

# Astronomy Review – Chapters 3, 4, & 5

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Block: \_\_\_\_\_

1. What is electromagnetic radiation? Name all the different types in order. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Of the different types of electromagnetic radiation, which has the shortest and which has the longest wavelength? \_\_\_\_\_  
\_\_\_\_\_
3. Does the wavelength affect the speed, temperature, and/or the amount of energy in the various types of electromagnetic radiation? If so, how? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Do certain types of electromagnetic radiation penetrate the atmosphere better than others? What penetrates best? Worst? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. What is the difference between wavelength and amplitude? Draw a diagram. \_\_\_\_\_  
\_\_\_\_\_
6. What is the Doppler Effect and why is it important to astronomers? \_\_\_\_\_  
\_\_\_\_\_
7. What is spectroscopy? \_\_\_\_\_  
\_\_\_\_\_
8. Which Scientist is credited with identifying 3 laws dealing with the creation of various spectra? \_\_\_\_\_
9. What are some examples of a classic continuous spectrum? \_\_\_\_\_
10. What is the difference between reflection and refraction? \_\_\_\_\_  
\_\_\_\_\_
11. What is a reflecting telescope? Draw an example. \_\_\_\_\_
12. What is a refracting telescope? Draw an example. \_\_\_\_\_

13. What is the main difference between these two types of telescopes? \_\_\_\_\_

14. Identify the following types of telescope and what makes them unique and draw an example of each.

a. Newtonian reflector: \_\_\_\_\_

b. Cassegrain reflector: \_\_\_\_\_

c. Gregorian reflector: \_\_\_\_\_

d. Prime focus reflector: \_\_\_\_\_

15. Name and explain the 3 powers of a telescope:

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

16. What type of telescope is considered to be the largest and why is the location of these telescopes important?

17. What is seeing? \_\_\_\_\_

18. Where (earth/ space) would you put the following types of telescopes and why?

a. High Resolution telescope: \_\_\_\_\_

b. Radio telescope: \_\_\_\_\_

c. Infrared telescope: \_\_\_\_\_

d. Ultraviolet telescope: \_\_\_\_\_

e. High Energy telescope: \_\_\_\_\_

19. What is an interferometer and why is it so useful to astronomers? \_\_\_\_\_

20. Identify the following telescopes by what it measures, where it is (earth/space), and the size of its collecting area.

a. Chandra X-Ray Observatory: \_\_\_\_\_

b. Hubble Space Telescope: \_\_\_\_\_

c. Compton Gamma Ray Observatory: \_\_\_\_\_

d. Spitzer Space Telescope: \_\_\_\_\_

e. Newton Imaging System: \_\_\_\_\_

f. COAST: \_\_\_\_\_

g. CHARA: \_\_\_\_\_

h. Keck Telescopes: \_\_\_\_\_

i. International Ultraviolet Explorer: \_\_\_\_\_

j. Einstein Observatory: \_\_\_\_\_