

Review for Test 4

ESC 115 Physical Geology

Last Revision: Spring, 2015

Chapter 17

1. Sketch the hydrologic cycle, labelling each part and indicating with arrows the direction of movement.
2. Who are competing users for the water in the reservoir behind a dam? How are they affected seasonally?
3. Where is most of the world's water? How is it used?
4. Be able to sketch a confined aquifer (Bighorn Basin) and unconfined aquifer (Walnut Cove, NC).
5. What is the difference between porosity and permeability?
6. Be able to calculate a groundwater gradient, determining flow direction. Use Darcy's Law to calculate velocity.
7. How do springs form?
8. How do caves form? What is karst?
9. What is subsidence? What causes it? What is a sinkhole?

Chapter 18

1. What are three reasons oil prices are at their current level?
2. What happened at Lake Peigneur?
3. Explain the process by which petroleum forms.
4. Explain the process by which coal forms.
5. Where does the U.S. get much of its oil?
6. What is the difference between renewable and non-renewable energy?
7. What is the link between the OPEC oil embargo and third-world debt?

Chapter 13

1. What is the greenhouse effect? Be able to sketch it. What role does carbon dioxide play?
2. What is the urban heat island effect?
3. What are the main current issues with respect to global warming? Give three examples of relevant data.
4. How has atmospheric carbon dioxide varied since the industrial revolution?
5. What was the Overland Trail?
6. What was the Great American Desert?
7. How do deserts form? Know the five ways. Be able to sketch a rain-shadow desert.
8. How does natural resource use relate to population growth?
9. What are the two most effective ways to slow human population growth? Why?

Chapter 15

1. What are the differences between mechanical and chemical weathering? biological?
2. What are the main processes in soil formation? Be able to sketch a typical soil profile in a humid climate. How would it be different in a desert or rainforest environment?
3. What are the difference between the weathering of granite and limestone? How do the resulting soils differ?
4. How have we attempted to overcome soil erosion from water and wind?
5. How did the extermination of Haiti's pigs relate to deforestation and soil loss?
6. What was the Dust Bowl?

Essays

1. What are the benefits of providing clean water to the world's poorest people?
2. What happened at Lake Peigneur that made it famous?
3. What is OPEC? How did the impact of the 1973 oil embargo influence international economics?

4. Where is Qatar? How have oil and water availability affected its population?
5. What was the relationship between FDR and soil conservation?

Thought Questions

1. How does energy policy relate to the growth of terrorism?
2. How does energy policy relate to the fall of the U.S.S.R.?
3. How does energy policy relate to global climate change?