**Nitrogen Cycle Task Card**

**Description:** For this task, you will create a diagram representing how nitrogen cycles within your Ecocolumn.

**Purpose:** To understand the nitrogen cycle and apply the scientific skill of modeling concepts/information through a diagram.

**Product:** Nitrogen Cycle Diagram of Ecocolumn

**Due Date:** By start of next class

**Task 1. Understanding the Nitrogen Cycle**

Use the following information to understand how nitrogen cycles in terrestrial and aquatic environments. *You can (and should) supplement this with resources or notes from the Natural Biogeochemical Cycle playlist.*

**Resource 1:** [**Steps of the Nitrogen Cycle**](http://www.bbc.co.uk/schools/gcsebitesize/science/add_gateway_pre_2011/greenworld/recyclingrev2.shtml)

**Resource 2: Representations of Nitrogen Cycle (below)**





**What steps seem most important and relevant to represent in our Ecocolumns? Are there any steps that you think are not happening in your Ecocolumn? If so, why not?**

**Task 2. Applying the Nitrogen Cycle to Your Ecocolumn**

Use the steps you identified in Task 1 and apply them to your Ecocolumn. Where does each step occur in the system you have created?

|  |  |  |
| --- | --- | --- |
| **Step in Cycle** | **Where It Happens in Ecocolumn** | **Notes** |
| Ex: Denitrification is the process by which nitrates (NO3) return to the atmospheric nitrogen (N2) | Bacteria in the soil are probably performing denitrification; bacteria in the water could also be performing denitrification  | “ In excess, denitrification can lead to overall losses of available soil nitrogen and subsequent loss of soil fertility. However, fixed nitrogen may circulate many times between organisms and the soil before denitrification returns it to the atmosphere” ([source](http://en.wikipedia.org/wiki/Soil_biology#Denitrification)) |
| Ammonification |  |  |
| Fixation |  |  |
| Nitrification |  |  |
| Assimilation  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Task 3. Creating a Model of the Nitrogen Cycle in Your Ecocolumn**

On either GoogleDraw or a piece of paper, draw a diagram of the way that water cycles in your Ecocolumn.

A strong diagram has the following features:

* **Identifies and labels** all the key components involved
* **Depicts, labels, and explains** relationships between components
* **Highlights** key concepts or steps
* Can be **used to predict** how changes in one part of the system or process will affect the rest of the system