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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. | This skill is best learned when students have had several lessons that “stack” or “build” upon each other. For example; students in an Anatomy and Physiology class will be able to formulate more accurate hypotheses on why red bone marrow is important, if they have previously learned about the basics of blood and its functions. | Students should be taught that their previously learned knowledge can be a vital key in any class or area of life. Understanding basic concepts is the key to unlocking the advanced abstract areas of a subject. It is also very important in everyday life. Drawing upon past experiences and knowledge can make a person more observant and objective in their thoughts and decisions. | <http://www.glencoe.com/sec/science/sc_interactions/si3/pdfs/sics3chaprevch12.pdf>  The above activity is on blood and the basics of its makeup and functions. |
| Collection, Organization, and Analysis of experimental data  (Understand and use the scientific method) | To solidify the procedure of the scientific method, I would do the following; On the first day of actual class I would have the students perform a lab that had very little to do with biology. I see this as a chance for the students to really focus on the scientific method without having to worry about learning new biological concepts at the same time. I believe that starting with the basics of the scientific method is a good procedure. You can also ascertain more easily if you students are struggling understanding the *scientific method*, vs the *biological concept* that is connected to the lab. This lab would be a 1 day lab, and wouldn’t need to take up much time. | The Scientific Method is a logical and rational order of steps by which scientists come to conclusions about the world around them. The Scientific Method helps to organize thoughts and procedures so that scientists can be confident in the answers they find. They use observations, hypotheses, and deductions to make these conclusions.  In learning this skill students can start to become critical thinkers. Students can start to look at their world in the aspect of “why?” and try to discover the answer. | <http://serc.carleton.edu/sp/mnstep/activities/27600.html> |
| Using available technology, report, and display experimental findings | Implementing this skill (as an ESSE) requires looking at many different forms of technology, and understanding as a teacher when to use them.  Graphing can be used in many laboratory exercises when quantitative data is being used. After students have graphed their results they must then derive relationships or meaning from what they see, and explain in their lab report.  Microscopes can also be used. Many microscopes have the ability to attach a camera to take pictures of what the observer can see. In this way a student could take a picture of a specimen, or a mineral slide and present to the class their findings. | Using graphs, data tables and many other types of technology are vital in scientific research. Without technology it would become very difficult to accurately plot data. It would therefore be even harder to obtain detailed data during experiments, not just in biology but in any science. Being literate in science does not just mean being able to read scientific words, it also means being able to use scientific equipment and technology to report one’s findings. | Here I would use my own activity that was turned in for the Cognitive Adaptations assignment: Enzymes and Legos. This can be very applicable since I have students creating graphs and then deriving information from them. |