Name: _____ Due Date: _____

Balance in an Ecosystem

Your Goal: Using the model ecosystem you have already created, you will investigate some of the factors that affect the balance between different components in your ecosystem.

Overall Expectation(s): Investigate interactions within the environment, and identify factors that affect the balance between different components of an ecosystem. Specific Expectation(s):

7s9	use appropriate science and technology vocabulary, including sustainability, biotic, ecosystem, community, population, and producer, in oral and written communication
7s10	use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes (e.g., design a multimedia presentation explaining the interrelationships between biotic and abiotic components in a specific ecosystem)
7s15	describe how matter is cycled within the environment and explain how it promotes sustainability (e.g., bears carry salmon into the forest, where the remains decompose and add nutrients to the soil, thus supporting plant growth; through crop rotation, nutrients for future crops are created from the decomposition of the waste matter of previous crops)
7s8	Use scientific inquiry/research skills to investigate occurrences (e.g., a forest fire, a drought, an infestation of invasive species such as zebra mussels in a local lake or purple loosestrife in a wetland habitat) that affect the balance within a local ecosystem. Sample guiding questions: Should naturally caused fires in national parks be allowed to burn to their natural end? How do human activities and natural occurrences contribute to droughts? What happens in a drought? What is the impact of invasive species such as zebra mussels, spiny water fleas, round gobies, and sea lampreys on Ontario lakes, and what can be done to lessen the impact?

Part D – Secondary Succession in the Ecosystem

Your Goal: Explain, using your model ecosystem and food web, your understanding of the effect of the factor(s) that affect the balance between different components of an ecosystem.

1. Choose a secondary succession (i.e. fire, harvesting, hurricane, lack of rainfall, flood, bioinvasion) and think about the ways it would impact your ecosystem.
2. Writing about how succession affects sustainability in your ecosystem.
   a. Title (i.e. Succession in the Grassland Ecosystem)
   b. Name and describe the succession you chose (i.e. "Floods")
   c. Explain how the succession affects your ecosystem.

Succession in an Ecosystem Rubric

1	2	3	4
Knowledge and Understanding			
Demonstrates limited understanding of succession	Demonstrates some understanding of succession	Demonstrates considerable understanding of succession	Demonstrates a high degree of understanding succession and the balance between different components of an ecosystem.
Thinking and Investigation			
Does not accurately relate succession to the ecosystem. Does not provide logical conclusions of the affects on the relationships in the ecosystem.	Can somewhat relate succession to the ecosystem. Provide few logical conclusions of the affects on the relationships in the ecosystem.	Relates succession to the ecosystem. Provides many logical conclusions of the affects on the relationships in the ecosystem.	Relates succession to the ecosystem. Provides several logical conclusions of the affects on the relationships in the ecosystem, taking into account several points of view.
Communication			
Student uses vocabulary and terminology of the discipline with limited effectiveness	Student uses vocabulary and terminology of the discipline with some effectiveness	Student uses vocabulary and terminology of the discipline with considerable effectiveness	Student uses vocabulary and terminology of the discipline with a high degree of effectiveness
Application			
Cannot accurately report on affects of succession in the ecosystem.	Can accurately report on few affects of succession in the ecosystem.	Can accurately report on affects of succession in the ecosystem.	Can accurately report on affects of succession in the ecosystem, using technical terms.