

**Ch 3-1 What is Ecology?** p 63-65

Name \_\_\_\_\_ Per \_\_\_\_\_

1. What do floods, raging wildfires, droughts, and marine invaders have in common?
2. What one vocabulary word summarizes your answer to the question above?
3. How is our Earth similar to a household?
4. As an Ecologist you might study POPULATION ECOLOGY, COMMUNITY ECOLOGY, or ECOSYSTEM ECOLOGY. Draw lines to match the three **levels of study** to **examples** of their work (see p21 also)
  - a. POPULATION ECOLOGY
    - Study how the numbers of lynx (cat -predator) affects the number of hare (rabbit -prey)
  - b. COMMUNITY ECOLOGY
    - Collect data on the illegal hunting of elephant for ivory in Africa
  - c. ECOSYSTEM ECOLOGY
    - Set up an experiment to determine the effect of our recent rains on the variety of plant species present
    - Determine what whales in the Monterey Bay are eating?

**Ch 3-2 Energy Flow** p 67-73

1. What are the three main groups of autotrophs?
2. Why are autotrophs so important?
3. If you think about it for a minute, all of the energy that powers you originated from \_\_\_\_\_
4. What is the difference between photosynthesis and chemosynthesis? Over→
5. Energy (cycles/flows in one direction) in an ecosystem.
6. Green heading: **Food Chains**, Draw the prairie food chain that is described in the reading. (You don't have to "draw" each animal, but list its name with arrow between.)
7. In Figure 3-7 the \_\_\_\_\_ is the producer, \_\_\_\_\_ is the primary consumer, \_\_\_\_\_ is the secondary consumer, \_\_\_\_\_ is the tertiary consumer, \_\_\_\_\_ is the quaternary consumer.
8. Figure 3-8, what does the clapper rail eat? \_\_\_\_\_
9. Food webs show feeding relationships for the whole \_\_\_\_\_
10. Approximately how much energy is transferred from one trophic level to the next? \_\_\_\_\_%  
Where does the remaining \_\_\_\_\_% of energy used go? \_\_\_\_\_  
If you were to eat cow meat, what percent of the energy in their plant food would be passed to you? \_\_\_\_\_%
11. What is biomass? \_\_\_\_\_  
Which trophic level has the greatest biomass? \_\_\_\_\_  
Why?
12. Draw the shape of pyramid of numbers for a forest ecosystem.