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Middle School Students Win Automation & Robotics Awards

Students were challenged to create 21st century versions of vintage pull toys from Peabody Essex Museum's collection. Students showcased projects and received feedback from professionals.

[Salem, MA, April 26, 2019] Congratulations to student teams from Boston Prep, Morton Middle School (Fall River), Stoneham Central Middle School, and Silver Lake Middle School for being selected as winners in a student showcase for Automation & Robotics students, organized by [Mass STEM Hub](#) (a program of the One8 Foundation) for [Project Lead The Way](#) (PLTW) students on Friday April 26, 2019.

Mass STEM Hub's Design Showcase with the Peabody Essex Museum (PEM) featured prototypes designed by over 100 middle school students in PLTW's automation and robotics course. In this course, students design, build, wire, program, use motors and sensors and troubleshoot- learning how engineers do their work while using the engineering design process throughout the course. Student teams were challenged to invent and build a pull toy using what they learned about simple machines and gear designs. The toys for this showcase were developed as part of a design challenge to create 21st century versions of vintage pull toys from PEM's collection.

Mayor of Salem, Kim Driscoll, attended the event. Mayor Driscoll viewed showcase projects and interacted with participating students, including those from Collins Middle School in Salem.

All of the students received feedback from volunteer judges on their projects and presentations, connecting the work they did in the classroom to the work these experts do daily. Volunteer judges included professionals from PEM, iRobot, BSC Group, SunPower, and MassDOT. The volunteer judges were impressed by the great work and excited to share their insights with students, and inspire the next generation of STEM professionals.

"I think that promoting access to STEM careers benefits all in a sense that it appropriates new perspectives into the field," noted Matthew Ciminella, a civil engineer from BSC Group who volunteered as a judge. **"Giving everyone a seat at the table both enhances those career paths while also creating social equity in society as a whole."**

This event was put on by Mass STEM Hub whose goal is to provide schools with access to and support for the next level of STEM education. In attendance was Ellise LaMotte, Director of STEM Diversity at Tufts University, who emphasized the value of broadening access to STEM education.

"Particularly students who are not represented in STEM," noted LaMotte. **"The women who were here that got excited about it, the folks who were here of color who got excited about it - those folks are underrepresented in the STEM space."**

Student teams were selected as winners in four categories by the volunteer judges, including mastery of concept, presentation skills, innovation, and creativity.

The overall Showcase Winner was awarded to a group from **Boston Prep** for their project which demonstrated the highest overall mastery of engineering design process and conveyed a deep understanding of mechanics of their pull toy. This group created a multi-level arcade-themed pull toy.

The Excellence in Presentation award was awarded to a team from **Morton Middle School** in Fall River for their ferris wheel pull toy. This team was acknowledged for delivering a clear and concise project overview and showing outstanding knowledge of their topic.

Students from **Stoneham Central Middle School** engineered an Ouija board pull toy to win the Innovation Award. This award was given to the team who demonstrated the most innovative design and mechanical functions for their pull toy design and prototype.

"I love PLTW curriculum it really makes concepts and content come to life," commented Ashley Puopolo, 8th grade teacher at Stoneham Central Middle School. **"Today's [event] was really great for the students because it got them to challenge themselves to create a project, bring it up an extra level for them to be able to be able to present at a facility like this, and for them to get the recognition they deserve for their hard work."**

Lastly, PEM's Pick was an award given to the most creative project which most embodied PEM's mission to "increase knowledge, enrich the spirit, engage the mind and stimulate the senses." Students from **Silver Lake Middle School** won this award for their pull toy resembling an old fashioned movie camera.

"PEM is honored to partner with Mass STEM Hub and Project Lead The Way for a unique program that celebrates creative expression and problem-solving. Creativity is the key to unlocking success in both the arts and the sciences and it was immensely fulfilling to see students exploring both skill sets right here at the museum," said Amanda Clark MacMullan, Chief Philanthropy Officer at the Peabody Essex Museum.

Mass STEM Hub partnered with PEM to provide this opportunity for students to engage with industry professionals, allowing students to visualize themselves in STEM careers, while developing perseverance and practicing 21st century skills.

"We are thrilled to partner with Peabody Essex Museum, through which we were able to provide an opportunity for students to connect what they are learning in the classroom to the real world," commented Andreina Parisi-Amon, Director of Partnerships for Mass STEM Hub. **"Students presented their Pull Toy projects in the presence of some of the world's finest artwork in the beautiful PEM space, and learned about how the engineering design process is used everywhere - even in a fine art museum. Volunteer judges were able to provide students with authentic feedback, and allowed students to picture themselves in STEM professions. We're excited to continue building opportunities like this for students."**

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Mass STEM Hub is a program of the One8 Foundation and its mission is to provide schools with access to and support for the next level of STEM education that engages students and prepares them to succeed in a rapidly changing, high tech world. Mass STEM Hub has helped scale Project Lead The Way's K-12 curriculum in engineering, computer science and biomedical science to over 35,000 students in Massachusetts enabling students to learn how to take theory to practice with real world problem solving. www.mass-stemhub.org

Over the last 20 years, the Peabody Essex Museum (PEM) has distinguished itself as one of the fastest-growing art museums in North America. Founded in 1799, it is also the country's oldest continuously operating museum. At its heart is a mission to enrich and transform people's lives by broadening their perspectives, attitudes and knowledge of themselves and the wider world. PEM celebrates outstanding artistic and cultural creativity through exhibitions, programming and special events that emphasize cross-cultural connections, integrate past and present and underscore the vital importance of creative expression. Learn more at: www.pem.org

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