

Chapter 25.1 and 27.4 Lunar Geology, Comets, Meteoroids Test Study Guide: 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?
25.1	<ul style="list-style-type: none"> ▪ What is the impact theory and how does it explain the formation of the moon? How did oxygen isotopes, lack of volatile elements, and lack of iron in the Moon's core all contribute to the formation of this theory? ▪ Describe what basalt, anorthosite, and breccia are and how they describe the formation of volcanic features, original crust of the Moon, and asteroid impact craters. ▪ What are the general surface features on the moon like rilles, rays, craters, and how did they form? ▪ How do the rocks found on the moon similar to those on Earth? ▪ What is your weight on the moon compared to here on Earth? 	<ul style="list-style-type: none"> ▪ Section 25.1 Homework and Links ▪ Apollo Mission Activity ▪ Moon Video Questions ▪ Class Notes
27.4	<ul style="list-style-type: none"> ▪ What are the basics of how impact craters form? ▪ What is the difference between simple and complex craters? ▪ How does changing the following parameters change the type and size of craters that are made? Asteroid speed, asteroid mass (size), asteroid impact angle, and asteroid composition (rock, ice, iron)? ▪ Why do impact craters disappear over time on Earth, but they stay on the Moon? ▪ How does the formula Kinetic Energy = $\frac{1}{2} * \text{mass} * \text{velocity}^2$ explain the change in energy when you double the mass of an asteroid and when you double the velocity of an asteroid? ▪ How do you use Area = $\pi * \text{radius}^2$ to calculate the comparison of likelihood of asteroid impact? ▪ What are comets? What are they made of? How and where do they orbit the sun? ▪ What are the parts of a comet? (ie.) nucleus, coma, ion tail, and dust tail ▪ What are asteroids? What are they made of? How and where do they orbit the sun? ▪ What are the differences among meteors, meteoroids, and meteorites? ▪ What are some major ideas for how humanity might stave off annihilation from an incoming asteroid? In other words, how would we deflect an asteroid once we have determined that it is a threat? How would we convince world governments that a combined effort among all nations is needed to develop a worldwide asteroid defense system? ▪ What evidence was found near Chicxulub, Mexico that determined that the extinction of the dinosaurs was likely caused by the impact of an asteroid 6 miles wide? <i>Hint:</i> Think larger crater and Iridium. 	<ul style="list-style-type: none"> ▪ <i>Deadly Comets and Meteors</i> video questions ▪ ES2506 <i>What if the Earth and Moon were hit by Twin Asteroids?</i> Internet Investigation. ▪ Comet making lab ▪ Starry Night activities D1 and D2 and D3 on Asteroids and Comets ▪ Asteroid and Comet fact sheets on class schedule part of class website. ▪ Bill Nye asteroid deflection video on class schedule portion of class website. ▪ Section 27.4 homework and links