Biology 0861 ENERGY FLOW WORKSHEET

3-2 Ecology: Energy Flow

1. What happens to the energy in an ecosystem when one organism eats another?

2. What does a food chain represent?

3. Give an example of a food chain from:

a. an aquatic ecosystem

b. a temperate rainforest ecosystem

4. What is the difference between a food web and a food chain?

5. Give an example of a food web in an aquatic ecosystem.

6. Give an example of a food web in a temperate rainforest ecosystem.

7. What is a trophic level of a food chain/food web?

8. Go back to questions 3 - 6 and identify the trophic levels of the food chains/webs.

9. What do ecological pyramids represent?

10. The total amount of living tissue within a given trophic level is called \_\_\_\_\_\_\_\_\_\_.

11. Ecological pyramids can be based on \_\_\_\_\_\_\_\_\_\_\_\_ or on\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

12. What are the two main forms of energy that power living systems?

13. What proportion of energy is transferred from one trophic level to the next in an

ecosystem?

3-3 Cycles of Matter

1. What is a biogeochemical cycle?

2. Energy and nutrients are recycled within and between ecosystems. True or False

3. Draw out the Water cycle.

4. Draw out the Carbon cycle

5. Draw out the Nitrogen cycle

6. Draw out the Phosphorus cycle

7. Evaporation and transpiration are found in which cycle?\_\_\_\_\_\_\_\_\_\_\_

8. What is condensation?

9. Photosynthesis, respiratoin, decomposition and erosion are part of the \_\_\_\_\_\_\_\_cycle.

10. Can nitrogen gas in the air be used directly by most animals? \_\_\_\_\_\_\_\_\_\_

11. What is nitrogen fixation and why is it necessary?

12. What type of organisms are required for nitrogen fixation?

13. Organisms able to use nitrogen gas convert the gas into a usable forms of nitrogen

which are \_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_.

14. What is denitrification? Which organisms is involved? What is the end result of

dentirtication?

15. What is meant by primary productivity of an ecosystem?

16. What factor in an ecosystem limits the primary productivity of that ecosystem?

Explain

17. What does fertilizing crops have to do with nutrient limitation?

18. Given an example of where the following nutrients maybe in limiitng amounts:

a. Phosphorus

b. Nitrogen

c. Silica or iron

19. What is an algae bloom and what causes it?