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| 25 Earth Science Questions |
| Mira Loma Science Bowl 2009-2010 |
|  |
| Russ Islam |
| 12/6/2009 |

TOSS-UP

1. EARTH SCIENCE; Multiple Choice: The boundary between a continent and a deep-ocean

basin is known as what?

(W) Continental margin

(X) Continental slope

(Y) Continental shelf

(Z) Continental boundary

ANSWER: X—CONTINENTAL SLOPE

BONUS

1. EARTH SCIENCE; Multiple Choice: What is the name of the portion of the seafloor that is

adjacent to major landmasses?

(W) Continental margin

(X) Deep-ocean basin

(Y) Abyssal plain

(Z) Continental margin

ANSWER: W—CONTINENTAL MARGIN

TOSS-UP

2. EARTH SCIENCE; Short Answer: What is the term for the tendency of a mineral to break

along planes of weak bonding?

ANSWER: CLEAVAGE

BONUS

1. EARTH SCIENCE; Multiple Choice: Which of the following is not true of minerals?

(W) They possess orderly crystalline structures

(X) They can be organic

(Y) They are solid

(Z) They have a definite chemical composition

ANSWER: X—THEY CAN BE ORGANIC

TOSS-UP

1. EARTH SCIENCE; Short Answer: To the nearest whole number, what is the Mohs hardness for quartz?

ANSWER: 7

BONUS

3. EARTH SCIENCE; Short Answer: What is the fundamental building block of all silicates?

ANSWER: SILICON-OXYGEN TETRAHEDRON

TOSS-UP

4. EARTH SCIENCE; Short Answer: What is mineral name of the compound with the chemical name lead sulfide?

ANSWER: GALENA

BONUS

4. EARTH SCIENCE; Multiple Choice: Which of the following is not a mineral?

(W) Ice

(X) Gold

(Y) Graphite

(Z) Glyceraldehyde-3-phosphate

ANSWER: Z—GLYCERALDEHYDE-3-PHOSPHATE

TOSS-UP

5. EARTH SCIENCE; Multiple Choice: Which of the following minerals displays cleavage in two orthogonal planes?

(W) Plagioclase

(X) Olivine

(Y) Muscovite

(Z) Hornblende

ANSWER: W—PLAGIOCLASE

BONUS

5. EARTH SCIENCE; Multiple Choice: Which of the following animals is not a protostome?

(W) Hydra

(X) Rotifer

(Y) Giant squid

(Z) Coelocanth

ANSWER: Z—COELOCANTH

TOSS-UP

1. EARTH SCIENCE; Short Answer: What is the process whereby lava or magma cools to form igneous rock?

ANSWER: CRYSTALLIZATION

BONUS

6. EARTH SCIENCE; Short Answer: A rock that has large crystals embedded in a matrix of smaller crystals is said to have what type of texture?

ANSWER: PORPHYRITIC TEXTURE

TOSS-UP

7. EARTH SCIENCE; Multiple Choice: What layer of soil is known as the subsoil?

(W) O horizon

(X) A horizon

(Y) E horizon

(Z) B horizon

ANSWER: Z—B HORIZON

BONUS

7. EARTH SCIENCE; Multiple Choice: Swelling clay soils are also known as

(W) Mollisols

(X) Vertisols

(Y) Ultisols

(Z) Alfisols

ANSWER: X—VERTISOLS

TOSS-UP

8. EARTH SCIENCE; Short Answer: What is the third most abundant element in Earth’s crust?

ANSWER: ALUMINUM

BONUS

8. EARTH SCIENCE; Multiple Choice: What is the principal ore of aluminum?

(W) Corundum

(X) Feldspar

(Y) Plagioclase

(Z) Bauxite

ANSWER: Z—BAUXITE

TOSS-UP

9. EARTH SCIENCE; Multiple Choice: In a delta, a river divides into several smaller channels known as

(W) Trellises

(X) Distributaries

(Y) Yazoo tributaries

(Z) Dendritic patterns

ANSWER: X—DISTRIBUTARIES

BONUS

1. EARTH SCIENCE; Short Answer: What type of dam is used to store floodwater and then let it out slowly?

ANSWER: FLOOD-CONTROL DAM

TOSS-UP

10. EARTH SCIENCE; Short Answer: To the nearest whole number, what percent of fresh water is groundwater?

ANSWER: 14%

BONUS

10. EARTH SCIENCE; Multiple Choice: Which of the following is not a common neurotransmitter?

(W) Gamma-aminobutyric acid

(X) Glycine

(Y) Serotonin

(Z) Indole acetic acid

ANSWER: Z—INDOLE ACETIC ACID

TOSS-UP

11. EARTH SCIENCE; Short Answer: The water table is the upper limit of what zone?

ANSWER: ZONE OF SATURATION

BONUS

11. EARTH SCIENCE; Multiple Choice: The area of the water table is known as what?

(W) Zone of impermeability

(X) Zone of differentiation

(Y) Zone of aeration

(Z) Zone of anaeration

ANSWER: Y—ZONE OF AERATION

TOSS-UP

12. EARTH SCIENCE; Short Answer: Impermeable layers, such as clay, that hinder or

prevent the movement of water are known as what?

ANSWER: AQUATARDS

BONUS

12. EARTH SCIENCE; Multiple Choice: What is the term for the percentage of the total

volume of rock or sediment that consists of pore spaces?

(W) Permeability

(X) Porosity

(Y) Infiltration

(Z) Saturation

ANSWER: X—POROSITY

TOSS-UP

13. EARTH SCIENCE; Multiple Choice: The source of an earthquake is known as the

(W) Center

(X) Epicenter

(Y) Locus

(Z) Focus

ANSWER: Z—FOCUS

BONUS

13. EARTH SCIENCE; Short Answer: Small earthquakes that precede a major earthquake are known as what?

ANSWER: FORESHOCKS

TOSS-UP

14. EARTH SCIENCE; Short Answer: Who proposed the theory of continental drift in his

book *The Origin of Continents and Oceans*?

ANSWER: ALFRED WEGENER (ACCEPT: WEGENER)

BONUS

14. EARTH SCIENCE; Multiple Choice: The supercontinent that contained all the earth’s

landmass is known as Pangea. What is the global ocean that existed at the same time

Pangea did?

(W) Panthea

(X) Panmaria

(Y) Marialassa

(Z) Panthalassa

ANSWER: Z—PANTHALASSA

TOSS-UP

15. EARTH SCIENCE; Short Answer: What is the general term for dissolved gases held under high pressure in magma?

ANSWER: VOLATILES

BONUS

15. EARTH SCIENCE; Multiple Choice: Continued eruption from a flank eruption in a volcano can produce a

(W) Parasitic cone

(X) Fumarole

(Y) Caldera

(Z) Crater

ANSWER: W—PARASITIC CONE

TOSS-UP

16. EARTH SCIENCE; Short Answer: What is the opposite of an anticline?

ANSWER: A SYNCLINE

BONUS

16. EARTH SCIENCE; Multiple Choice: Faults in which the movement is primarily parallel

to the inclination of the fault surface are known as

(W) Strike-slip faults

(X) Dip-slip faults

(Y) Transform faults

(Z) Divergent faults

ANSWER: X—DIP-SLIP FAULTS

TOSS-UP

17. EARTH SCIENCE; Multiple Choice: The concept of a floating crust in gravitational balance is called

(W) Adjustment

(X) Continental buoyancy

(Y) Isostasy

(Z) Gravitational equilibrium

ANSWER: Y—ISOSTASY

BONUS

17. EARTH SCIENCE; Short Answer: What is the scientific term for mountain-building?

ANSWER: OROGENESIS

TOSS-UP

18. EARTH SCIENCE; Multiple Choice: Who proposed the theory of uniformitarianism?

(W) Lyell

(X) Hutton

(Y) Lamarck

(Z) Ussher

ANSWER: X—HUTTON

BONUS

18. EARTH SCIENCE; Short Answer: What is the theory that states that Earth’s landscapes

have been primarily developed by great catastrophies?

ANSWER: CATASTROPHISM

TOSS-UP

19. EARTH SCIENCE; Multiple Choice: Discomformities and noncomformities are two types of

(W) Unconformities

(X) Inclusions

(Y) Exclusions

(Z) Angularities

ANSWER: W—UNCONFORMITIES

BONUS

19. EARTH SCIENCE; Short Answer: The matching up rocks of similar age in different regions is known as what?

ANSWER: CORRELATION

TOSS-UP

20. EARTH SCIENCE; Multiple Choice: Name the bowl-shaped depression at the head of a

glacier.

(W) Arete

(X) Cirque

(Y) Glacial trough

(Z) Horn

ANSWER: X—CIRQUE

BONUS

20. EARTH SCIENCE; Short Answer: Ridges of material along the side of a valley after a

glacier leaves are known as what?

ANSWER: LATERAL MORAINES

TOSS-UP

21. EARTH SCIENCE; Short Answer: What era of geologic time is also known as the Age of

Reptiles?

ANSWER: MESOZOIC ERA

BONUS

21. EARTH SCIENCE; Multiple Choice: Which of the following is not true of the Cenozoic Era?

(W) Foraminifera became important

(X) Angiosperms experienced rapid development

(Y) Mammals became dominant

(Z) *Archaeopteryx* lived during this era

ANSWER: Z—*ARCHAEOPTERYX*  LIVED DURING THIS ERA

TOSS-UP

22. EARTH SCIENCE; Short Answer: What often forms on the leeward side of a mountain

and is characterized by a dry and arid climate?

ANSWER: RAIN SHADOW DESERT

BONUS

22. EARTH SCIENCE; Multiple Choice: In the latitude zone poleward of the wet tropics and

equatorward of the subtropical deserts lies a transitional climatic region called

(W) Tropical wet and dry

(X) Arid

(Y) Semiarid

(Z) Steppe

ANSWER: W—TROPICAL WET AND DRY

TOSS-UP

23. EARTH SCIENCE; Short Answer: What is the study of measuring the depth of ocean and

mapping its topography?

ANSWER: BATHYMETRY

BONUS

23. EARTH SCIENCE; Multiple Choice: What type of sonar was developed after World War II by the US Navy and can be used to find mines?

(W) Ping

(X) Echo Sounder

(Y) Sidescan

(Z) High-resolution multibeam

ANSWER: Y—SIDESCAN

TOSS-UP

24. EARTH SCIENCE; Multiple Choice: What scale places hurricanes in 5 different number

categories?

(W) Fujita Scale

(X) Saffir-Simpson Scale

(Y) Beedle-Tatum Scale

(Z) Avery Scale

ANSWER: X—SAFFIR-SIMPSON SCALE

BONUS

24. EARTH SCIENCE; Short Answer: A tornado with a wind speed of 500 kilometers per

hour has a Fujita scale reading of what?

ANSWER: F5

TOSS-UP

25. EARTH SCIENCE; Short Answer: A dome of water 65 to 80 kilometers wide that sweeps across the coast where a hurricane’s eye makes landfall is known as what?

ANSWER: STORM SURGE

BONUS

25. EARTH SCIENCE; Multiple Choice: A cyclone with wind speeds between 61 and 119

kilometers is known as a

(W) Tropical depression

(X) Tropical storm

(Y) Level 1 hurricane

(Z) Level 2 hurricane

ANSWER: X—TROPICAL STORM