Grade 9 Science—Ecology Restoration Plan Assignment

It is important that as human beings we reduce our ecological footprint. Human beings have impacted local ecosystems through:

* urban sprawl and development; which leads to habitat loss,
* overexploitation of various organism which can lead endangerment and extinction of one or many species;
* introduced non-native species which destroys habitats for native organisms—this can possibly lead to endangerment or extinction of one or species within the area
* pollution of atmospheric, terrestrial and aquatic ecosystems;

To do this, municipalities and other organizations, propose restoration plans. Restoration ecology are strategies that are used to restore an area to the former amount of biodiversity. In order to do this properly, one must know what the area supported before the impact and what caused the area to lose its biodiversity. Once this has been figured out, action can be put in place to repair the area so that more organisms will be able to live in this area again. While a restoration plan may not completely restore an area to the way it used to be, it at least allows the area to have increasing amount of organisms interacting in a sustainable ecosystem.

**Assignment**

For this project, we are going to examine the grounds that surround a park near your school.

You are to:

1. Read ecology restoration plans on D2L
2. Visit the local library, city archives, the city planning office or online resources to locate any original maps of the area to determine how this land was originally used/or managed (i.e. was this a forest, a farmer’s field, etc.)
3. Consider what kinds of organisms (plants and animals), soil, light, water that is already present in and around the area that you intend to restore.

Consider the following:

(a) Water - are there any natural sources of water in the area? Do you want to create a source of water such as a small pond?

(b) Food - are there existing plants, shrubs or trees that provide food (e.g. blueberries, apples)? Do you want to plant edible types of vegetation in your landscape?

(c) Shelter - which areas in your landscape are shady? Sunny? Will your landscape, once it is established, provide sunny or shady areas? Are there areas where small animals may seek shelter for the winter?

(d) Space - does your intended area provide spaces for students to sit and relax? How much space will you have to work with?

1. Write a proposal with a detailed map of how you hope to restore the area, making sure to discuss the benefits to all the organisms that will use the area (i.e. pollinators, birds, mammals, humans)
2. Make a 3-5 minute sales pitch (can be a video or done orally in front of the class) that outlines the area before human impact, your restoration plan for the area, who or what benefits from your restoration of the area, and why you feel that this is the best restoration plan.

**Rubric**

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| **Thinking and Inquiry:**  Student has thouroughly researched the area that they are restoring, has considered the organisms that will be reintroduced, and has come up with an insightful restoration plan. |  |  |
| **Communication:**  Sales pitch proposal is detailed, clear and effective in communicating restoration plan and why it should be implemented. |  |  |
| **Application:**  Based on the research, student has come up with an insightful restoration plan that benefits all organisms in the area that would use it. Pros and cons of this proposal are stated. Proposal and map of this restoration are very detailed. |  |  |
| **Knowledge/Understanding:**  In the proposal, student has demonstrated a clear understanding of all the organisms that will benefit from restoring the area and how these organism will be able to co-exist in a sustainable manner. Pros and cons of the restoration proposal are stated in detail. |  |  |