

GEOL 105-005 Hargrave Fall 2017
Gen Ed Assessment

Learning Objective B1:

Upon successful completion of this course, students should be able to:

B.1. Apply key processes and scientific reasoning to draw reasonable conclusions within the natural sciences.

Exam Questions:

1. An atom of sodium (Na) has a single electron in its outer shell and an atom of chlorine (Cl) has seven (7) electrons in its outer shell. What happens when these two elements bond?
 - a. Sodium shares its electron with chlorine.
 - b. The compound becomes poisonous.
 - c. Sodium becomes negatively charged.
 - d. There is a transfer of one electron from sodium to chlorine.
2. What is the driving mechanism for plate tectonics?
 - a. gravity and magnetism acting on continents
 - b. convective heat deep within Earth
 - c. volcanoes and earthquakes at plate boundaries
 - d. tidal forces caused by the moon
3. Lava flows are typically finer grained than intrusive igneous rocks. Why?
 - a. The extrusive lava, because it is deep below the surface, cools very slowly producing very small mineral grains.
 - b. The extrusive lava cools quickly so the mineral grains do not have time to grow.
 - c. Intrusive magma flows onto the Earth's surface and cools very slowly, allowing many small mineral grains to grow.
 - d. Intrusive magma is cooler because it is well insulated by the surrounding rock.
4. As sediment is transported downstream, away from its point of origin, the particles become _____.
 - a. better sorted
 - b. rounder
 - c. smaller
 - d. All of the choices are correct
5. Wave-formed ripple marks _____.
 - a. form in undisturbed deep-sea sedimentary environments
 - b. form when clay-rich sediment dries and shrinks
 - c. tend to have symmetrical shape
 - d. are poor indicators of ancient current directions
6. Only igneous and sedimentary rocks can be deformed.
 - a. True
 - b. False
7. We know that the mantle is not molten because P-waves can travel through it.
 - a. True
 - b. False

Results:

Instructor	Hargrave	
Section	1	
Question	1	43%
	2	73%
	3	75%
	4	95%
	5	62%
	6	92%
	7	59%
Average		71%

Learning Objective B2:

Upon successful completion of this course, students should be able to:

B.2. Use critical and logical thinking, knowledge of accepted scientific methods, and appropriate sources to evaluate the credibility of information with scientific content.

Exam Questions:

1. If the continents were once joined together, rocks and mountain ranges on the margins of each should have

_____.

- a. formed the same sequences but at different times
- b. formed different sequences at the same time
- c. formed under different conditions at different times
- d. formed under the same conditions and in the same sequence

2. Glacially deposited strata were important in the development of continental drift theory because _____.

- a. the distribution of glacial deposits indicated that the entire Earth must have been glaciated at one time
- b. the glacial deposits indicated that all of the southern continents must have been closer to the South Pole and connected
- c. they indicated that large glaciers affect the rate of continental drift
- d. the distribution of coal-swamp deposits indicated that the entire Earth must have been very warm while glaciers formed

3. Geologists use _____ and their knowledge of present-day depositional processes to make determinations about a rock's depositional environment.

- a. anthropology
- b. archeology
- c. the principle of uniformitarianism
- d. the principle of catastrophism

4. P-waves travel faster than S-waves _____.

- a. when the ground surface is dense and elastic
- b. when both waves pass through liquid
- c. only when the earthquake is generated in Earth's core
- d. under all circumstances

