

# OREGON COAST TECHNOLOGY SCHOOL

INSIDE THIS ISSUE:

<i>8th Grade English</i>	2
<i>NBHS French</i>	3
<i>8th Gr. Math</i>	3
<i>8th Grade Science</i>	4

Visit the Student Art show held in the North Bend High School Library during the first two weeks in May.

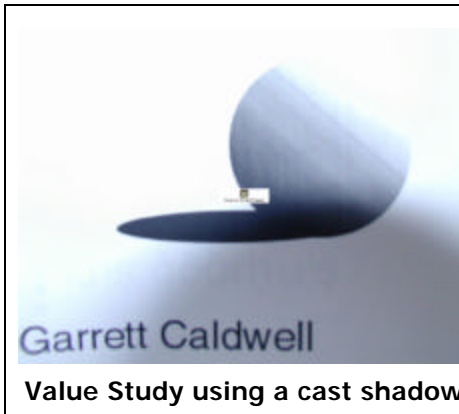
**Inside this issue:**

- Students assist in designing Web Quest.
- Parlez-vous Francais ORCO TECH?
- Science Probes in use

## NBHS VISUAL DESIGN

By Nunzio Lagattuta

The new Visual Design class is off to a very productive start in the new technology building. The students are very talented and have a wide variety of experience levels. The class is currently studying Black and White design and the relationship to positive and negative shapes. We started the term with pencil and paper, learning the Elements of Art and the effects of light on traditional geometric forms. Using value, (shading) to show volume, we then used hands-on drawing techniques to create 3D images on a 2D surface.



Value Study using a cast shadow

The second week, we moved over to the new technology building. The large room now houses 30 brand-new computers, each with Adobe Photo shop and Adobe Illustrator CS installed, thanks to Fred Baker and Suzy Callery. Students then used the

tools provided by the Adobe Illustrator CS to create the same effects we rendered in the classroom.

You will be able to see some of the Visual Design students artwork in this year's Student Art Show in North Bend High School's newly remodeled library. The art show

will be held the last week in April and the first 2 weeks in May. You will be pleasantly amazed with the talent of these "tech artist's". Please feel free to stop buy any time during 6th period and see the exciting designs created by ORCO Technology Visual Design students.

## SUDDEN IMPACT

By Darren Sinko

Normally students are discouraged from throwing eggs from high places, but on April 8<sup>th</sup>, the sixth grade ORCO Tech students in Mr. Sinko's science class did just that. With the help of the North Bend Fire Department's ladder truck, the sixth graders tested energy absorbing devices designed to protect eggs from a drop of 80 feet.

The egg drop project is an annual event in Mr. Sinko's science classes. This project was designed so that students could observe firsthand the relationship between potential energy and kinetic energy. Working in pairs, students were allowed to use any type of container or combination of materials to protect their eggs from cracking. The egg container could not exceed 15 cm. in length, width, or height, nor could it weigh more than 500 grams. The students were encouraged to be creative in their designs because very little instruction was given beforehand on construction techniques or energy absorbing materials. Principal Bill Lucero donned firefighting gear and scaled the 80-foot fire truck ladder to perform the drop for the sixth graders standing in the parking lot below. Egg protection (Story Continued on Page 3)



Cassy Watson proudly displays the messy results of her smashed egg.

***“Necessity  
drives  
the need for  
Innovation.”***

## INNOVATIVE TECHNOLOGY IN ENGLISH

By Barbara Becker

Students in 8<sup>th</sup> Grade ORCO English can truly say they have had a part in innovative technology this year. With the understanding that necessity drives the need for innovation, students helped create a webquest that is now posted on-line.

During winter term, students studied the novel, Hugh Glass, Mountain Man, by Robert McClung. This historical look at the life of a fur trader who is attacked by a bear and left for dead by his comrades, is both rich in history and adventure. However, in searching resources available for the book (which is no longer in print) neither the in-

tenet nor print sources provided a great deal of information. As a result, students explored the



**Laptop Computers in Use**

novel using a variety of teacher designed materials, with the goal that student research would be used to shape and design a webquest for the book. One of those assignments required students to create links about characters and people groups from the novel. With a website ru-

bric in hand, the first task for students was to locate websites for their topic, then determine the reliability and credibility of those websites. Once this was done, they had to choose three sites, summarize the information found, and turn their findings in electronically. The best links were chosen to be posted on the webquest; a wonderful research tool that narrows the field of research for students attempting the on-line project. As posted currently, the webquest includes all the instructions necessary to complete a project of choice in conjunction with the novel. To visit this webquest, created with student links, go to: <http://www.kn.sbc.com/wired/fil/pages/webhughglahu.html>

## PARLEZ-VOUS FRANCAIS, ORCO TECH?

By Tanya Sinko

“If it’s Tuesday and school is in session, it must be an ORCO TECH day!” Students in Mrs. Sinko’s French I classes have mastered this little phrase over the past three weeks. French students have been learning that French is everywhere, especially on the Internet. While they do not yet have access to audio for web sites, students have learned that there are many free sites that will support their study of French. Using assignments designed by their teacher, Mrs. Sinko, students have successfully navigated about the Quia and Bonjour de France websites. To date, students in French I have completed three web-based assignments.

French I students have been learning about food, politely making and refusing requests, and quantity words. The sites we have visited use interactive games,

such as “Concentration”, to support vocabulary acquisition. Students have taken pop-up quizzes over verb conjugations as well as culture. Just last week, students worked on reading pieces written entirely in French, including two conversations and two recipes! Students also expanded their knowledge of open-air market shopping in France and francophonic (French-speaking) countries.

French II students have visited the new technology center only once, but enjoyed their first exposure to the interactive vocabulary and verb games. Some students said, “It’s really cool to learn the vocabulary this way. I like the different games and the way we can do them over if we want to.” Other students appreciate the opportunity to take a break from the classroom setting.

Students in French III/IV visited the high school computer lab, where they were able to listen to audio texts of a few short stories by Guy de Maupassant. Students also brushed up on their adverbs while visiting the LanguageGuide.org website.

Future plans for the remaining visits include learning how to use computerized recording software (PureVoice) and how to transmit voice files via e-mail to Mrs. Sinko, as well as a web-based scavenger hunt for cultural information about France and/or francophonic nations. (Web sites consulted/visited: <http://www.languageguide.org>; <http://www.bonjourdefrance.com>; <http://www.quia.com/dir/french>)

# DO MORE WINS MEAN MORE FANS IN THE BALLPARK?

By Bruce Carpani

Students in Mr. Carpani's math classes recently used the mobile laptops to investigate how the number of wins effects the attendance of Major League Baseball teams. Most everyone agreed that a winning team would have more fans coming to their games. Students worked in pairs to access the attendance figures and team standings found on the internet for the 2003 season, to prove that

their hypothesis was correct. One of the problems encountered by the students was sorting through all the information and deciding which figures would be the best to use in answering the question. The enormous amount of information available makes it necessary to develop skills in reading, sorting, and analyzing. After selecting the needed data the students had to determine the atten-



Ryan Michaelson demonstrating his deep thinking pose while John Pope works his magic on the keyboard

dance-to-wins ratio for each team and compare them. Each pair of students created a scatter plot to show graphically the relationship of winning and attendance. Besides the fun of using the new technology, this activity gave the students an opportunity to work together in teams to solve a problem. They acquired some new skills and reinforced other skills and concepts that we have worked on throughout the year.

***“The enormous amount of information available makes it necessary to develop skills in reading, sorting, and analyzing.”***



Becca Baer and Kristin Woomer solving the mysteries of Major League Baseball

(Scientific Egg Drop Continued from page 1)

devices made from foam, cardboard boxes, Tupperware containers, and metal cans rained from the sky one at a time down to the pavement below. Smiles and looks of disgust were prevalent as the students opened their protection devices and discovered the fate of their eggs. Many groups believed their eggs would survive the fall, but only 6 groups of 30 managed to spare their delicate cargo from liquidification. The group winners were Alex Mateski and Kaitlin Kirkeby, Chris Banks and Cody Crawford, Jared Kunz and Justin Causey, Katherine Nicholls and Cassy DomSchot, Rebecca Kaufman and Kelly Kronsberg, and individual winner Luke Vaught.

The egg drop project was a great success, thanks in part to the generosity of the North Bend Fire Department and the use of their ladder truck. Hopefully, their presence will be yet another anxiously anticipated part of the annual egg drop project for future ORCO Tech students.



Winners Alex Mateski and Kaitlin Kirkeby celebrate the survival of their egg.

North Bend School District



## Probing for Deeper Understanding in Science: What Are Science Probes, Anyway?

By Erica Hutcherson

Middle school students in ORCO TECH have begun to experiment with equipment that allows them to collect and graph complex data in new and illuminating ways. The heart of probeware technology is the probes themselves, sometimes referred to as sensors.

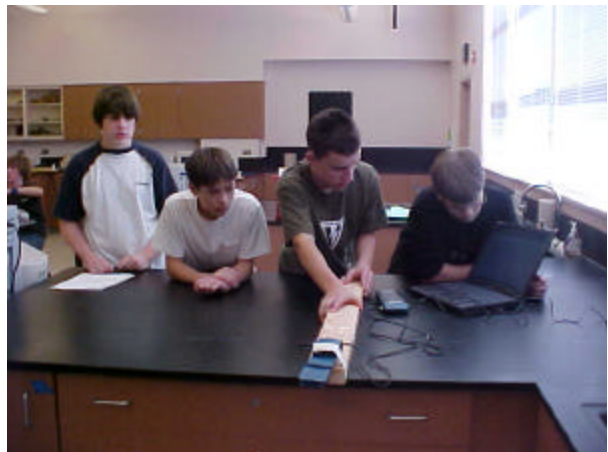
There are many different types of sensors, such as temperature sensors, pH sensors, and force sensors. The sensors collect data in the same sense that a thermometer, a piece of pH paper, or a spring scale collect data, the difference being that, with the probes, the data is then converted into a digital or analog signal. In order to make sense of this digital or analog information, the sensor must be connected to an interface, which integrates the information from the sensor and sends it to a computer. The laptop computers have worked well for this purpose, as they are portable and can be used alongside other science equipment. A software program called Logger Pro is then used to view the data on the computer screen. With Logger Pro, students can “see” their data in both numerical form and graphical form. Logger Pro allows students to collect large amounts of data (for example, a temperature reading every tenth of a second, something that would be impossible with an ordinary thermometer) It also makes it possible for students to manipulate their data and graphs with ease, generate statistics, compare trials, and save large data sets for later analysis.

Use of this data collection technology has many educational benefits. First, it improves student understanding of complex science concepts by making the data visible in graphical form *in real time*. Let’s face it; data collection can be very tedious in and of itself. The most meaningful part of a lab exercise often comes later,

when students graphically represent their data and interpret its meaning. When this part of the activity is delayed (sometimes for several days when complex data sets are involved) many students have lost track of the whole point by the time they get around to interpreting results. When we use the probes, class time is freed up for students to use higher-level thinking skills, such as analysis, synthesis, and evaluation.

Additionally, the probes allow us to do experiments that would be otherwise impossible in a middle school classroom. A case in point is a lab that the eighth grade students did this Spring Term using Motion sensors. The Motion sensor is a sonar device which emits ultrasonic pulses and waits for an echo. The time it takes for the reflected pulses to return can be used to calculate things like distance. During our Oceanography unit, this technology made it possible for us to simulate the use of sonar in mapping the uneven surface of the ocean floor in places so deep that they would be impractical to map in a more direct way. Students were able to directly experience the benefits (and limitations) of this type of technology.

Finally, the probes allow students to experience the type of real-time data collection technology that is often used in the professional world, in higher education, research, and industry.



Science students use a Motion sensor (a sonar device) and a laptop to remotely map a simulated ocean floor .

### Oregon Coast Technology School

is published by the  
North Bend School District,  
1913 Meade Street,  
North Bend, Oregon, 97459.  
541-756-8307 phone,  
541-756-1313 fax,  
scallery@nbend.k12.or.us,  
email.

**Editor/Designers:**  
Barbara Becker;  
Bonnie Wiegman

**Contributors:**  
Nunzio Lagattuta  
Barbara Becker,  
Erica Hutcherson,  
Darren Sinko,  
Tanya Sinko,  
Bruce Carpani



Students use Temperature probes, globes, lamps, and laptops to collect data.