

Date of Lesson:**Time frame of Lesson:** 30 minutes**# of students:** 15**Age range:** not saying! ☺**Grade level:** 12 Workplace Preparation**Statement of how lesson corresponds to New York State (or Ontario) syllabus or standard:**

Strand One (Geographic Space and Systems) in the Ontario Curriculum requires students to describe a generalized food web and predict the results when a species is removed from the web. (pg 109)

Pre-Assessment:

Students have completed grade 9 geography.

Objective:

Upon completion of this lesson, students will be able to create, on paper, a generalized food web containing at least 10 organisms and predict the effects of removing one single organism from that web.

Materials**Supplied by Teacher:**

Lesson Hand-out detailing assignment.

Graphic Organizer showing examples of food webs.

1 Ball of Coloured Wool

15 organism name tags

a large “sun” for the middle of the circle.

Supplied by Students: Writing Paper, Pens and Pencils**Procedures****Prior to class**

Arrange desks in circle to clear large area in centre of classroom.

Put a handout and organism name tag on each desk face down.

In Class

1. Introduction of assignment, explanation of the components in a food web, general directions for the upcoming exercise
2. Ask students to put on their organism tags and arrange themselves in a circle around the sun.
3. Explain that the class is going to create their own food web by rolling the ball of yarn from student to student.
4. Students will begin by reading their tag (the answers can be found on the back regarding who to send the ball of yarn to)
5. Student wearing the “Human” tag will begin the activity (**Numbers 1 to 5 – 5 minutes**)
6. Once all students are holding a strand of the yarn, I will instruct the Herring that they are now extinct and must release their pieces of yarn and return to their seat.
7. All other species who were directly connected to the Herring will then be asked to release their yarn and return to their seats... and so on until no one is holding the yarn. (**Entire Exercise – 20 minutes**)
8. The class will then be asked what happened when one animal was removed from their food web. (**Discussion – 4 minutes**)

9. Assign homework and say goodbye (**1 minute**)

Homework Assignment – Students will be asked to read their chapter on food webs, create a food web containing at least 10 organisms, and write two questions in their journals that they have about food webs to be discussed in the next class. Assignments due at the beginning of the next class.

Limits and Interventions:

TIME! – I must keep students on track and within the time limits set out in my lesson plan. Ensure that students are “dilly-dallying” so that the activity can be given it’s full amount of time for full effect.

Alternatives:

Activity #1 - Should activities run more quickly than anticipated, students will be asked to start their homework assignment and encouraged to ask any questions they might have about the activity or materials.

Activity #2 - Should activities run more slowly than anticipated, students will be asked to predict what would happen if an organism was removed in a small one paragraph report to be handed in with their homework assignment. Results from the predictions will be discussed in class the next day.

Formative Evaluation:

- Participation and behaviour during activity
- Quality of their food web construction for Portfolio
- Homework questions in journal

Summative Evaluation:

- Portfolios and Journals to be marked at the end of the semester
- Unit quiz will include questions pertaining to this subject matter – from objectives

Enrichment:

- Students will be asked to consider how chemicals can move within a food web (i.e. mercury in fish)
- Students may use the internet to investigate a food web from the arctic tundra or rainforest to report on how it is more fragile than other food webs.

Remediation:

- Little adjustments would be needed for the activity because there is little movement and much guidance from the teacher.
- Teacher may assist students with the construction of their food web by providing additional examples or a list of animals, then asking students to construct the web using the list provided instead of having to choose the animals on their own.

Follow-up:

Next Lesson: Discussion of journal entry questions with explanation and discussion of how fragile food webs are, how they cover the earth like thousands of little spider webs, how one little microorganism can effect many different species, how we need to protect all species and ensure extinction never happens. Relate to today’s topic human affects on the planet (deforestation, non-renewable resources, pollution etc.)