



New York Hall of Science Awarded \$2.8 Million U.S. Department of Education Grant to Expand Innovative Playground Physics Program

Funds from the Education Innovation and Research Program will be used to scale up Playground Physics program in 50 schools across New York State

Queens, NY (October 23, 2018) – The New York Hall of Science (NYSCI) announced today that it has received a federal grant of \$2,796,008 from the Education Innovation and Research Program (EIR) of the U.S. Department of Education to expand the use of Playground Physics™ as an innovative program to increase middle school student engagement in physics across New York State. The grant is designed to generate and validate solutions to persistent educational challenges while supporting the expansion of effective solutions to serve substantially larger numbers of students in physics education.

Physics is one of the entry points that leads to higher education in STEM, but not every student has an opportunity to learn it in school. Only 63% of U.S. high schools offer physics courses, and a recent study of high school graduates found that only 41% of them took physics, compared with 98% who took biology and 76% who took chemistry. Moreover, the small percentage of students who do take high school physics tend to be those of higher socioeconomic status, furthering an existing pattern of underrepresentation of certain student groups in STEM classes.

“There is an urgent need for a better approach to how we teach physics in middle and high school,” said Harouna Ba, Director of the Sara Lee Schupf Family Center for Play, Science and Technology Learning at NYSCI. “This project addresses the achievement gap for high-need students, in particular, who are not being adequately prepared at the middle school level to continue on to advanced physics courses in high school. Our goal is to support and empower teachers by providing them with new resources to foster students’ knowledge of physics while generating measurable gains in student engagement.”

Playground Physics has been proven, via a randomized control trial in New York City, to significantly increase physics achievement. Building on these positive results, NYSCI, along with the American Institutes for Research (AIR) and the New York State Association for Computers and Technology in Education (NYSCATE), will work to broaden access to the Playground Physics program. A sustainable, high quality and cost-effective Train-the-Trainers scale-up strategy will be developed and tested in 50 schools in New York State that currently serve high percentages of students who do not have adequate opportunities to learn physics. Professional development support will be provided to teachers through in-person training, online follow up, and teacher guides. NYSCI and NYSCATE will implement the program while AIR will lead an independent evaluation of the program.

The design of the Playground Physics program is consistent with NYSCI’s approach to science education and its goal of making science accessible, relevant and inspiring for all learners.



NYSCI's exhibitions, digital tools, curricula and professional development activities are designed to provoke learners' innate curiosity, support creativity and provide opportunities for learners to explore their own interests. Playground Physics begins with students' own play, and then invites them to develop their own questions and find individual methods of exploring diverse physics concepts. NYSCI is committed to using these strategies to ensure that all learners have opportunities to discover and pursue their own scientific passions.

The total federal contribution of the grant is \$2,796,008 and NYSCI will match \$279,600 (10% of the federal grant) bringing the total dollar amount to \$3,075,608.

About Playground Physics

Playground Physics is an informal science learning program backed by evidence that blends physical play with virtual activities to support rigorous physics learning. Consisting of an app, curriculum and professional development activities, Playground Physics is uniquely designed to engage middle school students in standards-aligned physics activities. Students collect and analyze data using the app, which is supported by a six-week supplemental curriculum and an iterative learning process for teachers to implement the program in their classrooms. The app and accompanying curriculum activities are aligned to the Next Generation Science Standards and New York Science Learning Standards.

About the New York Hall of Science

The New York Hall of Science (NYSCI) – The mission of the New York Hall of Science (NYSCI) is to nurture generations of passionate learners, critical thinkers and active citizens through an approach called Design, Make, Play. Design, Make, Play emphasizes open-ended exploration, imaginative learning and personal relevance, resulting in deep engagement and delight in science, technology, engineering and mathematics. NYSCI was founded at the 1964-65 World's Fair and has evolved into New York's center for interactive science serving a half million students, teachers and families each year. For more information, visit nysci.org or call 718-699-0005. Follow NYSCI on Twitter and Instagram: @nysci, and on Facebook at: facebook.com/nysci.

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