the Galilean eyepiece. You should think about the magnification and the field of view. How do you think this would have affected Galileo's observations?

6. Describe the view using the modern lens and compare the magnification and field of view to the Galilean eyepiece. Do you notice anything else that is different with the modern lens?

7. Compare the view using the Barlow lens to that of the other two lenses. Explain the differences in field of view size, magnification, and any other parameter you may have noticed.

8. The telescope with the Galilean eyepiece has a magnification of 17. Based on your observations, what is the magnification of the telescope with the Modern eyepiece? What about the Barlow eyepiece?

9. Using the observed magnifications, calculate the focal length of the Galilean, Modern, and Barlow eyepieces.

Eyepiece	Focal length (m)
Galilean	
Modern	
Barlow	

10. Compare your observed magnifications with the real magnifications as given by your TA. How accurate were you?

Part 2: The Orion

1. Practice setting up the Orion telescope as instructed by your TA. Is the Orion a refracting or reflecting telescope? What is the diameter of its objective?