

Internal Structure of the Earth Self-Test: 15 questions

Special Instructions:

Using your mouse, click on the one, BEST answer. Upon completion of the exam, click the SUBMIT button, and the exam will be graded for you. You will also have the opportunity to review how well you answered each question.

1. Which one of the following term associations must accurately describe oceanic crust?:

- basaltic; density of 3.3 g/cm³
- basaltic; density of 2.8 g/cm³
- granitic; density of 3.3 g/cm³
- granitic; density of 2.8 g/cm³
- sandstone, of varying density

2. The Moho separates:

- the outer core from the inner core
- the mantle from the core
- the asthenosphere from the mesosphere
- the lithosphere from the asthenosphere
- the crust from the mantle

3. One would utilize a dip-needle specifically to measure:

- gravitational force
- magnetic declination
- seismic intensity
- magnetic inclination
- fault motion

4. Which one of the following statements demonstrates isostatic rebound?:

- A body of iron ore induces a positive gravity anomaly.
- The Lake Superior basin today is gradually tilting southward.
- Oceanic crust is denser than continental crust.

- Rock salt induces a negative gravity anomaly.
- The Himalaya Mountains deflect the position of a surveyor's plumb bob.

5. Which one of the following term associations is FALSE?:

- asthenosphere --- plastic
- lithosphere --- rigid solid
- outer core --- rigid solid
- oceanic crust --- rigid solid
- continental crust --- rigid solid

6. To induce a positive Bouguer anomaly, a rock unit should have the following property:

- transmit only P waves
- be denser than average
- transmit only L waves
- demonstrate magnetic inclination
- lie within the seismic shadow zone

7. The lithosphere represents the:

- crust and uppermost, rigid mantle
- uppermost rigid mantle, only
- asthenosphere and the mesosphere
- entire mantle
- outer core and the inner core

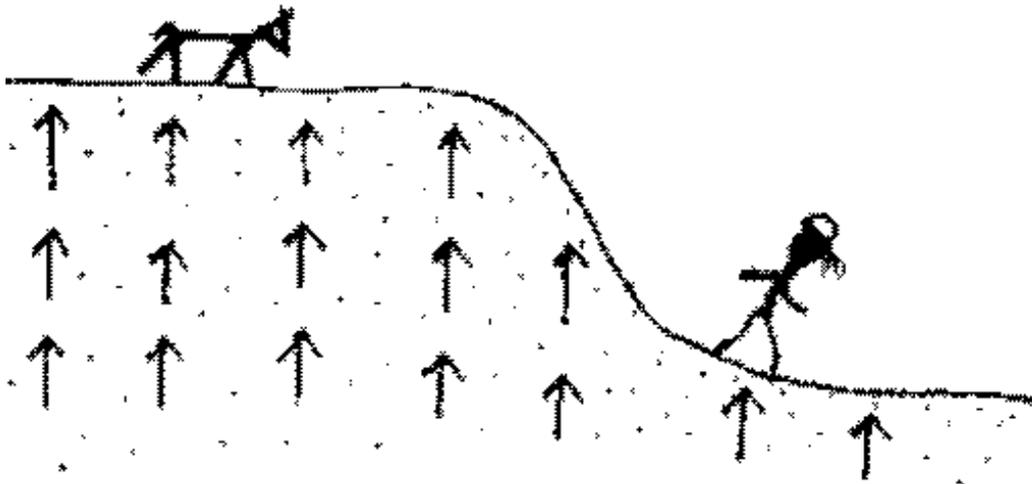
8. To observe 0° declination, one must be positioned: (One, BEST answer).

- away from a magnetic pole and on a line connecting both the magnetic and rotational poles
- anywhere along the Equator, facing either north or south, only
- anywhere along the Equator, facing either east or west, only
- at a rotational pole, facing in any direction
- anywhere along the Equator, facing in any direction

9. The Curie Temperature is important in explaining:

- the effect of the outer core on S waves
- the effect of the outer core on P waves
- depositional remanent magnetism

- thermoremanent magnetism
- the cause of magnetic reversals

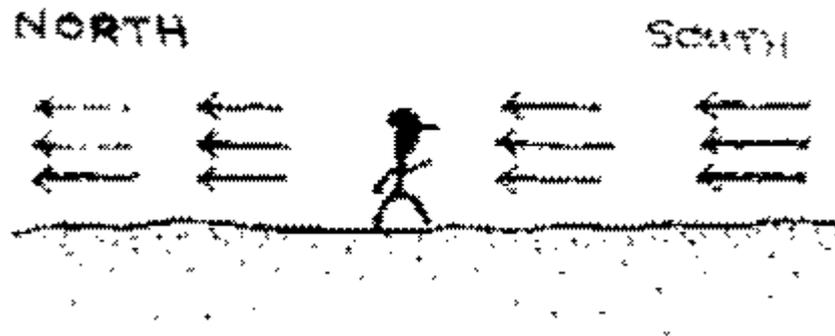


10. Ms. Stick (and her mighty dog, Twig) are observing remanent magnetism in bedrock, as shown by the lines of force (above). If these rocks formed during a time of magnetic *reversal*, near what geographic position were they formed?:
 (NOTE: You may assume that the position of these rocks has not been disturbed since the time of their formation).

- near the North rotational pole
- near the South rotational pole
- near the Equator
- halfway between the Equator and the North rotational pole
- halfway between the Equator and the South rotational pole

11. A polar wandering curve:

- shows that the magnetic poles wandered relative to fixed continents
- shows that the rotational poles wandered to fixed continents
- shows that the continents wandered relative to generally-fixed pole positions
- is a graph of the Mercalli Index
- is a graph utilized to interpret the Richter Scale



12. With reference to the figure (above) showing the direction of magnetic lines-of-force, where is Mr. Stick?:

- At the Equator, during a time of normal polarity
- At the Equator, during a time of reversed polarity
- At the North rotational pole, during a time of normal polarity
- At the North magnetic pole, during a time of reversed polarity
- At the South magnetic pole, during a time of reversed polarity

13. That body waves could be utilized in determining Earth structure was central to the studies of:

- Airy
- Lehmann
- Bouguer
- du Toit
- Wegener

14. Which one of the following statements is TRUE about the poles?:

- The magnetic pole is exactly at the same point as the rotational pole.
- Magnetic North is True North.
- The magnetic lines-of-force (today) emanate from the region of the South magnetic pole.
- The Earth spins about an axis connecting the magnetic poles.
- Unlike the rotational poles, the magnetic poles never shift in geographic position.

15. Which one of the following illustrates the principles of isostasy?:

- assigning an intensity of XII to a severe earthquake
- assigning a magnitude of 8 to a severe earthquake
- observing the differential arrival of P and S waves

- ❑ tall mountains are supported by deep roots
- ❑ the magnetic field occasionally undergoes reversal