


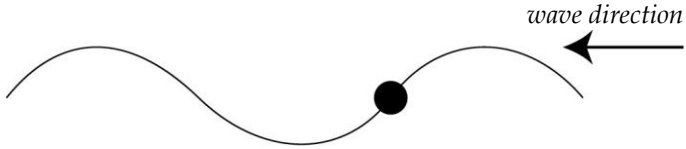
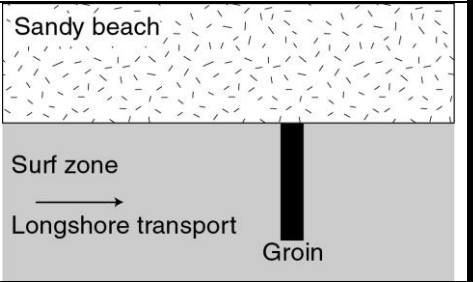
Geology 10 - Exam 3 Pass Sheet

If you can answer all these questions correctly on the exam, you will get a 70% pass. (Questions will appear on the exam in a different order and with different numbers.) There will be additional question on the exam (~25 to 30% of the exam will be better-than-pass questions - see weekly question sheets for content). These can help you to raise your grade from 70 (C) to a B (80-89) or A (90+). Note: YOU MUST BRING THIS COMPLETED SHEET WITH YOU TO TAKE THE EXAM - NO SHEET - NO EXAM. Exam will be closed notes, closed book, - you cannot use this sheet on the exam. Good luck!

<p>1. For each of the following objects, place in order from smallest (top) to tallest (bottom) and give depths/thicknesses/etc. in kilometers. (8 pts)</p> <p>Average thickness of ocean crust Continental shelf break depth Deep sea floor (abyssal plain) depth Deepest hole ever drilled on the planet Depth sea level would fall during an ice age Depth sea level would rise if all the ice melted Highest mountain elevation Radius of planet Earth</p>	<p>Object depth or height (smallest at top)</p>	<p>Depth in km</p>
<p>For each of the following events, place in order from youngest (top) to oldest (bottom). To do so, you'll have to research the age of each, but you need only memorize the ages of the items with * (12 pts).</p> <p>Age of Earth* Dinosaurs first evolve Dinosaurs go extinct* First life forms (bacteria)* Fishes Hard Parts* Largest mass extinction on planet Earth* Life moves onto land* Mammals first evolved Pangaea breaks apart Pangaea forms Photosynthesis* Start of the Cenozoic Period* Start of the Mesozoic Period* Start of the Paleozoic Period* Start of the Pleistocene Epoch* Start of the Precambrian Period* Trilobites</p>	<p>Event</p>	<p>Age</p>
<p>2. What percentage of the Earth is covered now by ice?</p>		
<p>3. Label crest and trough. Be precise! 4. Label wavelength and wave height. Be precise! 5. Draw a line at the depth below which water is unaffected by this wave's energy motion. Make it clear from where depth is measured. (Give equation for wave base.)</p>		

DATE: _____

NAME: _____

6. In this drawing of a floating ball on the water, indicate with arrows the motion of the ball when a wave passes through from the right side.			
7. In this drawing of a typical beach, note that someone just installed a groin - indicate on the graphic what happens to the beach as a result (the arrow represents direction of longshore drift).			
8. Where does all beach sand ultimately go? (Give the two primary sinks.)			
9. From where does all beach sand originally come? (Give the two primary sources.)			
10. List three depositional features of a shoreline.			
11. List three erosional features of a shoreline.			
12. Which coastal process dominates the East Coast of North America? (circle) Why?	deposition		
13. Which coastal process dominates the West Coast of North America? (circle) Why?	deposition		
14. What direction does a rip current move?			
15. What causes a rip current?			

	Period	Speed	Height	Wavelength
16. When waves approach	Increases	Increases	Increases	Increases
17. the coast, what happens to these traits? (Circle correct answer.)	Decreases	Decreases	Decreases	Decreases
	No change	No change	No change	No change
18. What is the general direction of longshore transport on North American beaches?				
19. What is the principal force that makes things stay on a hillside and NOT move downhill?				
20. How often do rivers flood (overtop their banks)?				
21. What kind of current occurs on a coast AFTER a high tide?				
22. What percentage of the Earth was covered at some time by ice during the Pleistocene?				
23. What is the principal force that makes things move downhill?				
24. When rivers flood, where do the largest grain sizes end up?				

25. Under what conditions does the ice in an alpine glacier move downhill?			
26. Under what conditions does a glacier retreat?			
27. List three depositional features of a glaciated valley.			
28. List three erosional features of a glaciated valley.			
29. What is till, and why is it so unique?			
30. Do all ice ages last the same amount of time (if so, how long is this period)?			
31. List three different ways for sea level to rise globally (NOT just locally).			
32. Describe at least three different characteristics of a hillside that would make it more prone to downslope movement.			
33. List at least three triggers that could make the above-described hillside finally fail (<i>not volcanoes!</i>).			
34. What/where is ultimate base level for most streams?			
35. Under what three conditions 36. will a stream erode (rather than deposit) sediment?			
37. Under what three conditions 38. will a stream deposit (rather than erode) sediment?			
39. List and describe the three kinds of load 40. that a river transports.			
41. What is alluvium, and why is it so unique?			
42. Describe how the shapes of river-eroded and glacially eroded mountain valleys differ (be specific!).			
43. What main characteristic of a region makes a stream running through it braided?			
44. What main characteristic of a region makes a stream running through it meander?			
45. When does most of the erosion happen for a river (and when rivers are most likely to change their paths?)			
46. Where is EROSION RATE highest? (circle) Headwaters Mouth	47. Where is FRICTION / DRAG highest? (circle) Headwaters Mouth	48. Where is GRADIENT highest? (circle) Headwaters Mouth	49. Where is DISCHARGE highest? (circle) Headwaters Mouth
50. What two main geologic processes 51. would open a closed system?			

52. What defines a closed system (necessary for radiometric dating)?			
53. What is an unconformity and what does it indicate about the geologic history in an area?			
Complete this table	54. Fraction of total that is still Parent	Fraction of total that is now daughter	55. Ratio of Parent to Daughter (P:D)
1 Half Life			
2 Half Lives			
3 Half Lives			
4 Half Lives			
56. If the P:D ratio in a closed system is measured to be 1:15, and the half-life of the P:D system is 40 m.y., how old is the rock? (Show work!)			
57. Which organisms have the best chance of being preserved as fossils?			
58. List two types of indirect fossils.			
59. List two types of direct fossils.			

REVIEW

60. From what main source did the oxygen in today's atmosphere originally come from?		
61. Where in the oceans is the newest ocean crust found?		
62. What kind of plate boundary do we live on here in San Francisco?		
63. Give three ways that continental crust differs from oceanic crust (be SPECIFIC!).		
64. Which earth layer is responsible for plate tectonics? (Without this layer there could be no tectonic movements!)		
65. What characteristics and behavior of this layer produce plate tectonics? (Be specific!)		
66. What two MAJOR factors lead to increased explosivity (hazard) of a volcano? (Be specific.)		
What are the two most common <u>detrital</u> minerals in sedimentary rocks? Why?		
Most common detrital minerals		Reason why each is so common
67.		
68.		
Complete this table:		
Produce magmas (melt mantle rock) by:		Geologic environment where this melt method occurs:
69.		
70.		
71.		