	Final Study Guide Questions	
Geology	Fall Semester 2013-2014	Mr. Traeger

Name: Period: Date:

The following questions are similar to questions that will be asked on the final exam. Please go through your book and answer them as a way to review for the final. If you answer ALL of them to the best of your ability, you will get an additional 15 points added to your final exam grade! That means that your questions MUST be turned in on the day of the final. The answers to these questions must be hand written unless you clear it with me otherwise. Answering the questions on flash cards is encouraged. The final is cumulative and will cover Preliminary Activities and Chapters 1, 2, 3, 4, 5, 6, 8, 9, 10, and 11. We took pieces of content from chapters 29 and 30, so questions about those chapters will be limited in scope.

Section	Topic	Questions to Ponder
Preliminarie	S	
Appendix A: Reference Tables and Appendix C:	Basic Skills	 What is standard notation and what is scientific notation? How do you convert between the two? How do you convert between units using the factor label method? How do you measure distance, volume, and mass?
Skills Handbook		 How do you calculate density? How do you make a line graph? When should it be used? How do you make a bar graph? When should it be used?
	arth as a System	T
1.2	The Earth System Four Spheres	 What are the four spheres? Is there a fifth sphere not named in the book? What is it? How do the spheres interact? How do interactions change the spheres?
Chapter 2: T	he Nature of Science	
2.1	The Scientistos Mind	 What is a scientist? Why do scientists do what they do? What is the %cientists mind+? Do all scientists fit a stereotype? What are qualities of scientific thinking?
2.2	Scientific Methods of Inquiry	 How do scientists approach questions? What are the steps involved in the scientific method? What is the purpose of peer review? Why is it important to test scientific ideas? What is the difference between scientific theories and laws? How do you design a basic experiment with Control vs. Variable?
2.3	Scientists Tools	What kinds of tools do earth scientists use today?
Chapter 3: E	arth's Models	
3.1	Modeling the Planet	 What is a map? What are the different types of map projections? What is latitude and longitude? What is map scale? How do you calculate it? How do you draw something to scale using a map scale ratio?
3.2	Mapmaking and Technology	 What kinds of technology are used to make maps today? What is RADAR and how does it work? What is remote sensing? What is GIS? What are the basic functions of the ArcView GIS we use in class? What is GPS? How does it work?
3.3	Topographic and Geologic Maps	 What kinds of things are shown on a topographic map? What are contour lines and contour interval? What are slope and elevation and how do you calculate them? Review the formulas for slope. What do the different topographic map symbols mean? How do you use topographic maps?
Chapter 4: E	arth's Structure and I	<u>Motion</u>
4.1	Earthos Formation	How was the solar system formed? What is the nebular hypothesis?Why did Earth become a spheroid?

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		What are the different layers of Earthos interior? What are the characteristics of
		these layers?
		Where does earth heat and magnetic field come from? What is a magnetic field?
		 How do we use P and S wave behavior (Geophysics) to figure out what is inside or
		the Earth?
		What materials (Solid and/or Liquid) will P waves pass through? S waves?
	Atoms to Minerals	T
5.1	Matter and Atoms	What is matter?
		What is an element? A compound?
		What is the atom? What is its basic structure?
		What is the periodic table? How do you use it to determine how many protons,
		neutrons, and electrons an atom has? Know how to read the periodic table!
		What are ions? How do you calculate the charge on an ion?
		• What are isotopes? How do you figure out the number of protons, neutrons, and
		electrons in an isotope?
		What are chemical bonds? What are the different types of bonds?
		What are the characteristics of a metal? A nonmetal? How can you use the periodic table to classify a metal?
5.2	Composition and	What is a mineral? Itos NOT a rock! List the 5 characteristics.
5.2	Structure of	How do minerals form?
	Minerals	 What is crystal structure and how does it determine how a mineral is formed?
5.3	Identifying Minerals	What is crystal structure and new does it determine new a milicial is formed: What are the physical and chemical properties that you would look for when
0.0	rachthyllig Willicials	attempting to identify a mineral? Mohos Scale, streak, etc.
		 What are special properties of a mineral?
		Could you identify a mineral if given a sample and the right tools?
		What is specific gravity? How would you calculate it?
5.4	Mineral Groups	What are the major mineral groups and how do you tell the difference among
		them? Think chemical structure!
		What are some basic uses for minerals?
7.1	Mineral Resources	How are minerals used as resources? What are limitations to their supply?
Chapter 6:	Rocks	
6.1	How Rocks Form	■ What is a rock?
		What is the rock cycle? What are the products and processes of the rock cycle?
6.2	Igneous Rocks	What are the 2 types of igneous rock and how does each type form?
		What is Felsic? Mafic?
		What are characteristics of rocks that form deep in the earth? On the surface?
		Think intrusive and extrusive!
		 What are igneous rock descriptions? How would you classify igneous rocks into
		the gabbro, diorite, and granite families?
		Where would you go to find igneous rocks?
6.3	Sedimentary Rocks	What are the 3 types of sedimentary rock and how does each type form?
		What are features of sedimentary rocks?
		• What are fossils?
0.4	Matana milia Dania	Where would you go to find sedimentary rocks?
6.4	Metamorphic Rocks	How do metamorphic rocks form?
		 What are the 2 types of metamorphism? What are descriptions of metamorphic rocks? What is foliation and how does it
		What are descriptions of metamorphic rocks? What is foliation and how does it help to identify a metamorphic rock? Think gneiss and marble!
		 Where would you go to find metamorphic rocks?
Chapter 8:	Plate Tectonics	YVITOLE WOULD YOU GO TO THE ITHE INTERIOR PHILOTOCKS:
8.1	What is Plate	What were early ideas of plate tectonics? Think Wegener and Continental Drift!
0.1	Tectonics?	 What is the theory of plate tectonics? What types of evidence support it?
	I GOLOTHOS!	 What is the theory of plate tectorics? What types of evidence support it? How does magnetism and rocks ages help to support the theory of plate
		tectonics?
8.2	Types of Plate	What are characteristics of convergent, divergent, and transform plate
0.2	Boundaries	boundaries?
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What kinds of structures (landforms) would you expect to form at each type of plate boundary?	Section	Topic	Questions to Ponder
plate boundary? Novement Accesses of Plate Movement B.4 Plate Movements and Continental Growth What is manife convection? Ridge push? Slab pull? What is manife convection? What is Paleomagnetism? How do we use it to reconstruct pash worlds? Chapter 9: Volcances How and Where Volcances Form What is magma and how does it form? Name and describe the 3 types of places where volcances form. How did the Hawaiian Islands form? What are the types of lava flow? What are the types of lava flow? What are the manife in the ash and rock fragments ejected from a volcanc? What are the manifer volcances, cinder cones, and composite volcances? Where does each type form? Relate this to plate tectonics! What are the major volcanic hazards? What planets and moons in the solar system exhibit signs of volcanism? What causes the volcanism existed on the Moon, Mars, and Venus and continue to exist on the moon of Juplier known as lo? What causes the volcanism on lo, a moon of Jupiter? Chapter 10: Earthquakes 10.1 Earthquakes Thow and Where Earthquake, and Where Earthquakes and the different types of earthquake waves? What are their characteristics? What is a seismogram? How do you interpret a seismogram? How do you old the please of an earthquake wath the differences, calculate the distance to an earthquake, and woos it work? What is moment magnitude? What are the things that determine the moment magnitude of an earthquake? What is moment magnitude? What are the things that determine the moment magnitude of an earthquake? What is mome	Occion	Торіс	
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10.4 Studying Earthos			
	10.4	Studying Earthos	How do we know what inside the earth based upon earthquake waves?

	Final Study Guide Questions	
Geology	Fall Semester 2013-2014	Mr. Traeger

Section	Topic	Questions to Ponder		
	Interior	What is the shadow zone, Moho, and transition zone?		
		How do P and S waves behave in each layer? Where do they speed up and		
		where do they slow down? How do waves reflect and refract through the Earthos		
		layers?		
Chapter 11:	Mountain Building			
11.2	How Mountains	What are the types of stress in the earth?		
	Form	What are synclines and anticlines?		
		What is strike? What is dip? How can knowing both of them help a geologist to		
		map the subsurface geology of sedimentary folds?		
		Why does oil become trapped in anticlines?		
		What are the types of faults in the earthos crust?		
		What is a hanging wall? What is a foot wall?		
		What is the difference between normal, reverse, thrust, and strike-slip faults?		
11.3	Types of Mountains	How do folded mountains form?		
		How do dome mountain form?		
		How do fault block mountains form?		
		What is horst? What is graben? How were the mountains and valleys of the Basin		
		and Range province of the Western United States formed?		
		only talked about sections 29.1 and 29.2 when we did chapter 6 on sedimentary		
		logic maps when we talked about earthquakes.)		
29.1, 29.2,	Methods of Looking	How do scientists date a rock?		
29.3	into the Past	What is the difference between absolute and relative dating? What are the		
		shortfalls of each type? How can they be used together		
		What is the importance of fossils to establishing the geologic time scale?		
	Geologic Time Scale			
30.1	Geologic Time and	How is the geologic time scale organized? What is it based upon?		
	the Geologic Time	 How do evolution and major extinctions determine how the geologic time scale is 		
	Scale	constructed?		
		What is the difference between Eon, Era, Period, and Epoch?		
		• What were the series of astronomical and geological events that set the stage for		
		life to occur on our planet?		
		What is a geologic map and how do you read one?		

Geology Final Exam Schedule for Fall Semester 2013

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Date	Period	Who Takes It?	Subject	Time
Tuesday, 1/14/14	2	Everyone	Geology	7:50-9:55
Wednesday, 1/15/14	6	Everyone	Geology	10:20-12:25
Thursday, 1/16/14	4	Everyone	Geology	10:20-12:25

Frequently Asked Questions about Traeger's Final Exam

- What should I bring to the final? Bring your brain, a #2 pencil, a calculator, and any work that is due on the final day.
- What items are NOT allowed to be in use during the test? Notes, cheat sheets, cell phones, iPhones, Blackberries, iPods, your moving mouth, and wandering eyes are not allowed on the final.
- How much of my semester grade is the final worth? The final exam will be about 12-15% of your overall semester grade. The final exam will be included in the test category.
- What if I need extra time? There will be plenty of time to take the test.
- What is the format of the test? The test will be all multiple choice/true false/matching. I do not have time to grade a written portion on the Fall Final Exam.
- What is the best way to study for this test? Use this review sheet and answer EVERY question if you want 15 points added to your final exam grade. Use your book and the class website PowerPoint notes.
- How do I get help studying for the final? Email Mr. Traeger at ttraeger@lcusd.net or come by at lunch or after school!