Ecology Webquest

Ecologists: _____ Period: _____

_____ Date: _____

Part I: Ecosystems and Nutrient Cycling

Your first assignment is to put together a simple food chain and answer the questions below.

I. FOOD CHAINS

(1) Go to and

https://en.wikipedia.org/wiki/Food_chain

http://www.enchantedlearning.com/subjects/foodchain/

Answer the questions below:

1. A person is called an _____ because they eat meat and vegetables.

2. Food gives people and animals _____.

3. _____ are animals that only eat meat.
4. _____ are animals that only eat plants.

(2) Choose the Forest Food Chain.

1. What organisms were in your food chain? Place them in the correct order.

2. What 5 things happen if you take the frog out of the food chain?

II. NUTRIENT CYCLING

A. Carbon Cycle

B. Go to http://www.windows.ucar.edu/tour/link=/earth/Water/co2_cycle.html, read about the carbon cycle and fill in the blanks below:

Name 2 places on the earth we find carbon:

A. Plants pull carbon (in the form of carbon dioxide) from the atmosphere to make food, through a process called _____.
B. Through food chains animals get _____ from the plants and other animals they eat.

C. When plants and animals die and _____, carbon goes back into the ground.

D. Some carbon is buried deep in the ground and forms _____.
E. When humans burn fossil fuels, _____ is released back into the atmosphere.

F. When humans and animals exhale, they release carbon back into the air by a process called _____.

B. Nitrogen Cycle

Go to the website http://www.windows.ucar.edu/tour/link=/earth/Life/nitrogen_cycle.html&edu=mid and answer the questions below:

1. What are 2 ways nitrogen becomes useable to plants, humans and animals:

2. How do herbivores obtain the nitrogen they need?

3. How is nitrogen returned to the atmosphere?

4. What are two ways humans impact the nitrogen cycle:

IV. Energy in Ecosystems

1. Go to http://www.cas.psu.edu/DOCS/WEBCOURSE/WETLAND/WET1/identify.html and answer these questions.
    a. List the organism(s) that are producers.

    b. List the organism(s) that are consumers.

    c. Draw three food chains found within this food web.

    d. How many different food chains can you find in the food web pictured?

    e. What is missing from this food web?

2. Go to http://www.vtaide.com/png/foodchains.htm to answer these questions.

a. In any ecosystem, there are fewer carnivores than herbivores. Why? [Your answer needs to specifically include a description of how energy is transferred.]

b. Why would it be extremely rare to find a food chain with nine links in it?

7. Go to http://www.bookrags.com/research/ten-percent-law-wob/#gsc.tab=0

OR
http://study.com/academy/lesson/the-10-energy-rule-in-a-food-chain.html

OR
http://www.indiagk.net/2013/07/10-law-for-transfer-of-energy-from-one.html

to answer these questions.

a. As energy passes to a higher trophic level, approximately _____ of the useful energy is lost.

b. What is the benefit to a society if everyone reduces the amount of meat they eat? [Use the concepts discussed with energy in the ecosystems to answer this question.]