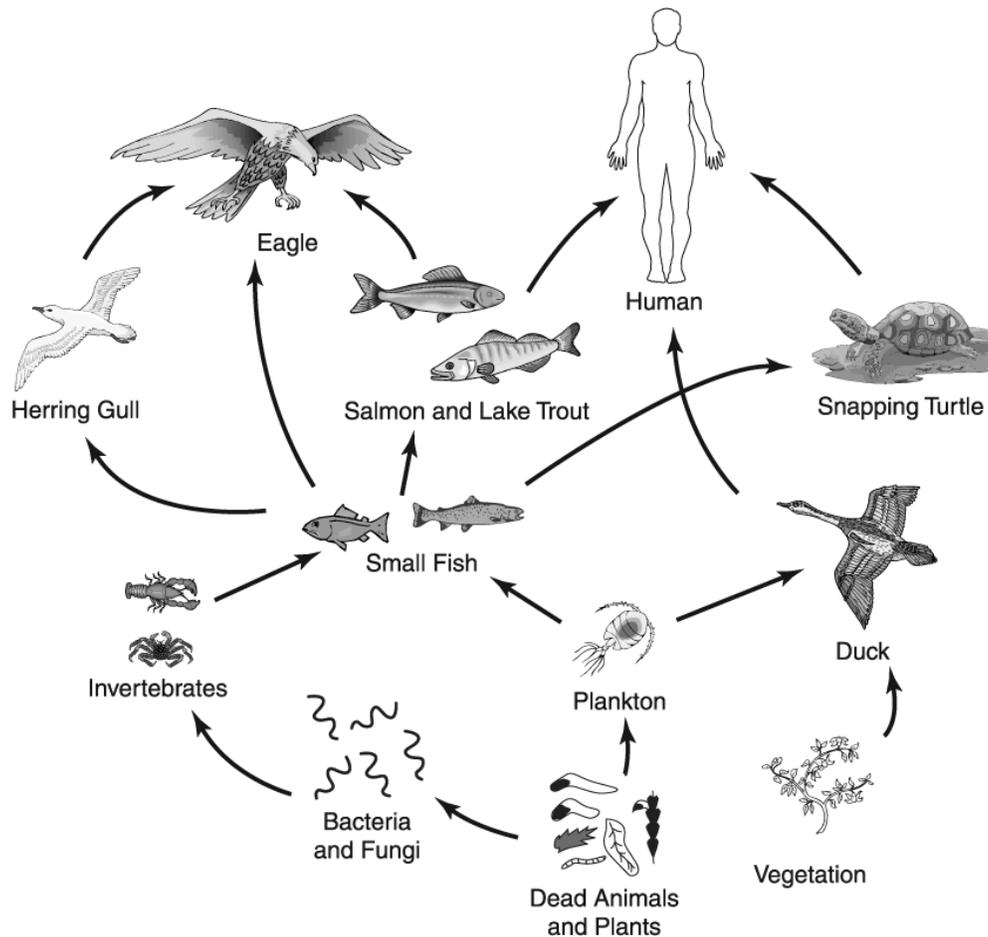




**Science Grade 8
Scoring Guide for
Released Item #38
Great Lakes Food Web
Fall 2005**



The picture below shows one possible food web for a Great Lakes ecosystem. Based on your understanding of ecosystem interactions, answer the following questions.



ANSWER THE FOLLOWING CONSTRUCTED-RESPONSE ITEM IN YOUR ANSWER FOLDER.

41 Constructed-Response
(3 points)

Based strictly on the interactions in this food web:

- Identify one organism that the salmon and lake trout compete with for food.
- Identify one consumer or group of consumers that have no competition for food.
- Identify a predator-prey relationship.

NOTHING WRITTEN IN THIS TEST BOOKLET WILL BE SCORED.

Science Rubric for the Great Lakes Food Web

Acceptable responses:

1. Organism salmon and lake trout compete with for food
 - a) Eagles
 - b) Herring gulls
 - c) Snapping turtles

2. Consumer or group of consumers that have no competition
 - a) Invertebrates
 - b) Ducks eating the vegetation

3. Predator-prey relationship

<ol style="list-style-type: none"> a) Humans - Snapping turtles b) Humans - Ducks c) Humans - Lake trout/Salmon d) Eagles - Salmon/Lake trout e) Eagles - Herring Gulls f) Eagle - Small fish 	<ol style="list-style-type: none"> g) Snapping turtles-Small fish h) Salmon/Lake trout - Small fish i) Ducks - Plankton j) Herring Gulls – Small fish k) Small fish - Invertebrates l) Small fish- Plankton
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Scoring Guide:

- 3 points** The student correctly identifies one organism, one consumer/group of consumers that has no competition, and one predator-prey relationship.
- 2 points** The student correctly identifies one organism and one consumer/group of consumers
OR
 The student correctly identifies one organism and one predator -prey relationship
OR
 The student correctly identifies one consumer/group of consumers and one predator-prey relationship
- 1 point** The student correctly identifies one organism.
OR
 The student correctly identifies one consumer/group of consumers.
OR
 The student correctly identifies one predator-prey relationship.
- 0 points** **Student fails to understand the task.**

Condition codes for unratable papers (zeroes):

- A – Off Topic
 B – Written in a Language other than English or Illegible
 C – Blank or Refusal to Respond

Anchor Paper 1 – Score Point 3

3 points One organism that the salmon and lake trout compete with for food is the Eagle. Both eat small fish.

One consumer or group of consumers that have no competition for food is the duck because the duck is the only one that eats the vegetation on the food web.

A predator-prey relationship is shared between the Human and duck. The human hunts and eats the duck so therefore the Human is predator and the duck is prey.

**Anchor Paper 1
Score Point 3**

The student correctly identifies one organism that the salmon and lake trout compete with for food (*egale*). One consumer that has no competition for food is correctly identified (*the duck because the duck is the only one that eats the vegetation on the food web*). A predator-prey relationship is correctly identified (*Human and duck....the Human is predator and the duck is prey*).

Anchor Paper 2 – Score Point 3

3 points **Competition** The salmon and lake trout competition would be with the snapping turtle.

No Competition Invertebrates have no competition because they are the only consumers that eat bacteria and fungi.

Predator-Prey Relationship Eagle and The small fish.

Anchor Paper 2
Score Point 3

The student correctly identifies one organism that the salmon and lake trout compete with for food (*snapping turtle*), a group of consumers that have no competition for food (*Invertebrates have no competition because they are the only consumers that eat bacteria and fungi*), and a predator-prey relationship (*Eagle and The small fish*).

Anchor Paper 3 – Score Point 3

3 points An organism that the salmon + lake trout compete with for food is the eagle. One group of consumers that have no competition for food are the invertebrates. A predator + prey relationship would be the snapping turtle as the predator and the small fish as prey.

Anchor Paper 3 Score Point 3

The student correctly identifies “eagle” as one organism that the salmon and lake trout compete with for food and “invertebrates” as a group of consumers that have no competition for food. A predator-prey relationship is correctly identified (*the snapping turtle as the predator and the small fish as prey*).

Anchor Paper 4 – Score Point 3

3 points

The salmon and lake trout compete with the herring gull for food. The invertebrates have no competition for their food. A predator-prey relationship would be human and salmon and lake trout.

Anchor Paper 4 Score Point 3

The student correctly identifies "herring gull" as an organism that the salmon and lake trout compete with for food. A group of consumers that have no competition for food are correctly identified as "invertebrates." A predator-prey relationship is correctly identified (human and salmon and lake trout).

Anchor Paper 5 – Score Point 2

3 points One organism that salmon and lake trout compete with for food IS a Eagle. Invertebrate's don't have any competition for food

Anchor Paper 5 Score Point 2

The student correctly identifies “eagle” as one organism that the salmon and lake trout compete with for food, and “invertebrate’s” as a group of consumers that have no competition for food. No predator-prey relationship is provided in the response.

Anchor Paper 6 – Score Point 2

3 points The salmon and lake trout
compete with the snapping turtle for food. Humans
are the consumers that don't compete for food. A
predator-prey relationship would be between
the eagle and the herring gull, because the
eagle eats the herring gull.

Anchor Paper 6 Score Point 2

The student correctly identifies one organism that the salmon and lake trout compete with for food (*snapping turtle*) and a predator-prey relationship (*the eagle and the herring gull, because the eagle eats the herring gull*). The statement “Humans are the consumers that don’t compete for food” is incorrect. Salmon and lake trout are eaten by humans and eagles; therefore humans do have competition for food.

Anchor Paper 7 – Score Point 2

3 points The organism that the salmon and lake trout compete with for food is the small fish. The Invertebrates have no competition for food. The eagle and Salmon and Lake Trout is a predator-prey relationship.

Anchor Paper 7 Score Point 2

The student correctly identifies “invertebrates” as a group of consumers that have no competition for food and “The eagle and Salmon and Lake Trout” as a predator-prey relationship. An organism that the salmon and lake trout compete with for food is incorrectly identified as “small Fish.” Small fish are prey of salmon and lake trout and do not compete with them for food. Competitors of salmon and lake trout are organisms which also eat small fish.

Anchor Paper 8 – Score Point 1

3 points *One organism the salmon compete with for food are the eagles. The plankton is one consumer that has no competition for food. The predator-prey relationship is when one organism is trying to kill another for food.*

Anchor Paper 8 Score Point 1

The student correctly identifies “eagles” as organisms that the salmon and lake trout compete with for food. The statement “The plankton is one consumer that has no competition for food” is incorrect, because dead animals and plants are consumed by both plankton and bacteria and fungi. “The predator-prey relationship is when one organism is trying to kill another for food” does not identify a predator-prey relationship from the food web.

Anchor Paper 9 – Score Point 1

3 points *One organism that salmon and lake trout compete each other for is the small fish. One consumer group that does not compete is the duck because nothing else eats the vegetation. And a predator-prey relationship is the herring gull and the eagle.*

Anchor Paper 9 Score Point 1

The student correctly identifies a consumer that has no competition for food (*the duck because nothing else eats the vegetation*). Stating that *“One organism that salmon and lake trout compete each other for is the small fish”* shows a misunderstanding of the task, because salmon and lake trout are grouped together on the food web. Their competitors are other organisms which also eat small fish. Stating *“a predator-prey relationship is the herring gull and the eagle”* is incorrect. The order is reversed since it is the eagle that eats the herring gull. As is stated in the prompt, unless it is otherwise indicated in the response, the order in which animals are given is assumed to identify first predator and then prey.

Anchor Paper 10 – Score Point 1

3 points	<p>The salmon and lake trout have to compete with each other for small fish.</p> <p>The one consumer that have on competition for food is the human.</p> <p>The eagle have a predator-prey relations with the salmon and lake trout.</p>
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**Anchor Paper 10
Score Point 1**

A predator-prey relationship is correctly identified (*The eagle have a predator-prey relations with the salmon and lake trout*). The statement "*The salmon and lake trout have to compete with each other for small fish*" shows a misunderstanding of the task. Salmon and lake trout are grouped together on the food web, and their competitors are other organisms which also eat small fish. "*The one consumer that have on competition for food is the human*" is also incorrect. Salmon and lake trout are eaten by humans and eagles; therefore humans do have competition for food.

Anchor Paper 11 – Score Point 0

3 points

The salmon and lake trout compete with plankton and invertebrates.

One consumer or group that does not compete for food is the eagle.

A predator and prey relationship would be ducks and herring gull.

Anchor Paper 11 Score Point 0

The student has failed to understand the task. "Plankton and invertebrates" are incorrectly named as organisms that the salmon and lake trout compete with for food. Salmon and lake trout eat small fish, but neither plankton nor invertebrates eat them. An "eagle" is incorrectly named as a consumer that has no competition for food. Both the eagle and the salmon and lake trout eat small fish; therefore the eagle does have competition for food. A predator-prey relationship is incorrectly identified as "ducks and herring gull." As shown in the food web, ducks do not eat herring gulls.

Anchor Paper 12 – Score Point 0

3 points *The salmon and lake trout compete for small fish. The human has no competition for food. The small fish are eaten by plenty.*

**Anchor Paper 12
Score Point 0**

The student has failed to understand the task. *“The salmon and lake trout compete for small fish”* shows a misunderstanding of the task. Salmon and lake trout are grouped together on the food web. Their competitors are other organisms which also eat small fish. A consumer that has no competition for food is incorrectly identified as *“human.”* Salmon and lake trout are eaten by humans and eagles; therefore humans do have competition for food. *“The small fish are eaten by plenty”* does not identify a predator-prey relationship.