PHOTO OPPORTUNITIES

8 am–noon: Preliminary judging with all schools participating
Noon: Top eight finalists and special awards are announced
12:30–3 pm: Top eight finalists compete
3:45 pm: First, Second, and Third prize winner are announced

STUDENTS TO UNVEIL COMPLEX MACHINES AT CHAIN REACTION CONTRAPTION CONTEST ON DEC. 9
HIGH SCHOOLERS FACE OFF AT CARNEGIE SCIENCE CENTER IN COMPETITION TESTING ENGINEERING SKILLS AND CREATIVITY

PITTSBURGH—Teams from 39 high schools across the region will compete in the Chain Reaction Contraption Contest at Carnegie Science Center on Friday, Dec. 9. Chain Reaction Contraption, a program of the Chevron Center for STEM Education and Career Development, is part of Carnegie Science Center’s celebration of National Engineers Week.

The competition, powered by Westinghouse Electric Company, challenges students to create a complex machine that plays a musical instrument in a most inefficient way. After months of tinkering, designing, and solving engineering problems, the students will formally present their machines.

Most people view machines as the epitome of efficiency, designed to make work processes faster and easier. The ideal machine requires few steps and uses as little energy as possible. The Chain Reaction Contraption contest reverses that thinking by providing students a challenge—this year’s task being to play a musical instrument—and forcing them to complete the task in at least 20 steps. Judges then evaluate how the machines reflect critical thinking and engineering skills. Prizes include field trips to the Science Center and special tours of local companies and organizations.

“Chain Reaction Contraption focuses on the problem-solving and creative aspects of engineering,” says Linda Ortenzo, director of STEM programs at the Science Center. “So many people think engineers need to be skilled only in math and science, but they also need to be able to bring a unique perspective to a challenge and really innovate as they work to solve issues. These are vital skills for engineers.”

Since the beginning of the school year, the competing teams have completed several steps, including providing a design proposal in October and submitting several photographic progress reports during the construction and testing phases.
“This process mimics a level of planning, adapting, and documentation that’s present in a real-world work environment,” said Lisa Kosick, coordinator of the Chain Reaction Contraption Contest. “At the Science Center, we try to give students challenges that are engaging and fun which is why we have them build these machines. Each school works hard on their contraptions, and we are really proud of the level quality and creative work we see each year.”

Contraptions must be built from everyday household items; can be no larger than five feet by three feet by two feet; and cannot use plug-in electrical equipment or animals. Relying primarily on the general laws of physics and the occasional battery to power their machines, the machines must include at least 20 steps and take at least 30 seconds to complete the task. Each machine must successfully complete the task at least eight times during the course of the competition.

In addition to first, second, and third prizes, special awards are given in the following categories: Best Use of Gravity; Best Design and Quality of Construction; Longest Successfully Executed Contraption; Best Presentation; Most Mechanical; Best Transportation System; Most Green; What Will You Create?; Most Efficient Reset; Rookie of the Year; and Best Execution of a Theme. These awards are sponsored by: ALCOSAN; Bayer Corporation; Bombardier Transportation; Carpenter Powder Products, Inc.; Davison; Kennywood Amusement Park; MEDRAD, Inc.; Multiscope Document Solutions; Pittsburgh Pirates; Pittsburgh Steelers; and Robotics Institute, School of Computer Science, Carnegie Mellon University.

The Chain Reaction Contraption contest is made possible by the generous support of Westinghouse Electric Company LLC, and the Engineers Society of Western Pennsylvania. More information can be found here.

**Participating Schools:**

Avella Junior/Senior High School
Bay High School
Brashear High School
Brentwood Borough School District
Burgettstown Area Middle High School
Butler Senior HS
Cameron County School District
Carlynton High School
Central Valley High School
Franklin Regional Senior High School
Gateway High School
Greater Latrobe Senior High School
Hampton High School
Hempfield Area High School
Kane Area School District
Kiski Area High School
Laurel Junior/Senior High School
Mars Area School District
Mohawk
Moon Area High School
North Allegheny Intermediate High School
North Allegheny Senior High School
Penn Trafford High School
Port Allegany High School
Propel Braddock Hills High School
Quaker Valley High School
River High School
Riverside Beaver County School District
Seneca Valley Intermediate High School
Seneca Valley Senior High School
Shaler Area High School
Smethport Area High School
Somerset Area High School
Springdale Junior/Senior High School
The Oakland School
Trinity High School
Venango Catholic High School
West Allegheny High School
Yough High School

-MORE-
About Carnegie Science Center
Carnegie Science Center brings the world of science alive for visitors of all ages. One of the four Carnegie Museums of Pittsburgh, the Science Center features hands-on exhibits, three live demonstration theaters, a four-story Omnimax theater, Highmark SportsWorks®, an interactive full-dome digital planetarium, a Cold War-era submarine moored on Pittsburgh’s Ohio River, the world’s largest and most comprehensive robotics exhibition, and a world-renowned model railroad display. Carnegie Science Center is located at One Allegheny Avenue on Pittsburgh’s North Shore next to Heinz Field. Visit CarnegieScienceCenter.org, or call 412.237.3400 for more information.

About Carnegie Museums of Pittsburgh
Founded by Andrew Carnegie in 1895, Carnegie Museums of Pittsburgh is a collection of four distinctive museums dedicated to exploration through art and science: Carnegie Museum of Art, Carnegie Museum of Natural History, Carnegie Science Center, and The Andy Warhol Museum. Annually, the museums reach more than 1.2 million people through exhibitions, educational programs, outreach activities, and special events.

#####