



SCIENCE *and* TECHNOLOGY IN DISTRICT 57

A MESSAGE FROM YOUR SUPERINTENDENT



WELCOME TO DISTRICT 57'S LATEST ONLINE NEWSLETTER, WHICH FOCUSES ON SOME OF THE UNIQUE AND CREATIVE WAYS THAT OUR STUDENTS ARE LEARNING ABOUT TECHNOLOGY AND SCIENCE.

These subject areas are a crucial part of a solid 21st-century education. The workforce of the future will be part of a competitive global economy, and many careers — some of which we can't even imagine yet — will require workers to be well grounded in technology and/or science.

That's why District 57 provides high-tech learning tools, curriculum and programs that give students the building blocks they will need as they move through their education and one day enter the workforce. In addition, our District has committed teachers who seek out opportunities to use technology to enhance classroom lessons. As you will read in this newsletter, there are many examples of this at all four schools.

District 57 is fortunate to have a technology infrastructure that supports the activities taking place in our classrooms. Two years ago, technology director Reggie Ryan oversaw the replacement of most of our infrastructure, and he continues to make sure the District is up to date so that our students can take advantage of the many high-tech learning opportunities out there.

While we are pleased with the current state of District 57's technological capabilities, we anticipate some challenges. In the spring of 2015, Illinois will replace the ISAT with a new statewide assessment that most likely will be given online. This could require school districts to purchase more bandwidth. Districts also are increasing bandwidth to keep up with the requirements of online curriculum delivery, an effective and efficient way to teach students.

Currently, one-sixth of District 57's technology budget goes toward providing adequate bandwidth. It could become necessary to double that capacity to accommodate online testing and additional online curriculum. All Illinois school districts are facing these looming costs. It's a difficult situation, given that most districts already are dealing with financial challenges. Fortunately, though, District 57 has made significant infrastructure improvements in recent years, and we should not need to spend as much money as many other districts that will have to start from scratch.

We don't yet know exactly how the new statewide assessment will affect our technology budget. But we do know that curriculum delivery will continue to evolve, and we will continue to use high-tech tools to teach our students. So we'll closely monitor the situation and ensure that our infrastructure is prepared for whatever the future holds.

I hope you enjoy reading this newsletter and learning about the many ways that District 57 students of all ages are acquiring the skills they will need in order to be successful.

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It's a great way to be "in the know" about many of the exciting things happening in our schools!

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SCIENCE CURRICULUM ENCOURAGES ACTIVE LEARNING

When District 57 students learn about science — whether in kindergarten or eighth grade — they're not simply sitting at a desk reading out of a book. They're learning by doing.

Active learning is the centerpiece of District 57's inquiry-based science curriculum, called FOSS (Full Option Science System).

"The students don't sit on the sidelines," explains Becky Kviz, instructional assistant. "Their minds are working, and they are involved in hands-on projects."

In first grade, for example, students examine mysterious objects and try to determine what they might be. They soon learn that they are studying larvae of milkweed bugs. The students provide a habitat and observe the insects as they mature into adults. Westbrook teacher Heidi Jorgenson uses her ELMO document camera to magnify the insects so students can identify body parts. "When the kids see them bigger than their hands, it's amazing to them," she says.

Investigations are an important part of the FOSS program. When the students' parents were in grade school, science was taught through film strips. Everything was one dimensional. With FOSS, the idea is that kids learn science by doing science. That's important today, when anyone can watch a crayfish molting on YouTube. But it's so much more memorable to actually see that happen in the classroom, as third graders do during the Structures of Life unit.

In middle school, FOSS units include the human brain and senses, weather and water, earth history, and planetary science. As with the younger grades, students do an investigation first, then read about the topic. This way the lesson is not so abstract.

FOSS lessons reinforce science, technology, engineering and math (STEM) education. Because technology is advancing so fast, schools need to prepare kids for jobs that might not even exist right now. That's why it's important to integrate this curriculum into everyday learning.



Fairview second graders in Mrs. Logar's class explore a gravel pit in East Dundee, during their FOSS Science unit on pebbles, sand and silt.



Kindergarteners from Mrs. Zemaitis' class observe and collect changing leaves in Westbrook's courtyard, as part of their FOSS Science unit on trees.

LIONS PARK AND BOSCH ENGINEERS TEAM UP TO OFFER SCIENCE CLUB TO REINFORCE STEM EDUCATION

Lions Park fifth graders participated in an after-school Science Club this fall that helped prepare them to become tomorrow's engineers and scientists. The 21 members of the club conducted experiments and participated in hands-on activities that reinforced science, technology, engineering and math (STEM) curriculum.

The club was part of the national A World in Motion® program, which combines the talents of classroom teachers

and volunteers from local industry. The Lions Park club was led by teacher Natalie Meilinger and engineers from the Robert Bosch Tool Corporation.

Students were given the task of designing, creating and testing a balloon-powered toy car that met specific performance criteria. Work groups were assigned roles such as project engineer, facilities engineer and test

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SCIENCE

SCIENCE CLUB *continued from page 2*



Bosch engineer Randy Valenta helps Lions Park fifth graders with a Science Club experiment -- designing, creating and testing a balloon-powered toy car.

engineer. They worked together to problem solve and improve their products. Meilinger says students used concepts they learned in the classroom, which helped them see how their school work can apply to the real world.

The process "helps kids learn about and not be afraid of math and science activities, which can give them a path to pursue more technical disciplines later in life," says Randy Valenta, director of after sales service for Bosch and a program volunteer. "The kinds of skills they are learning are

what enable a society to progress, maintain its innovation capabilities and not fall behind."

There also was a technology component. The students, their teacher and the Bosch volunteers used edmodo, a teacher-supervised social network, to chat about experiments, ask questions and give feedback while outside of the classroom.

The Science Club was a 12-week program that will begin again in January. It might be brought to Fairview next year as well.

TECHNOLOGY

FAIRVIEW STUDENTS LEARN NEW SKILLS AT TECH CLUB

Fourth and fifth graders from Fairview School have the opportunity to pursue their interest in technology, get creative and learn some important new skills, by joining the popular after-school Tech Club.

The weekly club gives its 30 members a chance to make movies using animation and stop-motion technology. Students also create comic books using desktop publishing, then digitize their work.

Tech Club members communicate outside of school through a teacher-supervised social media web site called edmodo. They can post their projects and comment on each other's work. "It's a great tool for collaboration," says Kelly Weidemann, Fairview's building technology assistant.



THE DISTRICT 57 EDUCATION FOUNDATION
15TH ANNUAL AUCTION GALA

EVENING *for* EDUCATION

FEBRUARY 23, 2013 6:00 PM – MIDNIGHT

**THANK YOU, DISTRICT 57
EDUCATION FOUNDATION,
FOR HELPING BRING HIGH-TECH
TOOLS TO OUR SCHOOLS!**

Did you know that many of the learning tools our students use have been purchased through grants from the District 57 Education Foundation, including ceiling-mounted LCD projectors, Elmo interactive document cameras and iPods for audio books? These items greatly enhance the education that District 57 students receive. The Foundation is able to provide this valuable and necessary support thanks to generous donations from community members and local businesses. You can help by attending the upcoming auction gala and/or donating auction items. Visit www.57edfoundation.org for more information.

TECHNOLOGY

WESTBROOK EMBRACES IPADS TO ENGAGE YOUNG STUDENTS

District 57's youngest students are becoming adept at using high-tech tools in the classroom. All of the kindergarteners and first graders at Westbrook School for Young Learners regularly use iPads as a supplement to more traditional methods of curriculum delivery.

In Mandy Reihart's first-grade class, for example, students do word work on iPads during reading lessons and receive differentiated math instruction on iPads that enables them to work in small groups. She is creating individualized folders on the iPads, each containing apps that are tailored to a student's needs and level. "They are always extremely eager to utilize this important and innovative classroom tool," Reihart says.

In kindergarten, students rotate throughout centers each day, and one station often includes several iPads, which are used for practicing math skills. The technology is simple and easy to use, and the activities are bright and fun, so iPads are well suited for younger grades.

District 57 is not alone in embracing iPads as versatile learning tools that creatively deliver curriculum and engage students. Educational leaders from elementary



Westbrook students use iPads to practice math and reading skills.

school districts to universities are seeing the potential of iPads and incorporating them into curriculum. With thousands of educational applications available, teachers can find diverse material that addresses virtually any content they want to cover.

District 57's iPads were bought through the technology purchase plan, as well as through grants from the District 57 Education Foundation.

SOCIAL MEDIA SITES FOR KIDS ENHANCE LESSONS

District 57 students are using social media web sites geared toward kids to connect and collaborate about their schoolwork while outside of the classroom. Teachers moderate the sites and use the experiences to enhance lessons. The online discussions can spark classroom debates, teach writing skills, provide opportunities to reflect on learning and demonstrate responsible online behavior.

Trina Courtney's eighth-grade social studies students at Lincoln used the chat function of Google Docs to participate in a real-time discussion during one of the presidential debates

this fall, offering feedback about the candidates' answers and conduct. They did a similar activity on election day. Courtney says this was a valuable way to introduce the students to the concept of civil discourse while discussing politics.

Fourth and fifth graders at Fairview and Lions Park are using edmodo, a free, secure social learning network that provides a real-time platform for exchanging ideas. LRC director Patricia Kennedy has asked students to post reflections about books they are reading. Some teachers also post questions from class and students respond from home.

Kristine Miller's Lions Park fourth graders learned how to share their "I'm thankful" essays on Google Docs and give and get peer feedback using the comment feature. The essays will be posted on the iCollaboratory site, which gives students from many schools an opportunity to read and comment on each other's work.

Many District 57 teachers say they plan to continue finding creative methods of incorporating interactive learning and social media into their lessons, to engage students in new ways and help prepare them for how many people communicate and conduct business.