**OA Lesson 6: Reading Guide** *“***Blooming diatoms: Ocean gardens...” (student)**

**Question:** How are nutrients affecting the global carbon system?

**Goal(s):**

Use a systems approach to deepen understanding of the role of nutrients, carbon, light and other dynamic systems on phytoplankton processes. Develop skills in constructing explanations, and obtaining and communicating information.

**Targets:**

* Obtaining evaluating and communicating information
* Developing and using models
* Constructing explanations

**Instructions:**

In your small group (of 3-4) read the assigned paragraphs from the article to learn more about phytoplankton and other organisms which live in the mixed layers of the *polynya* in the Ross Sea. Record information on the table below as you learn about your assigned organisms. As a team build an understanding of each of your assigned organisms and how nutrients play a role in the ocean carbon system. Each team member must record the information, be prepared to answer questions, and report your findings to the larger group. Bacteria, diatoms, coccolithophoroids, zooplankton, large marine organisms (predators)

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| --- | --- | --- | --- |
| **Organism** | 1) | 2) | 3) |
| What are the abiotic nodes it needs for survival from the environment? |  |  |  |
| How are the abiotic factors and nutrients used by the organism? (3 examples) |  |  |  |
| Where do the organic waste products of the organism go once it dies?  |  |  |  |
| What is an alternate path for the waste products of the organism once it dies? |  |  |  |
| Where does the carbon go (describe 2 places)?  |  |  |  |

