

Earth/Environmental Science Homework & Test Review

Week 6: May 11th – May, 15th 2015

DUE DATE: Friday, May 15th

Weekly Reminders Checklist:

- Computer Lab on Tuesday, May 12th
- Quiz on Thursday, May 14th** on the different types of alternative sources of energy for North Carolina (solar, wind, biofuels, fuel cells, wave power, geothermal, nuclear fission and nuclear fusion)
- Biosphere Test Corrections & Extra Credit on Carrying Capacity due Friday, May 15th
- Have you checked PowerSchool to see if you have any missing assignments?

Vocabulary: Fill in the missing areas on the table below using your textbook, class activities and any other resources you find helpful.

Vocabulary Word	Definition	Example/Application
Sustainability	Maintaining the world we live in	If an activity is said to be sustainable, it should be able to continue forever.

Key Questions from the Week: Answer the questions below pertaining to this week.

1. Explain the political, social, and environmental connections to sustainable land use.

Category	Connections to Sustainable Land Use
Political	Any government policy which refers to resources, population, and development will greatly affect sustainability
Social	A sustainable use of land will allow people to continue living life in the same fashion as they have in the past without sacrificing the land in the process
Environmental	The ecosystem is able to replace resources at a high enough rate for them to not run out and that substances introduced into the environment are minimized and mostly harmless

2. What is the difference between nuclear fission and nuclear fusion?

Both are nuclear reactions that produce energy but...fission is the splitting of a unstable nucleus, and fusion is where two light nuclei combine together.

3. What are some pros and cons for nuclear power?

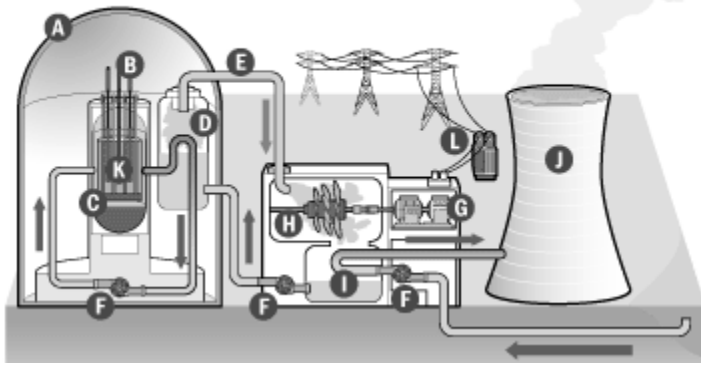
Pro: Does not produce carbon dioxide, reliable, not much waste

Con: Waste is very dangerous, a lot of money spent on safety, possible source for weapons

Diagram: Label the parts of the nuclear power plant below. And provide a brief explanation on how energy is generated.

Inside a Nuclear Power Plant

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A Containment Structure

B Control Rods

C Reactor

D Steam Generator

E Steam Line

F Pump

G Generator

H Turbine

I Cooling Water Condenser

J Cooling Tower

K Fuel Rods

L Transformer

Explain how power is generated in a nuclear power plant:

Water is heated into steam by a nuclear reaction. The steam turns the turbine to generate electricity.

Alternative Sources of Energy for North Carolina

****Computer Lab Activity****

Complete the table below

Name	Description	Pros	Cons
Solar	Sun is the source to generate energy for power	Free source, renewable	Adequate sunlight
Wind	Wind is the source to generate energy for power	Free source, renewable	Adequate wind
Biofuels	Crops are used to create fuel	Renewable through either crops or algae	Using crops for fuel instead of food
Fuel Cells	Hydrogen and oxygen are converted to energy and water.	Does not degrade	Expensive
Wave Power	Waves are the source to generate energy for power	Free source, renewable	Expensive
Geothermal	Heat from below ground is the source to generate energy for power	Free source, renewable	Proper sites for implementation are limited

Research Question for the Week: Conduct research using the library and internet resources to answer the following question:

Research one example of alternative energy in North Carolina answering the following...

Example in NC: _____

Type of Alternative Energy: _____

Location: _____

How long has it been operational? _____

Answers will Vary