6th Grade Earth Science Semester 1 Exam Study Guide

S6E5 a. Compare and contrast the Earth's crust, mantle, and core including temperature, density, and composition.

1. Describe the state of matter and composition of the ~~mantle~~ earth (for all 3 layers). Crust: solid rock, mostly granite and basalt; Mantle: Solid and liquid rock; Core: outer core is liquid iron and nickel, inner is solid iron and nickel
2. Which layer of earth is made up of tectonic plates? lithosphere
3. How do we know what the inside of the earth looks like and what it is made of? By recording and studying seismic waves
4. What happens to the earth's pressure the deeper you go into the earth? It increases
5. The Outer Core is responsible for making the earth's magnetic field.
6. The core is mostly made up of iron & nickel
7. Describe the difference between the core and the mantle in terms of temperature and density: the core has higher temperatures and density

S6E5 b. Investigate the contribution of minerals to rock composition.

8. What are minerals made of? elements
9. What do all minerals have in common? inorganic, solid, naturally formed, crystal structure, unique make-up/composition
10. True or False: Minerals are or once were organic.
11. Define the following terms as they relate to minerals:

Streak: the color of the mineral in its powdered form
Luster: way the mineral reflects light (metallic, dull, glassy, etc)
Cleavage: tendency of a mineral to break in smooth pattern
Fracture: tendency of a mineral to break in a rough and jagged manner

Mineral	Hardness	Way it breaks	Luster	Streak	Color
Galena	2.5	cleavage	metallic	gray-black	silver, gray
Magnetite	6	fracture	metallic	black	black
Hematite	6	fracture	metallic-dull	red-brown	red-brown, silver, black

12. *Use the chart above to answer this question:* Susan wants to identify a dark, heavy mineral sample she found in the classroom collection. She notices there are three minerals in a chart in a reference book that might match her sample. Susan next observes that her sample mineral has flat, reflective surfaces that break into boxlike steps. She infers the mineral may be galena. If she is correct, one more test will verify her inference. Which property would to best for her to observe next? hardness

S6E5 c. Classify rocks by their process of formation.

13. What is the difference between intrusive and extrusive? Intrusive is formed inside the earth by the cooling of magma; extrusive is formed outside the earth by the cooling of lava
14. How do each of the following rock types form?

Sedimentary: WEDCC
Metamorphic: heat and /or pressure
Igneous: melting and cooling of magma/lava

15. Why do some igneous rocks have holes? Bubbles of air were trapped in the rock when it cooled
16. Tell about the traits that are unique to each type of rock:

Sedimentary: breaks easily/ crumbly, fossils, layers, pebbles are visible
Metamorphic: small crystals, bands
Igneous: smooth and glassy, gas bubble holes, large crystals

S6E5 f. Explain the effects of physical processes (plate tectonics, erosion, deposition, volcanic eruption, gravity) on geological features including oceans (composition, currents, and tides).

17. Tectonic plates are found in which layer of earth? lithosphere

18. Why was Alfred Wegener's idea of continental drift not accepted? Could not explain "how" the plates moved
19. What is subduction? The process of the ocean floor sinking beneath another plate and back into the mantle
20. Where can we see the results of plate movement? ___where ever plates collide_____
21. What is the MAIN reason that the continents look very different than they did 100 million years ago? The continents has drifted apart from one another on lithospheric plates due to convection currents in the mantle
22. Convection Currents cause the movement of earth's tectonic or lithospheric plates
23. What evidence supports the theory of continental drift? Fossil clues, rock/mountain clues, climate/glacier clues
24. What geographic force forms u-shaped valleys? glaciers
25. What force causes sediments to be moved from one area to another? Gravity and erosion

S6E5 h. Describe soil as consisting of weathered rocks and decomposed organic material.

26. True or False: Organic Matter is made of sand, silt, & clay, does not help plants grow, and is the only ingredient in soil
27. What is humus? Decomposed organic matter
28. Where does soil get its nutrients? When organic matter decays and turns into humus
29. Humus is found in which layer of soil? A horizon/ topsoil
30. What is leaching? When minerals are dissolved and carried from the A horizon to the B horizon

S6E6. Students will describe various sources of energy and with their uses and conservation.

31. What is conservation? The process of using resources wisely; reduce, reuse, recycle
32. Define biomass the burning of organic matter, wood, or garbage used to generate energy
33. What is alternative energy? Name the different types of alternative energy. Alternative energy is another energy sources other than fossil fuels; Solar, Wind, Hydroelectric, Biomass, Nuclear, Geothermal
34. I am used mainly in the western US. My energy comes from the heat within the Earth. I can be used for home heating. Water that is piped down to me is turned into steam used to turn turbines and generate energy. What am I? geothermal

S6E6 b. Identify renewable and nonrenewable resources.

35. Which of these items was made from a nonrenewable resource? Paper bag, motor oil, cotton shirt, wooden table
36. What is the difference between a renewable and a recyclable resource? Renewable can be replaced by nature in a short amount of time; recyclable is an item that is treated for reuse
37. How can having more people on earth impact our use of fossil fuels? The world's population is growing and more people are using natural resources faster than they can be replaced.
38. How are fossil fuels formed? From the remains of decayed plants and animals that have been buried millions of years ago
39. Natural gas, oil, and coal are all known as fossil fuels