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The Army's Edgewood Chemical Biological Center engages Joppatowne Elementary students in 'Engineering is Elementary'

Joppa, Md. – In an effort to foster early engineering and technological literacy among children, engineers from the U.S. Army Edgewood Chemical Biological Center (ECBC) recently challenged nearly 50 fourth-and fifth grade students at Joppatowne Elementary School to design, build and test their own walls.

Based on the Engineering is Elementary (EiE) scenario in the storybook 'Yi Min's Great Wall,' ECBC subject matter experts developed two hands-on science, technology, engineering and mathematics (STEM) activities that focused on addressing the problem with which the main character in the story is confronted.

First, the Center's engineers Cindy Learn, David Love, Mary McNally and Bruce Steltzer revisited the storyline to extract the challenge leading up to the interactive STEM experiences. Then, the group of elementary school students was collectively charged with finding a solution to protect the classroom garden from a hungry rabbit munching on the plants.

Reinforcing the engineering design process, the four Army engineers offered students the opportunity to design and build a protection wall or fence to stop the hungry rabbit from invading. This exercise allowed fourth-and fifth-graders to tackle a real-world challenge by using their imagination and an array of different materials, such as wood, straw and play-doh.

After completing their designs according to specific requirements and running tests for wind and impact resistance, students were encouraged to improve their structures as the final step of the engineering process.

"It was amazing to see our students work together to solve problems," said Joppatowne Elementary School teacher Erin Morring. "Their excitement over creating a successful design was a testament to the Engineering is Elementary program. This initiative brought out leaders in our students, and provided them all the chance to apply their skills and knowledge in math, science and reading."

Due to EiE's multi-disciplinary and student-centric approach, ECBC's Community and Educational Outreach Program has adapted it as a main thrust into its STEM educational outreach efforts through the National Defense Education Program.

"We want to help children discover STEM education in their earliest learning stages, because this is when they start developing their interests and abilities," said ECBC Community and Educational Outreach Program Manager Mary Doak. "The Engineering is Elementary curriculum perfectly lends itself to teaching the engineering design process and solving real-world problems in different contexts."

About Engineering is Elementary
The Engineering is Elementary® (EiE) project fosters engineering and technological literacy among children. EiE has created a research-based, standards-driven, and classroom-tested curriculum that integrates engineering and technology concepts and skills with elementary science topics. EiE lessons not only promote K-12 science, technology, engineering, and mathematics (STEM) learning, but also connect with literacy and social studies.

Click on this link to for more photos on Flickr: http://bit.ly/zcZzDz

For more information about ECBC, visit http://www.ecbc.army.mil/.

ECBC is the Army's principal research and development center for chemical and biological defense technology, engineering and field operations. ECBC has achieved major technological advances for the warfighter and for our national defense, with a long and distinguished history of providing the Armed Forces with quality systems and outstanding customer service. ECBC is a U.S. Army Research, Development and Engineering Command laboratory located at the Edgewood Area of Aberdeen Proving Ground, Maryland. For more information about the Edgewood Chemical Biological Center, please visit our website at http://www.ecbc.army.mil or call (410) 436-7118.

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