



# THE LAB REPORT

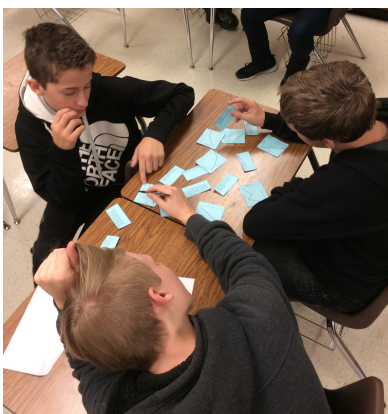
K-12 Science Newsletter | Vol.V Issue I

## Welcome To Our Fifth Year

Are you interested in what's happening in the Whitnall School District science classrooms? The *Lab Report*, an award winning publication, allows you the opportunity to see what Whitnall students are learning during their daily lessons and how these lessons will apply to their life beyond the classroom. In this edition we'll focus on scientific literacy.

### Newly Adopted Discovery Education Techbook Supports Science Literacy Development

When you think of literacy, you probably think of reading class, but did you know that research shows that content-oriented instruction and writing yield higher gains in reading comprehension than does most strategy-oriented instruction. So, as part of a unit on Space Systems, first graders were prompted by their teachers to share their knowledge and ask questions about the sun. Using the newly adopted Discovery Education Techbooks, students read about the sun to find the answers to their questions. Techbook allows students to annotate text and provides read out loud text for developing readers. Students recorded findings in their science journals using words and pictures. These lessons coupled science with literacy, offering many opportunities for students to expand vocabulary, an important benefit given the relationship between vocabulary knowledge and reading achievement.



### Science Literacy Includes Analyzing and Interpreting Data

For a scientist, literacy also includes being able to analyze and interpret data. WMS 8th grade physical science students recently studied the concept of motion. As they learned about describing motion, students read various scenarios and were asked to collaboratively analyze and interpret data displayed in distance vs time graphs, matching the data from the graphs with the written scenarios. The ability to analyze and interpret data is no easy task, but an important one, since it will be used by many of these students in their future careers, and as consumers of medical, financial, and political data.



## Literacy is Best Taught Within a Meaningful and Authentic Context



Scientific literacy entails being able to read with understanding articles about science in the popular press and to engage in social conversation about the validity of the conclusions. That's exactly what physics students did while researching an engineering project being conducted at the South Pole. The IceCube Neutrino Telescope was placed below 1000 meters of ice in order to take data in one of the clearest solids we have on Earth, deep South Pole ice. The original engineers had to find the most efficient way to drill holes into this ice, place a string of detectors into that hole, and have it refreeze around the detectors. Physics students read journal articles from scientific teams and engineers that had drilled in similar circumstances, and they learned about the different drilling methods available. As individual classes they came to the conclusion that a hot water drill would be the best option, which they then found out was the preferred method of the telescope engineers as well!

The students are now currently working with water pumps and various materials to test variables that effect hot water drilling in ice. Each group chooses the problem they want to try to solve, whether that is how to drill a clean hole, how to use less water and energy, what the effects of temperature and pressure are, or even how to 3D print different drilling nozzles for the pumps.

**Science Literacy at Home** The National Science Teachers Association recommends these recently published books for students in grade K-12. [LINK](#)

## Whitnall School Forest Update



Bob Lamb of Lamb's Nursery and Jim Frami, WSD Building and Grounds, show the Forest Products seminar class how to properly plant a tree. Students then put their shovels to good use. Take a walk in the forest and you'll also discover that this class has created books for the school forest that will be placed in a lending library built by Whitnall Alum, John Morgan. Additionally, the trails are in the process of being made more accessible for community members and students with disabilities. Check out the message board for updated information.

Questions about science education or the Whitnall School Forest can be directed to [lcerletty@whitnall.com](mailto:lcerletty@whitnall.com)