

Biomimicry: Innovation Inspired by Nature

Assignment 1

Throughout this course, you will be asked to abstract functions and principles from the natural world and apply them to human challenges, particularly sustainability challenges. The ability to do this requires a lot of practice, as it is a skill biologists are not taught in school, and rarely in life.

During this exercise, you will demonstrate your ability to apply biological knowledge to human needs. This exercise is dedicated to developing and strengthening your abstraction/application muscle even more. Likewise, being a good naturalist implies an ability to work with the locals—those being the organisms and ecosystems around you. As you develop your skills throughout this course you will be asked in various ways to share with others the secrets of their local habitat.

As such, your first assignment is to research your local habitat and pick three (3) natural history stories that fascinate you. These stories should feature a function or principle of a specific organism, process or system. The second part of the assignment is to make a connection between the function of your organism, process or system and an application in the design, engineering, architecture, and/or business world. If possible, pick an application with sustainability implications.

Record your stories in your journal. You will be asked to share (verbally) one of your stories with the class during the next class meeting. Be sure to have enough detail and information to talk about any of your stories, as someone might tell your favorite story first.

In summary:

- Research the habitat of this region (anything in Montana is acceptable – prairie, rocky mountain front, valleys, rivers, wetlands, lakes, etc.),
- Discover three fascinating functions performed by three different organisms, processes or systems in this habitat,
- Apply those functions to a (preferably) sustainability challenge in the fields of design, engineering, architecture, and/or business,
- Record your stories in your journal,
- Be prepared to talk about any one of your three stories at the next class meeting.