Name: _____ Period: _____ Date: _____

Section 4: *Telescopes on the Ground and in Space* Review
Astronomy

Nerd Words:

1. Atmospheric Window –

2. Scintillation –

3. Seeing –

4. Adaptive Optics –

Review:

1. Graph out the atmospheric window spectrum just as it is on the PowerPoint. Be sure to include both scales, all information included in the one online, and also be sure to label where the visible spectrum is. (I will be paying close attention to this one.)

2. What specific wavelengths get absorbed by the atmosphere?

3. What gases in the atmosphere do the absorption?

4. What is happening to some of those gases and why is that a danger to us? (We talked about this.) Explain.

5. Looking at the graph you drew in number 1, what gases absorb what wavelengths?

6. Why does the absorption of all of these different kinds of wavelengths make things difficult for astronomers trying to study space? Explain.

7. Name the four prime telescopes that were ejected into space to study the absorbed wavelengths. What type of wavelength does each telescope focus on?

8. Will all of the scopes in space work infinitively? If not, explain by providing an example.

9. What is the most popular space telescope? Give the dimensions of the scope and explain why it is so popular.

10. What particles in the atmosphere cause "blurring" to occur when gazing from the ground?

11. Even on really clear nights, stars can still look like they are twinkling. Explain that process.

12. When we track scintillation, what two things stand out to astronomers that can be seen?

13. The "seeing" we talk about in this section is a little bit different than the "seeing" we commonly know of in the English language. How are they similar and how are they different?

14. What telescope is set to launch in 2018 that would replace the Hubble as the #1 space scope?

15. Using the diagram provided in the PowerPoint online, specify the years of the specific telescopes and the projection to the history of space astronomers had planned to examine.

16. How do astronomers combat the issue of seeing and distortion on the ground?

17. What is the moving motor used to help with the corrective mirrors in adaptive optics?

18. What are two major benefits of using lasers and adaptive optics here on the ground?

19. Location is still very important when it comes to adaptive optics. Why?

20. What is the number one unforeseen obstacle that observatories and other land based telescopes have to face? How do they predict this issue is going to be in the future? Explain.