

ES104 Quiz 2 Study Guide – Summer 2020

Quiz 2 (20 Pts) Tuesday July 7, 2020

RECOMMENDED STUDY TECHNIQUES

- 1) review the "How to Study Physical Science" guide available on the web site.
- 2) use the concepts below as a guide to help you focus on your notes
- 3) memorize terms and concepts (make flash cards, rewrite definitions 100 times, etc.)
- 4) go back over the labs and make sure you can do the tricks / skills
- 5) review some of the important figures in your lab manual and text
- 6) Review the Moodle practice quizzes and answers; test yourself with questions and answers.
- 7) be able to link the terms to concepts, and the concepts to Earth processes
- 8) Go to the class website and view all "Slide Shows/Figures / Overheads to Accompany Class Notes"

Solar System / Stars / Universe Figures

Plate Tectonics

I would spend a MINIMUM of 2 hours studying for this quiz... if I wanted to do well! Study now!

Week 1 – Introduction

<http://www.wou.edu/las/physci/taylor/gs104/intro00.pdf>

Earth System Science

system

~~astronomy~~

~~geology~~

~~meteorology~~

~~oceanography~~

geosphere

atmosphere

hydrosphere

biosphere

inner core

outer core

mantle

crust

oceanic crust

continental crust

asthenosphere

nitrogen-oxygen-carbon dioxide

photosynthesis

~~earth-rotational-axis~~

scientific method

observation

hypothesis

hypoth. testing

model

theory

law

mass

matter

energy

thermal energy

mechanical energy

law of energy conservation

system

model

solar system

earth system

geothermal energy

examples of geothermal

Earth Controls:

solar energy

geothermal energy

gravity

age of earth = 4.5 b.y.

big bang

Week 1 – Solar System

<http://www.wou.edu/las/physci/taylor/gs104/univnew.pdf>

Earth system

rotational period

rotational direction

orbital period

lunar cycle

lunar system

lunar cycle

full moon

new moon

lunar orbital direction

terrestrial planets

jovian planets

"gas giants"

planets: m,v,e,m,j,s,u,n,p

"sun" / star

planet vs. moon

star vs. planet

~~speed of light~~

~~visible light~~

~~light-year~~

know your planet

characteristics

~~gravity~~

Week 2 - Plate Tectonics

<http://www.wou.edu/las/physci/taylor/gs104/tectonic.pdf>

Mineral

Element

Rock

Rock Types

Rock Cycle

Igneous

e.g. basalt

e.g. granite

Sedimentary

e.g. sandstone

Metamorphic

Magma

Lava

Weathering

Sediment

Volcano

Earthquake

Seismology	e.g. Cascades	Explain why we look back in time when we look into space?
Crust	Continental-Continental	
Oceanic	e.g. Himalayas	
Continental	Plate Motion Rates	
Lithosphere (Plate)	1-10 cm/yr	Can you list 3 essential characteristics of each of the planets? Can you name the planets in order from the sun?
Crust	Continental Rifting	
Upper Mantle	e.g. Red Sea	
Asthenosphere	Plate Driving Mechanism	
Outer Core	Internal Heat	
Inner Core	Radioactive Source	Can you draw and label a diagram of the lunar cycle
Plate Tectonics	Heat Exchange	Can you draw and label a diagram of the seasonal climate cycles of the Earth? Why do we have seasons?
Plate Boundaries	Mantle Convection	
Convergent	Convection cells	
Divergent	rising hot rock	
Transform	sinking cool rock	
Convergent	Ridge Push	
Subduction	Trench Pull	What types of geologic features are found at what types of plate boundaries? (e.g. volcano, earthquake, mountains, volcanic islands?)
Subduction Trench	Density Driven	
Volcanic Arc		
(e.g. Cascades)	<i>Skills and Concepts</i>	
Plate Destruction	Can you sketch the interior of the Earth?	
accretionary tectonics	Can you complete basic unit calculations from English to Metric and vice versa?	Can you draw and label a cross-section of a subduction zone? a seafloor spreading center?
Divergent	Can you calculate density?	How do we know that Hawaii is located over a hotspot? What is a hot spot ?
Seafloor Spreading	If given conversion factors, can you work a unit conversion problem?	What is the difference between continental drift and plate tectonics?
Mid-Oceanic Ridge	What is the scientific method?	How did the theory of plate tectonics evolve?
Plate Creation	Can you list the elements of the process?	Can you draw a diagram of the plate tectonic setting of the Pacific Northwest?
Transform Fault	Which direction does heat flow and why?	Can you associate / match plate tectonic setting to geologic - geographic areas, as discussed in class?
e.g. San Andreas	Why does a hot air balloon rise? Why do hot rocks rise? Why does magma rise, Why do their cold counterparts sink?	Can you calculate the rate of plate motion in cm/yr?
Alfred Wegner	What is the difference between a star and planet? A planet and moon?	
Continental Drift		
Jig-Saw Fit of Continents		
Pangaea		
Match-up of Fossils		
Match-up of Geology		
Modern Evidence		
Paleomagnetism		
Seafloor Stripes		
Polar Wandering		
Normal Polarity		
Reverse Polarity		
Seismic Distribution		
Volcanic Distribution		
Hot Spots		
Hot Spot Tracks /		
Hawaiian Islands		
Subduction Zone Types		
Oceanic-Oceanic		
e.g. Japan		
Oceanic-Continental		