

**CHAPTER 1****HANDOUT****Food Web Question and Answer Exercise****BLM 1.2.3**

Answer the following questions in the space provided.

**Questions**

1. Explain the difference between a food chain and a food web.

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2. Why are food chains limited in length?

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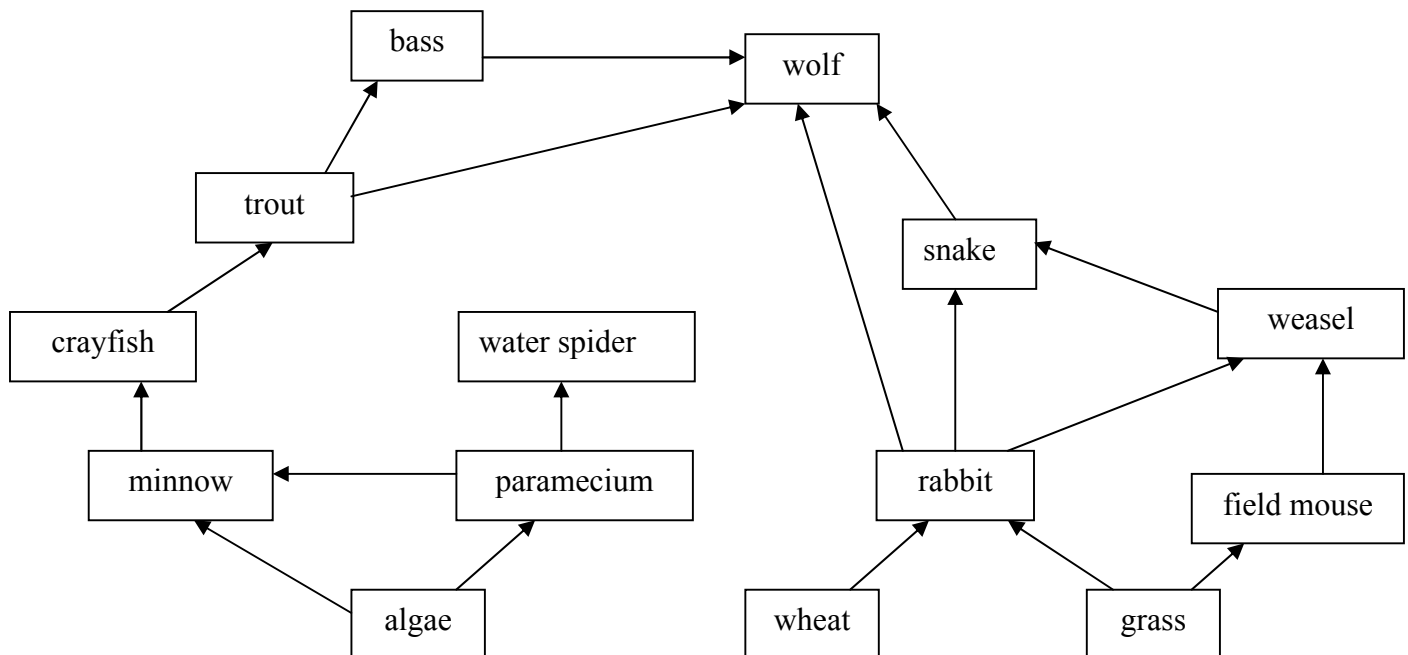


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3. Study the food web below and fill in the blanks in the questions provided on the next page.



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3. a) The following organisms in the food web are producers:

\_\_\_\_\_.  
Producers are also known as \_\_\_\_\_.

- b) A \_\_\_\_\_ is an example of an aquatic herbivore in the food web.

A \_\_\_\_\_ is an example of a terrestrial herbivore.

- c) Water spiders are classified as \_\_\_\_\_ consumers and occupy the \_\_\_\_\_ trophic level.

- d) Field mice are classified as \_\_\_\_\_ consumers and occupy the \_\_\_\_\_ trophic level.

- e) The highest trophic level the bass could occupy is the \_\_\_\_\_ trophic level.

- f) The snake population in this community has been decreasing due to loss of habitat. As a result, the weasel population will \_\_\_\_\_ and the field mouse population will \_\_\_\_\_.

4. Isle Royale is a small island located in Lake Superior. The island is home to a population of wolves and moose that are held in a delicate balance with one another. In the past, this balance has been maintained. However, the moose population is currently the lowest it has been in many years. The island was home to only 385 moose in 2007, having fallen from 450 in 2006. The moose's primary predators are wolves. Foxes also feed on the moose carcasses if there is anything remaining, along with grass-eating snowshoe hares. Insects such as ticks and mosquitoes feed on moose blood. Moose themselves are primary consumers that eat a variety of woody plant materials, including balsam fir and birch. Aquatic plants make up a large percentage of the herbivore's summer food resource.

- a) Create a food web for Isle Royale that includes the organisms mentioned above.

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- b) List the trophic level of each organism.

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- c) The wolf population on the island has also fallen from 30 to 21; however, the fox population has remained stable. Explain these findings with reference to your food web.

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- d) A moose consumes 3500 kJ of energy from a balsam fir tree. Using the rule of 10, estimate how much of this energy would be available to a wolf that consumes the moose.

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- e) Write a paragraph explaining what you think may have caused the decline in the moose population on Isle Royale.

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