

Unit 2 - Ecology

The Lion King Food Web

Date: _____

Mr. Lillibridge

Name: _____

B-3.6 Energy Flow, Chains, Webs and Pyramids: Illustrate the flow of energy through ecosystems (including food chains, food webs, energy pyramids, number pyramids, and biomass pyramids).

Textbook: Holt Biology: 4.2 pp.86-89.

Modern Biology: 18.3 pp.366-369.

Other Reading: Cliff Notes – 3.6 Energy Flow, Chains, Webs and Pyramids.

Materials

- One set of stamp-sized pictures
- Construction paper
- Glue sticks
- Scissors
- Marker
- Pen/pencil

Procedure:

1. Cut out each of the squares representing the animals in the food web.
2. Arrange the squares and glue them on a piece of construction paper.
3. Using a marker, make a food web by drawing arrows showing the flow of energy from one organism to another. Remember, the arrow flows in the direction of the energy.
4. Complete the questions 1-8.
5. Turn in the completed assignment.



Answer the questions legibly.

1. Today you created a food web. Describe the difference between a food chain and a food web.

Food chain: _____

Food web: _____

2. Circle one. A FOOD WEB / FOOD CHAIN is a more accurate picture of an ecosystem. Why?

3. To which biome do these animals belong? _____

4. Complete the data table on the next page, stating whether the animals are autotrophs (A) or heterotrophs (H). For each heterotroph, identify it as an herbivore (H), carnivore (C), omnivore (O) or detritivore (D). In addition, identify the trophic level(s).

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Animal	Autotroph / Heterotroph (A/H)	Herbivore / Carnivore / Omnivore / Detritivore (H/C/O/D)	Trophic Level #
Grasses / trees			
Grubs/Insects			
Zebra			
Wildebeests			
Elephant			
Topi Antelope			
Mandrill monkey (Rafiki)			
Warthog (Pumbaa)			
Meerkat (Timon)			
Redbilled hornbill (Zazu)			
Hyena (Shenzi)			
Lion (Simba)			

5. Can an organism belong to more than one trophic level? Explain.

6. Why are plants considered autotrophs? What is another name that can be used to refer to autotrophs?

7. At which level of the food web is the energy supply the greatest? The least? Explain.

8. Choose any square in your food web to be "killed off" by marking an "X" through it. In a short paragraph, discuss the impact of the extinction of the species. How will that death impact the animals who feed on them? How will it affect the species that were preyed upon by them? How will it affect the rest of the food web?

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Animals of the Savannah:

1. Elephants are large land mammals that eat grass, tree leaves, flowers, wild fruits, twigs, shrubs, bamboo and bananas.
2. Grubs, the larvae of certain beetle species eat plant materials such as roots and underground stems. Some other grubs are found in the trunks of old trees. These grubs perform a great service to the environment by turning tree trunks back into humus and soil.
3. Hornbills are carnivorous. They eat mice and other rodents, frogs, and even venomous snakes.
4. Hyenas eat practically every part of the animal, including skin, hooves, bone, and teeth. Powerful jaws are able to crush bones with ease. They actually prefer skin and bone to eating meat. There are some items that hyenas can't digest, such as hair and horns, although they still eat them. Spotted hyenas regurgitate what they can't digest in the form of a pellet.
5. Lions are carnivores and are great hunters. They eat animals such as zebras, antelope, deer, wild boar, and buffalo.
6. Mandrills spend most of their time on the ground, foraging for seeds, nuts, fruits, and small animals.
7. Meerkats are insectivores; their diet consisting of insects such as worms, spiders, and crickets. They also feed on small mammals and reptiles.
8. The Topi is a medium-sized antelope with a striking reddish-brown coat that eats only grass.
9. Warthogs eat grass, roots, berries, tree bark, and even dead animals.
10. Wildebeests, like other members of the same family (antelopes, cattle and goats), are herbivores, which literally means eating grass.
11. Zebras mainly consists of grass, shrubs, twigs, bark and leaves. Their digestive system and metabolism are such that they can digest coarse grasses which other herbivores cannot. This way, zebras help other wild grazers by consuming coarse grass and leaving softer grass for them.

-----Cut at this line-----

