**Earth Science – 1st Nine Weeks Study Guide (2014-2015)**

**Scientific Investigation**

1. Interpreting the location of various states between isotherms.
2. What are the steps of the scientific method?
3. What is a valid process for supporting a hypothesis?
4. What is the difference between a scientific theory and a scientific law?
5. Know how to determine the volume of an object using the displacement method what equipment would be used to measure the volume.
6. Be able to calculate density and what equipment would be calculate density in s lab.
7. Which is more recent 404mya or 0.44mya?
8. Describe the steps necessary to determine a rocks (irregular shape object) density. Be sure to include what equipment you used for which physical property. (notes)
9. What equipment would be used to measure the density of a regularly shaped object? (notes)
10. Understand the scientific method and how to set up an experiment with proper variables, constants, controls, etc. (chapter 1, notes)
11. Be able to read a graph related to air pressure. What is the relationship between altitude and air pressure? (pg. 430)
12. Be able to read and interpret diagrams and graphs, paying close attention to all information given.

**Maps**

1. Be able to determine the location of a place from a latitude and longitude coordinate.
2. What are the differences between Mercator and Robinson maps?
3. What is a topographic map?
4. What are contour intervals?
5. What are contour lines?
6. What are the rules for reading contour lines?
7. Be able to interpret an infrared composite of the Earth as seen by a weather satellite system showing daytime and nighttime.
8. Know how to read and interpret a map scale and a compass rose.
9. What do hachure marks represent on a topographic map? (pg. 166)

**Minerals**

1. Density of a mineral is determined by mass and – (measurements notes, p. 46)
2. List the four (some sources say five) things all minerals have in common. (mineral notes, p.62)
3. Minerals are made of one or more – (p. 62)
4. Each mineral has a unique crystal shape because of the— (3, 63)
5. On what basis are minerals usually grouped together? (mineral notes, p.66)
6. What is the largest mineral group? (3, 66)
7. Which mineral is often mistaken for gold? What is this mineral also called? (mineral notes and p. 68)
8. What is the Moh’s hardness scale? Describe the procedure for testing a mineral for its hardness (3, p. 69)
9. Be able to place the hardness of the common objects found in the Mohs Scale in the correct order.
10. What mineral property is related to it’s colored powder resulting from rubbing a mineral against a harder surface (porcelain plate)? (minerals notes, p. 71)
11. What property of minerals allows them to be cut “cleanly” and polished so they can be made into gemstones? (hint: think of the distinguishing property of diamond….p.76)
12. The major rock-forming minerals are (90)
13. What mineral can be used to manufacture glass? (minerals notes)
14. Which mineral is the most closely related to glass chemically? (mineral notes)
15. What is limestone used to make?
16. What are three important mineral resources found in VA?

**Rocks**

1. What processes can transform igneous rocks into sedimentary rocks?- (4, 91)
2. What does the rock cycle describe? (p. 91)
3. What processes are responsible for the formation of Igneous rocks? (4, 94)
4. Define igneous intrusion. Remember that these can form metamorphic rocks around them when the surrounding rock comes in contact with the hot magma.- (4, 95)
5. What determines the grain sizes of igneous rocks? (4, 95)
6. What would an intrusive igneous rock with very slow cooling look like? –(4, 95)
7. Why do extrusive igneous rocks contain small crystals? (4, 95)
8. Why is the igneous rock obsidian a glassy rock? (4, 96)
9. What type of rock is granite (Be specific)? (chart on p.96)
10. List all characteristics of metamorphic rocks. – (4, 99-101)
11. Define foliated metamorphic rock.- (4, 101)
12. The cementing of weathered material would form what type of rock? (rocks notes and p.103)
13. What rock type will fossils most likely be found? (4, 103)
14. What two things are used for determining how a rock was formed?- (rocks notes)
15. What provides the best evidence of the environment in which an igneous rock formed? (rocks notes)
16. By looking at the Rock Cycle, what processes must be undergone for the formation of sediment? (4, 91)
17. What are some possible dark-colored minerals that would move in a mostly light-colored igneous rock? (hint: it’s magnetic)
18. What are the three rock types, and what processes form each? (p.91)
19. Why are some igneous rocks glassy? (pg. 96)
20. Why are metamorphic rocks usually found around an igneous intrusion? (pg. 100)
21. What are some characteristics of metamorphic rocks? (pgs. 99-102)
22. What is the difference between foliated and non-foliated metamorphic rocks? (pgs.101-102)

**Resources**

1. What is the major problem with depending on fossil fuels as major energy sources?(resource notes,p.120)
2. List 3 examples of Fossil fuels.- (120)
3. List 4 non-renewable resources.- (120)
4. List 4 renewable energy sources.- (130-135)
5. Which energy source has the least harmful environmental effects? (resource notes, p.130)
6. What are some disadvantages to using hydroelectric power? (resources notes, p. 132)
7. What would be an advantage to using dams to produce electrical energy?- (5, 132)
8. What would be the greatest disadvantage to using wood-burning stoves?- (5, 134)
9. What metal is lightweight and strong and can be recycled with the greatest success?- (141)
10. What are some major mineral resources found in Virginia? (resources notes)
11. List three ways that mineral resources of Virginia can be conserved? – (3 R’s, p.586)
12. What is crushed stone used for?- (resources notes)
13. Limestone can be used to produce? (resources notes)