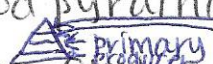


Here is the study guide. The test is on Wednesday September 7, 2016. Study Investigation 1, Investigation 2, Investigation 3, Investigation 4, warmups, Energy Flow and Feeding Relationships worksheet.

Ecological Roles

1. Define the following terms:

- a. Producer → organism that uses solar energy (green plants) or chemical energy to manufacture the organic compounds it needs as nutrients
- b. Consumer → also known as heterotroph that get energy and nutrients they need by feeding on other organisms.
- c. Autotroph → producers "self feeders"
- d. Heterotroph → consumer "other feeders"
- e. Producer → see "A"
- f. Consumer (Primary, Secondary, Tertiary)  food pyramid or sequence of how energy is transferred.
- g. Carnivore → animal that feeds on flesh
- h. Herbivore → animal that feeds on plants
- i. Omnivore → animal that feeds on flesh and plants.
- j. Detritivore → insects and other scavenger that feed on the waste or dead bodies of other organisms.
- k. Decomposer → are specialized organisms that recycle nutrients in ecosystem.
- l. Predator → an organism that eats another organism.
- m. Prey → organism which the predator eats.

2. Which anatomical features allow you to determine the life history of an animal?

Some anatomical features that allow you to determine the life history of an animal are the organisms teeth, eyes and foremen magnum.

3. Describe the different tooth shapes of animals, and what they mean.

sharp canine teeth → used for shredding flesh, meat.

front/sharp incisors → used to grab and pull

Molars → used to grind down food

4. Describe the different eye position of animals, and what they mean.

eye position forward → the hunter, predator

eye position side → the hunted, prey.

5. What does relative eye size of an animal determine?

- what environment they live in such as fish eyes live in water.
- nocturnal
- eye size also determines body size of animal

6. Describe the importance of the patterns found on an animal's fur.

patterns of fur help and is important so the animals blend with the surrounding environments.
(camouflage)

7. Describe why animals that occupy very similar ecological niches would have very different colorations.

animals that occupy similar niches but have very different colorations occurs because they have different predators as well as hunt for different prey. This helps keep each niche balanced and not extend its carrying capacity.

8. Why do animals have sharp teeth, claws, and thick fur that helps them blend in... and humans do not?

These features help the animal with its environment to make them fully successful with hunting, breeding and surviving.

9. What are limiting factors?

- Limiting factors are things that prevent population from growing and exceeding.

- Resources are environmental conditions that limit growth, like availability of food, water, shelter & space

10. Describe the difference between density dependent limiting factors, and density independent.

Density dependent factors affect population when they reach a specific density while density independent factors are limiting factors that affect all populations regardless of their densities.

11. Describe "carrying capacity" and exponential/logistic growth. What is the carrying capacity for the human population?

- carrying capacity: the number or quantity of people or things that can be conveyed or held by an environment, number a region can support without environmental degradation.
- 10 billion people is the earth's carrying capacity.

12. Define the term "Symbiosis"

Symbiosis → relationship between two or more organisms that live closely together. There are 3 types. Mutualism, Commensalism, and parasitism.

13. Describe the following examples of symbiosis:

a. Mutualism → Both organisms benefit

b. Commensalism → one organism benefits and the other is neither harmed nor helped.

c. Ammensalism → association between two organisms of two different species in which one is inhibited or destroyed other is not affected.

d. Parasitism → one organism (the parasite) benefits and the other (the host) is harmed.

14. Give an example of each of the above.

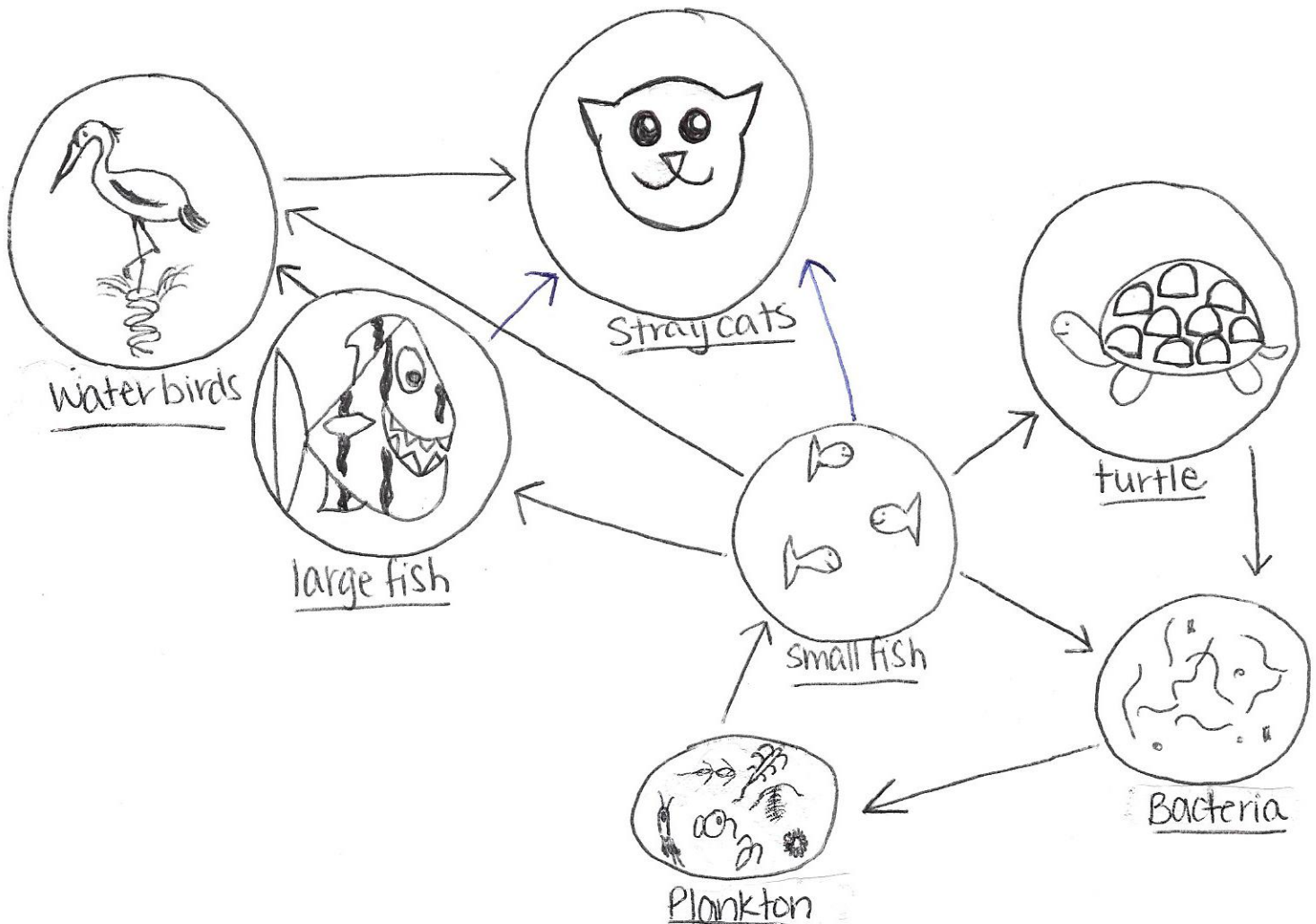
Mutualism → Oxpeckers feed on parasitic ticks that infest large thick skinned animals like rhinos

Commensalism → Silverfish insects that move along w/ columns of army ants to share food left over their raids.

Ammensalism → Elephants stepping on ants or leveling brush.

Parasitism → Tapeworms attach themselves to insides of animals.

15. Discovery Park has bacteria, plankton, small fish, larger fish, turtles, water birds (cranes and kingfishers), and a healthy population of stray cats. Draw a food web for Discovery Park below



16. We've learned about decomposers. Write a brief description of how decomposers make their "living", and then draw a mushroom-type fungi "feeding" on a log in the forest (you must use color) below.

Decomposers are the last of a food chain they eat the foods no one else wants. The decomposers job is to keep the nutrients moving along through the food web. If they didn't do their job we would have dead stuff all over the ground.

