

KEY

Earth Science Reference Table Game

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Game Directions:

The class is divided into teams of four. Each team takes turns answering the following questions. The students will use the Earth Science Reference Table for Physical Setting/Earth Science as a reference to solve the questions.

Step 1:

Please state the page number and the title of the chart that answers the question. (Two points awarded)

Step 2:

Answer the specific question correctly for two points.

(Each question can be awarded up to four total points)

Questions

- 1 What planet is more than 17 times the mass of the Earth?
p. 15, Solar System Data, Jupiter Neptune Saturn
- 2 Where is the barometric pressure recorded around a station model?
p. 13, Station Model Explanation, Top Right
- 3 In what period did the earliest mammals appear?
p. 8, Geologic History of New York State, Triassic
- 4 Uranium-238 decays to what element?
p. 1, Radioactive Decay Data, ^{206}Pb
- 5 Which is the faster wave, an S wave or a P wave?
p. 11, Earthquake P-wave and S-wave Travel Time
P-wave is faster
- 6 Which layer of the atmosphere has temperatures that exceed 15°C ?
p. 14, Selected Properties of Earth's Atmosphere
Thermosphere
- 7 List the ocean currents that can be found between the equator and 20°N latitude.
p. 4, Surface Ocean Currents
North Equatorial
South Equatorial
Equatorial Countercurrent
Guinea
- 8 The age of an object, by carbon-14 age dating, is found to be about 17×10^3 years old. How many half-lives does this represent?
p. 1, Radioactive Decay Data, 3

MOST*

VOCABULARY

Read through the ESRT and find 5 to 10 words that you do not know. Write these down in your notebook and define them.

MATERIALS:

Earth Science Reference Tables for Physical Setting/Earth Science

Notebook

Pencil or Pen

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Students should be able to know how to find:

The terms found in the Earth Science Reference Table (ESRT)
Correctly naming answers to questions regarding the ESRT
Correct answers to the questions from the ESRT

Earth Science Reference Table Game

Name: _____

Date: _____

Partner(s) Name: _____

Questions continued

9 The Peru-Chile Trench is what type of boundary?

p. 5, Tectonic Plates, Convergent

10 Convert 80 degrees Celsius to Fahrenheit and Kelvin.

p. 13, Temperature, 176°F 353K

11 Which layer of the earth is thought to drive plate tectonics on the surface?

p. 10, Inferred Properties of the Earth's Interior, Asthenosphere

12 The Adirondack Mountains are made of what type of rock? (Be specific)

p. 2+3, Generalized Landscape Regions of New York State gneisses, quartzite
Generalized Bedrock Geology of New York State marble, anthracite

13 What processes are involved in forming a metamorphic rock?

p. 6, Rock Cycle In Earth's Crust, Heat and/or Pressure Metamorphism

14 For water, which phase change releases 2260 J/g of energy?

p. 1, Properties of Water, condensation

15 Which planet's year is close to 88 days?

p. 15, Solar System Data, Mercury

16 A particle of .1 cm would require a stream velocity of how much to be carried by the stream?

p. 6, Relationship of Transported Particle Size to Water Velocity 5cm/s

17 What planet has a mean distance from the sun of 227.9 million km?

p. 15, Solar System Data, Mars

18 List the states that border New York state.

p. 3, Generalized Bedrock Geology of New York State
Pennsylvania, New Jersey, Connecticut, Massachusetts, Vermont

19 In what era did the earliest flowering plants appear?

p. 8, Geologic History of New York State, Mesozoic

20 The specific heat of basalt is?

p. 1, Specific Heat of Common Materials, $0.84 \text{ J/g}^{\circ}\text{C}$

21 Name the plate found at 20° North latitude and 40° East longitude.

p. 5, Tectonic Plates, Arabian Plate

Earth Science Reference Table Game

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Questions continued

22 In which era did the earliest insects, first coral reefs and first forests occur?

p. 8, Geologic History of New York State, Paleozoic

23 What is the formula for eccentricity.

p. 1, Equations, Eccentricity = $\frac{\text{distance between foci}}{\text{length of major axis}}$

24 Which element makes up 94 percent, by volume, of the earth's crust?

p. 1, Average Chemical Composition of Earth's Crust, Hydrosphere, and Troposphere

25 A white mineral has a greasy feel and a hardness of one.

Oxygen

This mineral is most likely called Talc.

p. 16, Properties of Common Minerals

26 What is the time period during which Adirondack Mountain rocks were formed?

p. 2+3, Generalized Landscape Regions of New York State Middle Proterozoic

27 In the first four ~~seconds~~ minutes after an earthquake, how far will the S wave travel?

p. 11, Earthquake P-wave and S-wave Travel Time, 1000 km

28 Phacops, Tetragraptus and Stylonurus are examples of index fossils.

p. 8, Geologic History of New York State

29 If the difference between the wet-bulb and dry-bulb temperatures is 3 ° Celsius, and the air temperature is 12 ° Celsius, the relative humidity will be 67 %

p. 12, Relative Humidity

30 Where is the temperature located around a station model?

p. 13, Station Model Explained, Top Left

31 In what phase does earth's inner core exist?

p. 10, Inferred Properties of the Earth's Interior, Liquid

32 A rock containing plagioclase feldspar, pyroxene, and amphibole with large crystalline structure would be called a Gabbro.

p. 6, Scheme for Igneous Rock Identification

33 Going from a gamma ray to a radio wave increases what characteristic of the electromagnetic wave?

p. 14, Electromagnetic Spectrum, wavelength

Earth Science Reference Table Game

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Questions *continued*

34 Which era contains the earliest dinosaurs?

p. 8, Geologic History of New York State, Mesozoic

35 A mineral has a hardness of 2.5, cubic cleavage, and melts ice. What is this mineral's name?

p. 16, Properties of Common Minerals, Halite

36 Convert 29.60 inches to millibars.

p. 13, Pressure, 1002.3 mb

~~37 The depth of the ocean is _____?~~

38 List five major plates of the Earth.

p. 5, Tectonic Plates, Any 5 on Map

39 Obsidian is made of what ^{five} four components?

p. 6, Scheme for Igneous Rock Identification, Potassium Feldspar, Quartz, Plagioclase, Feldspar, Biotite, Amphibole

40 Create your own question and answer for the rest of the class.

New York State Standards

Physical Setting Earth Science: High School

Standard 4:

Key Idea 1, Key Idea 2, Key Idea 3