TOSS-UP

1. EARTH SCIENCE: What is the fracture of a mineral?

(W) Tendency of some minerals to break unevenly along curved or irregular surfaces

(X) Tendency of some minerals to break along flat surfaces

(Y) Tendency of minerals to dissolve in water

(Z) An optical property of a mineral

ANSWER: W – TENDENCY OF SOME MINERALS TO BREAK ALONG UNEVENLY ALONG CURVED OR IRREGULAR SURFACES

BONUS

1. EARTH SCIENCE; Short Answer: What term describes a fractured surface of a mineral with sharp jagged irregularities?

ANSWER: HACKLY

TOSS-UP

1. EARTH SCIENCE; Short Answer: Which type of breaking wave rolls into steep beaches and are known for their destructive nature?

ANSWER: SURGING BREAKERS

BONUS

2. EARTH SCIENCE; Short Answer: Which type of breaking wave curls over forming a tunnel until the waves break? This type is best for surfing.

ANSWER: PLUNGING BREAKERS

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: Which type of currents develops when the waves are not hitting the beach perpendicularly?

(W) Upwelling

(X) Deep Water Currents

(Y) Longshore Current

(Z) Gyres

ANSWER: Y – Longshore Current

BONUS

3. EARTH SCIENCE; Short Answer: What are potentially dangerous effects of the longshore currents which occur when the longshore currents are parallel to the beach and bounce seaward?

ANSWER: RIP CURRENTS (ALSO ACCEPT RIP TIDES)

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: Which type of wind drives large surface currents year round?

(W) Trade winds

(X) Global winds

(Y) Zephyr

(Z) Chinook

ANSWER: W – TRADE WINDS

BONUS

4. EARTH SCIENCE; Short Answer: Which trade winds are located in the highest latitudes?

ANSWER: POLAR EASTERLIES

TOSS-UP

1. EARTH SCIENCE; Short Answer: Which types of currents flow in large rotating loops?

ANSWER: GYRES

BONUS

5. EARTH SCIENCE; Short Answer: In the Southern Hemisphere, which way do the gyres rotate?

ANSWER: COUNTERCLOCKWISE

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: What is a narrow strip of land connecting two bigger portions of land?

(W) Strait

(X) Cape

(Y) Sound

(Z) Isthmus

ANSWER: Z - ISTHMUS

BONUS

6. EARTH SCIENCE; Short Answer: What is a narrow inlet that extends from a larger body of water into land?

ANSWER: ARM

TOSS-UP

1. EARTH SCIENCE; Short Answer: What is the highest point on a wave called?

ANSWER: CREST

BONUS

7. EARTH SCIENCE; Short Answer: What is wave a forward motion of?

ANSWER: ENERGY

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: Which type of reef is separated from land by lagoons?

(W) Fringing Reef

(X) Veiling Reef

(Y) Atolls

(Z) Barrier Reef

ANSWER: Z – BARRIER REEF

BONUS

8. EARTH SCIENCE; Short Answer: Which land feature do atolls surround?

ANSWER: LAGOONS

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: What are flat-topped extinct underwater volcanoes, located mostly in Pacific, called?

(W) Guyots

(X) Mid-Ocean Ridges

(Y) Seamounts

(Z) Continental Slope

ANSWER: W - GUYOTS

BONUS

9. EARTH SCIENCE; Short Answer: What is a gently sloping underwater pile of crushed submarine fans called?

ANSWER: CONTINENTAL RISE

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: What is the flat part of the seafloor called, normally extending from the continental rise to mid-ocean ridges?

(W) Continental margin

(X) Passive margin

(Y) Abyssal plain

(Z) Continental shelf

ANSWER: Y – ABYSSAL PLAIN

BONUS

10. EARTH SCIENCE; Short Answer: What are depressions in the abyssal plains, formed when oceanic tectonic plates slip under continental plates?

ANSWER: TRENCHES

TOSS-UP

1. EARTH SCIENCE; Short Answer: What is the point in oceans where the water temperature drops the fastest?

ANSWER: THERMOCLINE

BONUS

11. EARTH SCIENCE; Short Answer: What is the point in oceans where the water density rapidly changes?

ANSWER: PYCNOCLINE

TOSS-UP

1. EARTH SCIENCE; Short Answer: Name the five mechanical layers of the Earth.

ANSWER: LITHOSPHERE, AESTHENOSPHERE, MESOSPHERE, OUTER CORE, INNER CORE (IN NO PARTICULAR ORDER)

BONUS

12. EARTH SCIENCE; Short Answer: Which compositional layer of the Earth is located under the crust?

ANSWER: MANTLE

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: Which type of volcano is gently sloping and not explosive due to low viscosity and low silicon content?

(W) Stratovolcano

(X) Shield volcano

(Y) Lava Dome

(Z) Composite volcano

ANSWER: X – SHIELD VOLCANO

BONUS

13. EARTH SCIENCE; Short Answer: Which type of volcano forms when gas accumulates in the magma chamber?

ANSWER: LAVA DOME

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: Which pyroclastic particles range in size from 2 mm to 64 mm in diameter?

(W) Lapilli

(X) Volcanic ash

(Y) Ignimbite

(Z) Tephra

ANSWER: W – LAPILLI

BONUS

14. EARTH SCIENCE; Short Answer: What volcanic hazard takes the form of a fast moving gaseous cloud of hot ashes and other materials thrown out from an erupting volcano?

ANSWER: NUÉE ARDENTE

TOSS-UP

1. EARTH SCIENCE; Short Answer: What is the full name for the boundary between the crust and the mantle?

ANSWER: MOHOROVICIC DISCONTINUITY

BONUS

15. EARTH SCIENCE; Short Answer: In which mechanical layer of the Earth are the plate tectonics located??

ANSWER: LITHOSPHERE

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: Which seismic wave does not travel through liquid?

(W) P Wave

(X) L Wave

(Y) T Wave

(Z) S Wave

ANSWER: Z – S WAVE

BONUS

16. EARTH SCIENCE; Short Answer: Which seismic wave travels the slowest in rolling motions?

ANSWER: L WAVES (ALSO ACCEPT: LONG WAVES)

TOSS-UP

1. EARTH SCIENCE; Short Answer: Which scale measures the magnitude of an earthquake from the amplitude of the largest seismic wave recorded?

ANSWER: RICHTER SCALE

BONUS

17. EARTH SCIENCE; Short Answer: Which scale measures the intensity of an earthquake at any one location?

ANSWER: MERCALLI SCALE

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: Which of Hawaii’s islands is the youngest?

(W) Hawaii

(X) Kauai

(Y) Maui

(Z) Oahu

ANSWER: W - HAWAII

BONUS

18. EARTH SCIENCE; Short Answer: Which of Hawaii’s islands is the oldest?

ANSWER: KUAI

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: Which type of magma is capable of rising to the surface and solidifying within the crust to form plutons?

(W) Basaltic Magma

(X) Felsic magma

(Y) Mafic Magma

(Z) Andesitic Magma

ANSWER: X – FELSIC MAGMA

BONUS

19. EARTH SCIENCE; SHORT ANSWER: Which type of magma is the hottest, ranging from 1000°C to 2000°C?

ANSWER: BASALTIC MAGMA (ALSO ACCEPT: MAFIC MAGMA)

TOSS-UP

1. EARTH SCIENCE; Short Answer: Which method do scientists often use to determine the location of an earthquake’s epicenter, based on the relative locations of cities and landmarks close to the earthquake?

ANSWER: TRIANGULATION

BONUS

20. EARTH SCIENCE; Short Answer: Which two seismic waves do scientists consider when applying triangulation?

ANSWER: P WAVE AND S WAVE (IN ANY ORDER)

TOSS-UP

1. EARTH SCIENCE; Short Answer: Which type of fold in the rock layer makes the rock sink down due to compression?

ANSWER: Y - SYNCLINE

BONUS

21. EARTH SCIENCE; Short Answer: Which fold is equivalent to anticlines, but is comprised of layers shaped like an inverted bowl?

ANSWER: DOME

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: In normal faults, which way does the hanging wall move in relative to the footwall?

(W) Right

(X) Left

(Y) Up

(Z) Down

ANSWER: Z - DOWN

BONUS

22. EARTH SCIENCE; Short Answer: In which type of fault does the hanging wall move up in relative to the footwall?

ANSWER: REVERSE FAULT

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: Which of the following species is NOT a fossil evidence for continental drift?

(W) Mesosaurus

(X) Laganosuchus

(Y) Lystrosaurus

(Z) Cynognathus

ANSWER: X - LAGANOSUCHUS

BONUS

23. EARTH SCIENCE; Short Answer: In which period of the Mesozoic Era did the Cynognathus live?

ANSWER: TRIASSIC PERIOD

TOSS-UP

1. EARTH SCIENCE; Short Answer: In which geological time period did the first flowering plants evolve and the first birds appear?

ANSWER: JURASSIC PERIOD

BONUS

24. EARTH SCIENCE; Short Answer: In which geological time period did the first amphibians appear and the fish become abundant?

ANSWER: DEVONIAN PERIOD

TOSS-UP

1. EARTH SCIENCE; Short Answer: Which famous astronomical theory is a set of hypotheses regarding climate change?

ANSWER: MILANKOVITCH THEORY

BONUS

1. EARTH SCIENCE; Short Answer: Which term is used by Milankovitch and other scientists to describe the shape of the Earth’s orbit around the Sun?

ANSWER: ECCENTRICITY