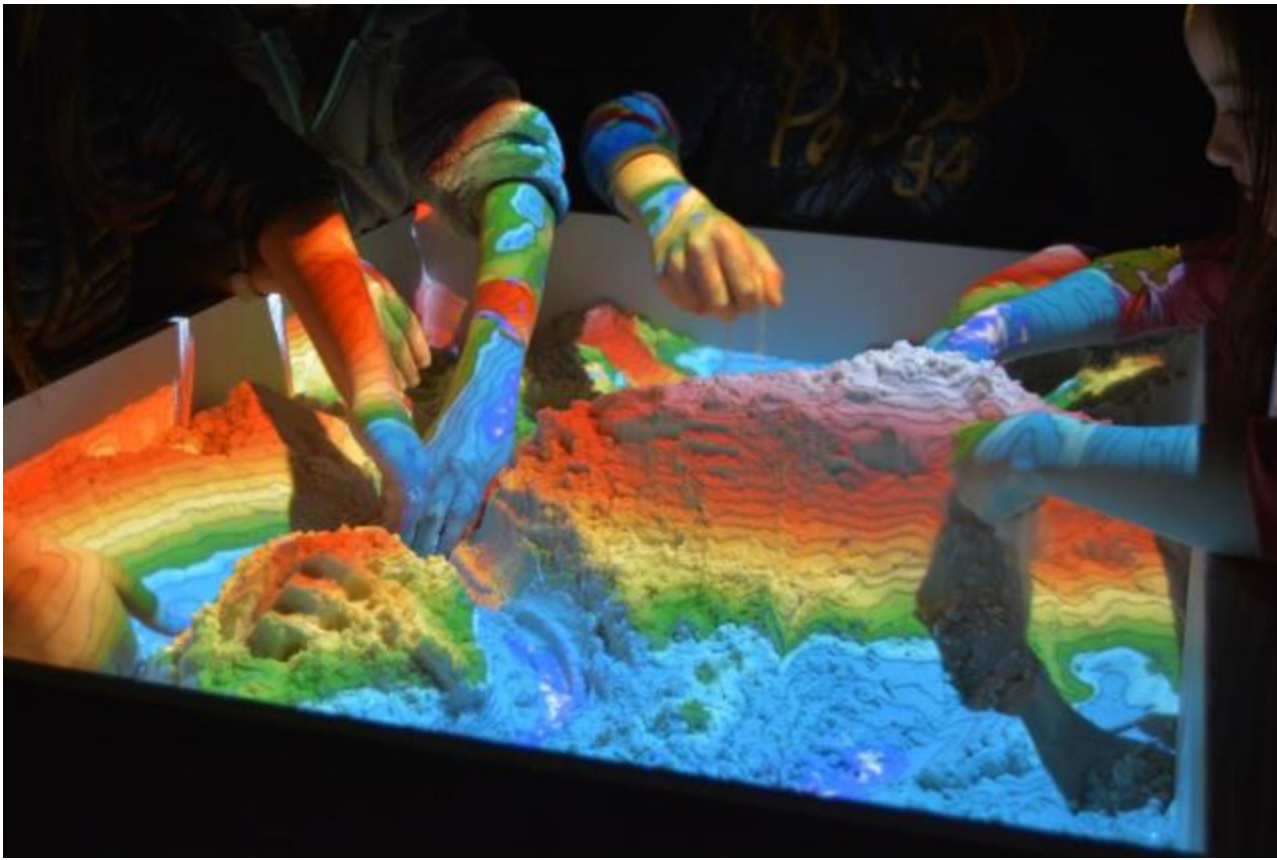


Columbus School embraces new Augmented Reality Sandbox

by Dan Brannan, Content Director
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EDWARDSVILLE - Principal Vince Schleuter is like a kid in a candy box — no, let's say a sandbox with his new Augmented Reality Sandbox at Columbus School in Edwardsville.

Rob Canada, one of Columbus School's innovative fifth-grade teachers, came to Schleuter with the idea for the Augmented Reality Sandbox to create a unique experience for their students.

"Rob first showed me a You Tube video of an Augmented Reality Sandbox," Schleuter said. "I explored videos, followed links and directions and realized this was something we could do. I always like to bring technology to the students and give them some hands-on experiences."

The principal said Canada constantly comes up with innovative ideas to work with his students at Columbus Elementary.

"My job is to see what would really fit in our curriculum and whether it is feasible to do the idea," Schleuter said.

The Augmented Reality Sandbox allows users to create topography models by shaping real sand, which is then augmented in time by an elevation color map, topographic

contour lines, and simulated water. The system teaches students geographic, geologic and hydrologic concepts such as how to read a topography map, the meaning of contour lines, watersheds, catchment areas, levees and more.

When Schleuter decided to do the project, he realized he could make the sandbox himself with a little help. The sandbox also uses a projector and an Xbox 360 Connect. He designated a computer for the project and it runs on a Linux operating system.

Schleuter had an Xbox 360 Connect that wasn't being used at home, so he donated that to the project. The sandbox is filled with white sand and it is transportable, but Schleuter said he believes it will stay mostly where it is because it has to be recalibrated every time it is moved.

Over the Christmas break, Schleuter and another volunteer worked to put the sandbox together. The principal did a lot of research to make sure he had the right equipment to make it work.

"We built this in my mother's garage," he said. "I worked in the trades, first as a painter, but I also did a lot of remodeling. This was a natural thing for me to do with my background and my tools."

The project's missing pieces came from a Citizens Advisory Council grant. For more than 10 years, the CAC has sponsored the Motivational Technology Grant program, which seeks proposals from Edwardsville Community Unit District 7 teachers (or groups of teachers) to develop special projects or activities relating to the goals and objectives of the school system.

Third-graders are presently doing a big study on the state of Illinois and this will allow them to make a mock river and levee system to then see where the water goes, much like the recent area floods.

Fifth-graders study Asia, South America, the Amazon River and coastlines. The Augmented Reality Sandbox allows instructors to turn the water to a red color to emulate lava coming from a volcano.

"This gives the kids a chance to hands-on talk about elevations, land formats and more," Schleuter said. "It can be things being as simple as fourth-grade studies of geographical areas. We can talk about a continental divide and create that or create a mountain range and make rain fall on top of it to the east or west. Using this should be very helpful for the students. All the students are excited about the new sandbox and what it offers."



