

Chapter 28.2, 28.3, 28.4 Stars, Galaxies, Universe Test: Geology 1P, Mr. Traeger

Name: _____

Period: _____

Date: _____

| Section | Major Questions to be asked and/or tasked to be measured | Where do I find the information and/or where did we learn this? |
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| 28.2 | <p><u>Stars and Their Characteristics</u></p> <ul style="list-style-type: none"> ▪ What is the difference between astronomy and astrology? ▪ What determines a person's sign of the zodiac? ▪ What are constellations? Do the same constellations appear throughout the whole year? ▪ What is significant about the North Star (Polaris)? ▪ What is the apparent magnitude of a star? How is it different from absolute magnitude? ▪ What is a light year? How far away is one light year? ▪ What is parallax and how do we use it to measure distances to stars? How do you draw a parallax diagram? ▪ *How do we measure distance using $d = 1/p$? ▪ *How do we convert from parsecs to light years? ▪ What stars are hotter? Blue, yellow, white, or red? ▪ *How can we use Wien's Law ($\lambda_{max} = 2,900,000/\text{Temperature}$) to find the peak emission wavelength (color) of a star in nanometers? ▪ What is luminosity and absolute magnitude? ▪ What happens to the habitability of a planetary system if you move closer to the host star? Farther? | <ul style="list-style-type: none"> ▪ Section 28.2 Homework ▪ Star Light, Star Bright Star Characteristics Lab ▪ Chapter 28 PowerPoint on Traeger's web site ▪ Starry Night Section E Activities: Stars and Constellations |
| 28.3 | <p><u>Life Cycles of Stars</u></p> <ul style="list-style-type: none"> ▪ What is the Hertzsprung-Russell (H-R) diagram and how do we use it to know the life stage of a star? ▪ How is a star born? ▪ How do stars live their main sequence lives? ▪ How do stars die? (See life cycle of stars on pages 628-629) ▪ What are the remains of stars? Black Holes, etc. ▪ What is a black hole? Why are they black? ▪ *What is the event horizon? Schwarzschild Radius? Singularity? ▪ *How do we calculate Schwarzschild radius of a black hole using the formula $r_s = 2Gm/c^2$? ▪ How do gravity and fusion determine the size of a star? ▪ Which stars burn fuel quicker and die younger in a supernova? ▪ What will be the fate of our sun, a main sequence star? | <ul style="list-style-type: none"> ▪ Section 28.3 Homework ▪ Chapter 28 PowerPoint on Traeger's web site ▪ Hertzsprung Russell Diagram Activity ▪ Starry Night Section G Activities: Stars and Black Holes ▪ <i>Life and Death of Stars</i> Video and Questions |
| 28.4 | <p><u>Galaxies and the Universe</u></p> <ul style="list-style-type: none"> ▪ What are galaxies and what are the different types of galaxies? ▪ What is the theory for the origin of the Universe? How did we get to this theory? ▪ Is our Universe expanding? How do we know? Be able to explain red shift of galaxies as evidence for the expansion of the Universe. | <ul style="list-style-type: none"> ▪ Section 28.4 Homework ▪ Chapter 28 PowerPoint on Traeger's web site ▪ Galaxies and Expanding Universe Activity ▪ <i>Alien Galaxies</i> Video and Questions |