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| **Science Literacy Skill** | **Plan to develop this skill** | **Why this skill is important** | **Representative Activity** |
| Formulate hypotheses by referencing prior research and knowledge. | In order to make this literacy skill successful, students need to be able to “connect the dots” from previous knowledge to what is occurring in the present.  Coming from a geology background, a lot of what one sees on a day to day basis can be a useful thing to point out and then build upon with new class materials.  11.A.4a | Previously learned knowledge or basic knowledge is very important in making connections to things occurring every day. This previous knowledge can be used to look at the “bigger picture” of the new materials being used within the class. Students can become more observant by making connections. | <http://www.ehow.com/way_5427937_biology-projects-high-school-students.html>  This activity demonstrates how photosynthesis works. |
| Collect, organize and analyze data accurately and precisely. | I feel that collecting, organizing, and analyzing data is a basic skill to acquire and that students should be exposed to this earlier on in the school year. This is the perfect literacy skill to really combine what is being learned in class during lecture to a more visual and hands on activity. 11.A.4c | Being able to collect, organize and analyze data early on in the school year can help the students transition into more detailed activities that may require a little more work, such as the Scientific Method. It is a basic way to help the students connect what is being learned within the classroom to things occurring everyday with plant life, learning about the human anatomy, how zoology works, and so forth. | In this section, I would actually use an activity I did during my summer Zoology course. We went out to make observations of animals we could visually see (birds, insects) and collected samples of algae or plants in water in buckets to bring back to the lab. In the lab, we used several books to classify what we had observed and what organisms we had found in our samples while looking under a microscope and recorded our data on a nicely organized chart.  I thought it was a very useful activity and who doesn’t like animals? |
| Determine the criteria upon which the designs will be judged, identify advantages and disadvantages of the designs and select the most promising design. | Students need to learn what works, what doesn’t work, and why?  A great way to go about making this science literacy skill successful within the classroom is by using this with evolution and Darwinism. Looking at how species have changed throughout time, what has changed, and whether those changes were for better or for worse is a great way to go about identifying advantages and disadvantages of different designs.  11.B.4d | This skill is important to have because this topic will be discussed within a classroom but it can also be something easily observed.  Not only does evolution of species and Darwinism cover morphology (and survival of the fittest) but it could also be used to cover genetics. This topic can be used with previous knowledge of genetics to learn about this evolution process or this topic can be used as an introduction of evolution of species to the upcoming genetic topic. | <http://www.lessonplansinc.com/biology_lesson_plans_darwin_evolution.php>  This site actually has several lesson plans that can be used with natural selection and evolution. |