Earth Science Midterm Study Guide

Unit 1: Lithosphere-Part I

1. Design an experiment and identify the following terms in the experiment: independent variable, dependent variable, control group, experimental group(s), constants.

Experiment:

I.V.:

D.V.:

Control group:

Experimental group(s):

Constants:

1. Explain the theory of plate tectonics, include the contributions of at least three scientists and how they contributed to the current model.
2. Fill in the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Boundary Type: | Plates involved: | Direction of plate movement: | General landforms created: | Real examples of landforms created: |
| Convergent | Continental-  Continental |  |  |  |
| Convergent |  |  |  |  |
| Convergent |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. Draw and describe a convection current within the mantle of the Earth.
2. Where do most earthquakes and volcanoes occur globally?

Unit II: Lithosphere-Part II

1. Describe how each type of rock is formed and give three specific examples of each.

|  |  |  |
| --- | --- | --- |
| Rock Type | How it is Formed | Specific Examples |
|  |  |  |
|  |  |  |
|  |  |  |

1. Draw and label the Rock Cycle, including all types of rocks and the various processes which form them.
2. Compare and contrast surface and subsurface mining. What is the role of reclamation in each?
3. Describe a real life situation in which you may encounter an example of mechanical weathering. How did that weathering occur?
4. Describe a real life situation in which you may encounter an example of chemical weathering. How did that weathering occur?
5. Where does soil come from and what is it made up of?

Unit III: Hydrosphere

1. Provide definitions for the following words:
   1. Point source pollution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Non-point source pollution:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Run-off:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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* 1. Permeability:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Porosity:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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* 1. Zone of Aeration:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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* 1. Zone of Saturation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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* 1. Water Table:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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* 1. Aquifer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. Watershed:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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* 1. Nitrate: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Compare and contrast the two types of aquifers we learned about and where they occur in North Carolina.
2. Draw a cross section of an aquifer with high levels of porosity:
3. Draw a cross section of an aquifer with high levels of permeability:
4. What are three issues facing the Neuse River Basin?
5. List 8 ways we can test for water quality and the impact that can have on the environment or humans:

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