

THE WHITE HOUSE
Office of the Press Secretary

FOR IMMEDIATE RELEASE

April 21, 2016

FACT SHEET: Advancing Active STEM Education for Our Youngest Learners

WASHINGTON, DC – The White House, in partnership with the U.S. Departments of Education and Health and Human Services and Invest in US, will host an event today to highlight the importance of promoting active science, technology, engineering, and math (STEM) learning for our youngest children and to celebrate a broad range of public- and private-sector leaders committed to promoting STEM learning across the country.

To watch this event live, visit www.whitehouse.gov/live at 9:00 AM ET on April 21.

The White House received over 200 submissions of innovative STEM work from leaders across the country, representing state and local entities, foundations, non-profits, media organizations, technology companies, research institutions, and museums. Collectively, the commitments of these leaders have the potential to bring new active STEM content for our youngest children to millions of households across the nation. Today's early STEM learning announcements also mark progress on the President's My Brother's Keeper Initiative and the efforts of the Council on Women and Girls to ensure that all young children can reach their full potential, including students underrepresented in STEM.

New Steps Being Taken by the Administration

In addition to the public and private sector groups that are stepping up, Federal agencies are deepening the resources and support they provide for early active STEM Learning. New actions being taken by the Obama Administration include:

- **New Research Grants to Improve Early Elementary Science Outcomes:** The U.S. Department of Education's (ED) Institute for Education Science (IES) announced a new funding opportunity that will support a network of interdisciplinary research teams in exploring how early elementary school science teaching can improve education outcomes for children, especially those from low-income backgrounds and from communities underrepresented in science professions. IES will fund up to four research teams and a network lead to coordinate the work.

- **New Suite of STEM Tip Sheets and Resources for Families and Early Educators:** The Department of Education (ED), the Department of Health and Human Services (HHS), and Too Small to Fail (TSTF) have created a set of early STEM resources for families and educators of young children called *Let's Talk, Read and Sing about STEM!* These tip sheets provide fun, concrete resources and recommendations for families, caregivers, and infant, toddler, and preschool educators on easy ways to incorporate STEM concepts and vocabulary into everyday routines, and suggestions for activities to engage young children in STEM learning. The tip sheets and "Let's Talk about the World" poster are available in English and Spanish.
- **Policy Statement on the Role of Technology in Early Learning:** ED and HHS will release a joint policy statement later this year on the role of technology in early learning. ED is inviting the [public to comment](#) on a series of questions that will inform the development of the statement.
- **New Research on the U.S. Department of Education's Ready to Learn Program:** This month, grantees from ED's Ready to Learn program will be featured in reports that share findings and lessons learned about utilizing television and digital media to support math learning for young children. The reports include six papers by grantees and evaluators that will appear in a special section of an issue of The Journal of Children and Media, and a new report entitled "The Ready to Learn Program: 2010–2015 Policy Brief" released by the Center on Media and Human Development at Northwestern University.
- **USDA and NASA Creating New 21st Century Competencies Learning Activities:** The U.S. Department of Agriculture is partnering with NASA to create modules for students, based on NASA astronaut training. Activities will be introduced with a video by a NASA astronaut and will consist of children engaging in mission-based activities.

Private sector groups from across the country are committing to the following actions today to increase access to high-quality early STEM education:

- **The Bay Area Discovery Museum** is launching *Empowered Engineering*, an initiative designed to bring high-quality engineering experiences to young children. *Empowered Engineering* will reach underserved children through partnerships with Title I schools and community-based organizations. Over the next five years, the Bay Area Discovery Museum will reach an estimated 11 million students and teachers, in their community and throughout the country.
- **The Early Math Collaborative at Erikson Institute**, in partnership with the City of Chicago and with support from the National Science Foundation, will

launch *Collaborative Math*, a new professional development model designed to establish excellence in early math teaching in early childhood programs. The Early Math Collaborative will roll out at 28 Head Start sites in Chicago.

- **Girl Scouts of the USA** will promote Girl Scout National programming that connects to early STEM education through targeted communications, such as blog posts and social media, which have the potential of benefiting more than 45,000 young girls. Girl Scouts of the USA will also distribute resource guides for parents on engaging young girls in STEM activities.
- **The Heising-Simons Foundation** will establish a partnership with The Fred Rogers Company, to support the production of 25 episodes of *Odd Squad*, a math-focused television show on PBS Kids, and create accompanying games and apps. They will also hold free summer math camps in 14 U.S. cities serving more than 400 children.
- **Hispanic Information and Telecommunications Network (HITN)** will donate 10,000 STEM-focused Family Kits to national organizations that serve low-income families, including home visitation programs, informal learning settings, and community-based organizations, to promote STEM learning at home.
- **The Jim Henson Company with \$3M of support from the Corporation for Public Broadcasting** will launch a new PBS series, *Splash and Bubbles*, for children ages four to seven, with a marine biology curriculum that will inspire children to care about the ocean, learn about its “citizens,” and understand that it is a vital part of our planet. The series will be supported with free online destinations and digital apps, printed resources, and local events.
- **The Lawrence Hall of Science** in partnership with a local community college, supported by the National Science Foundation, is developing and piloting an undergraduate course on teaching science and mathematics to young children. The course will be made available online.
- **The National Head Start Association and Lakeshore Learning** will increase access to *Recycle Your Way to STEAM* to every child and family enrolled in a Head Start program—growing from serving 20,000 children, educators and families to serving over one million nationwide. *Recycle Your Way to STEAM* is a set of activities that use recycled materials to introduce STEAM (science, technology, engineering, arts, and mathematics) concepts to early learners.
- **Nickelodeon**, through their kindergarten readiness initiative – *Beyond the Backpack* – will distribute 50,000 toolkits in English and Spanish and increase exposure to STEM concepts in underserved areas through the *Beyond the Backpack*

On-the-Go SMS text program and Kindergarten Readiness Block Parties featuring Blaze and the Monster Machines.

- **Project Lead The Way (PLTW)** will form new partnerships with more than 400 elementary schools for the 2016–17 school year to expand their curriculum and teacher training, which immerses students in hands-on activities and projects that relate to the world around them. This expansion will grow PLTW’s elementary STEM-based program to 1,700 elementary schools across the United States.
- **Sesame Workshop**, the creators of Sesame Street, will develop *Make Believe with Math*, a research-based online course for educators which, along with other training resources, will be made freely available online.

The full list of the commitments to action being made by the private and public sector can be found below.

Commitments to Expand Access to Early STEM Learning

- **Bedtime Math** will partner with Newark Public Schools and at least five additional school districts to share a free math app to improve children’s math skills, with parents. The app provides a nightly math problem for parents to do with their young children. It is expected to reach more than 25,000 children.
- **FIRST, LEGO Education, and the LEGO Foundation** are expanding the reach of FIRST LEGO League Jr., which already serves about 40,000 children annually, by partnering with schools and community-based organizations, such as ED’s 21st Century Learning Centers. In addition, they are partnering with the Sea Research Foundation to bring FIRST LEGO League Jr., to more than 100 Boys & Girls Club sites in the United States in 2016 as a means to provide at-risk youth with STEM-based mentoring experiences.
- **Great Minds in STEM (GMiS)** will deliver 30 STEM awareness orientation sessions for 1,000 parents, starting with parents of preschoolers, to increase awareness of STEM College and career possibilities and empower parents to engage in STEM learning at home. GMiS will also deliver resources that connect existing curricula with real-world STEM applications to more than 600 educators.
- **The Hardesty Center for Fab Lab Tulsa** will pilot its first Fab Lab early childhood program for 100 students – kindergarten to 4th grade – during their afterschool program at Kendall-Whittier Elementary school. The “Fab Lab” is similar to a maker space, and provides children with opportunities to engage in

STEM learning through hands-on activities, building, doing, and creating new products.

- **Learning Point Alaska, Inc. (LPA, Inc.)** is partnering with multiple Alaska Native organizations to deliver technology-based STEM programming to elementary students and provide mentoring and experience for educators in native villages throughout Alaska. In many of Alaska's rural and remote Native villages, STEM learning opportunities are rare and often available only in middle school or high school.
- **The National Association for the Education of Young Children (NAEYC)** will provide at least five new pieces of free or low-cost STEM-related content to families and educators in order to foster equitable access to high-quality STEM learning in the homes, centers, schools and communities where young children birth through age 8 spend their time. The STEM content will provide educators and families with information and guidelines for how to offer children engaging learning opportunities.
- **The National Council of Supervisors of Mathematics (NCSM)** is launching a partnership with Texas Tech University (TTU) that will work with schools to focus on improving STEM teaching, supporting active learning, addressing bias, and expanding opportunities for underrepresented students – preschool through sixth grade – in STEM. NCSM will support educators in building their STEM teaching capacity, conduct school-based events at elementary schools, and offer students the opportunity to work with role models in the field of STEM.
- **The National Science Teachers Association (NSTA)** is creating the *NSTA Initiative for Learners 0-5*, a streamlined array of NSTA resources – many of them at no cost – to preschool and elementary school educators, parents, and child care providers that will engage our youngest learners in STEM. Resources include books for children, almost 90 hands-on teacher-led activities, and tips – in English and Spanish – on how parents can engage their young learners in STEM activities at home and in the community. NSTA will also provide ongoing professional learning sessions on preschool education at NSTA conferences and a community online forum dedicated to early childhood learning, open to all early educators and parents.
- **National PTA and Bayer USA Foundation** are launching a three-year initiative to engage families in STEM education. Through the initiative, National PTA and Bayer will identify and disseminate effective family engagement strategies in STEM, address gaps in research, deploy 100,000 science experiences for families, and test strategies to increase STEM access and participation in urban areas, among other activities.

- **Project Paradigm** will expand its nationwide youth STEM innovation competition, the Paradigm Challenge, to include children as young as four. The Paradigm Challenge invites children to use STEM skills, paired with kindness, creativity, and collaboration to solve real-world problems. More than 50,000 children are currently participating in the Challenge. The top 100 student teams and their teachers will win cash prizes and grants totaling more than \$250,000.
- **Teaching Institute for Excellence in STEM (TIES)** will bring Early Childhood Fab Labs to schools, child care programs, museums and other settings serving our youngest learners. In addition, building on the work happening at the Bay Area Discovery Museum and the Cleveland Children's Museum, TIES will bring the Early Childhood Fab Lab to Head Start programs throughout the country. TIES will prototype these Labs in two Head Start programs with the intent to build a scalable model that would enable all Head Start programs to be able to have Early Childhood Fab Labs.
- **Thrive Washington** is partnering with Washington STEM and Washington State Opportunity Scholarship will pilot new models of professional development, offer scholarship and support for low income students pursuing degrees in STEM and health care fields, and support early learning regional networks to build capacity in the state to ensure that all young students have access to early childhood STEM opportunities.

Commitments that Support Early Educator Preparation and Professional Development

- **100Kin10** will support 33 fellows to develop new STEM curricula and approaches to teacher preparation. In addition, 100Kin10 has committed to investing \$2 million for a 2016 Challenge Grant to develop, implement, and scale “moonshot” solutions to shared challenges in early childhood STEM education.
- **ASSET STEM Education™**, is collaborating with Pennsylvania Southeast Regional Key, Pew Fund for Health and Human services, the Caplan Foundation for Early Childhood, and The Sprout Fund, to expand their STEM-focused training, coaching and mentoring supports to reach additional educators across the country. By 2020, they aim to impact more than 1,000 educators.
- **Constructing Modern Knowledge LLC** will support at least 1,600 preschool and K-12 educators in professional development around STEM inquiry, making, and project development through summer events. Educators will have access to cutting edge tools, digital materials, and computer programming instruction that will inform their classroom practice when they return to their schools or informal learning spaces.

- **Fight for Children**, a Washington, D.C.-based nonprofit, will launch a Summer Institute for teachers and leaders from 30 DC schools serving more than 4,100 children, to incorporate STEM pedagogy in early childhood classrooms. Participants will spend two days learning how best to implement STEM into everyday instruction and be equipped with the knowledge, skills, and resources to engage their young students in STEM learning.
- **Readiness Learning Associates (RLA)** commits to working with California State Universities and other institutions of higher education to support pre-service and in-service STEM professional development opportunities for early educators across California.
- **Wolf Trap Institute for Early Learning through the Arts** committed \$1 million to early childhood arts integration professional development, including a focus on early STEM learning. They also launched an online portal with lesson plans, tips, and best practices for early educators and are raising awareness of the importance of the arts in early STEM learning.

Commitments that Support Research to Expand Our Knowledge Base

- **The Grable Foundation** will invest \$1 million to encourage early STEM learning through the development of robust, hands-on activities for young children; for early educators to incorporate technology into their practice; and for the early learning field to move forward in its understanding of the constructive role STEM topics can play for young learners.
- **The Harvard Family Research Project**, with support from the Heising-Simons Foundation, will release a special issue of their newsletter featuring the work of distinguished early mathematics researchers that will be distributed to 26,000 policymakers, educators, and community leaders.
- **The Joan Ganz Cooney Center at Sesame Workshop and New America** will launch a project to identify and spread new ideas on how best to integrate STEM into early learning settings. With support from the National Science Foundation, they will identify the most pressing challenges in promoting more effective early childhood learning and teaching across the STEM field. They will also host a two-day action forum this summer to formulate a multi-sector action plan. The project will publish a blueprint specifying how the national research agencies and the NSF can expand and target necessary investments in research on early learning and STEM.

- **The Overdeck Family Foundation** is conducting a five-year, longitudinal study of students in preschool to 4th grade to understand the development of students' math anxiety and attitudes, and how they relate to math achievement. The study is also examining how use of the Bedtime Math app relates to children's math achievement, as well as how it relates to both children's and parents' math anxiety and attitudes.
- **The Purdue University's College of Education (PU COE)** will implement the STEM Road Map Curriculum Series, which includes 60 complete curriculum modules focused on engaging children as early as kindergarten in solving real world problems and challenges in STEM.
- **Silicon Valley Community Foundation's Center for Early Learning (CEL)** and its partners will commit \$250,000 to conduct a parent, child care provider, teacher, and librarian survey of how technology and digital media is being used by young children in the Silicon Valley region. The resulting report will examine the disparities that are growing between families who have access to high-quality technological environments and those who do not, and address how to ensure technology can be used to improve kindergarten readiness and school success.

Commitments to Support Early STEM Learning in Communities

- **Children's Museum of Houston, ReadyRosie and Houston Independent School District** will launch *Paired-Up for Parents*, a set of in-person STEM activities for families, paired with video-based STEM engagement modeling, to expand family-focused early STEM experiences in primarily at-risk communities. The partners will co-host and pilot a family learning event at Pre-K campus where more than 100 families will engage and take home STEM learning strategies.
- **The Erikson Institute's Technology in Early Childhood (TEC) Center** will launch an online repository for STEM learning plans that align to early childhood development goals; organize a conference to focus on teacher preparation for teaching STEM to children with developmental and learning disabilities; develop a technology integration approach that supports early STEM learning; and, in collaboration with the Association of Children's Museums (ACM) and the Association for Library Services to Children (ALSC), will deliver STEM professional development to library and museum educators.
- **The Museum of Science, Boston** has launched a three-year initiative to create a research-based engineering curriculum for children ages three to five, building

on its Engineering is Elementary® curriculum. Lesson plans will be available online at no charge.

- **West Sound STEM** will expand STEM Cafés to early educators, which are opportunities to connect to STEM professionals and learn about real-world applications for STEM. The STEM Cafés are expected to reach over 5,550 children, from birth through 12th grade.

State and Local School System Commitments

- **Frazier School District**, a small rural district located in southwestern Pennsylvania serving at-risk students, is committed to launching new STEM initiatives for the 2016–17 school year, including revisiting their curriculum, resources, and instructional strategies to ensure a 21st century pedagogical perspective; developing the instructional and technological skills of teaching and support staff; implementing the Design Thinking Approach in all classrooms to teach students how to identify a problem and develop plausible solutions; and expanding outreach to bring more parents and community members into the school for workshops to increase STEM activities at home and in the community.
- **The Massachusetts Department of Early Education and Care** will deploy a group of STEM Ambassadors to coach and support over 700 early educators and child care providers to meet higher STEM standards.
- **Murfreesboro City Schools (MCS)**, a PreK–6th grade district in Tennessee, established a STEM foundation to support partnerships with community organizations, provide professional development opportunities for educators, and expand access to STEM experiences for children. MCS will expand STEM experiences to their youngest learners in 2016–17. In 2017–18, the district will transform a school bus into a Mobile Maker Space, with tools and resources to increase family and community engagement in STEM.
- **The Virginia Tech Southwest Center** will increase the numbers of pre-K–3rd grade children across Appalachia engaged in afterschool and weekend STEM programs. Students will engage in a STEM project where they become engineers and design, modify, and test a product. The programs will also include a family engagement component where families are engaged in the STEM learning process, and are provided with materials and ideas to encourage STEM use at home.
- **The West Virginia Department of Education’s Office of Early Learning** and partners will expand access to community-based makerspaces in informal and

formal educational sites in seven West Virginia counties. They will also provide STEM-related professional development opportunities for early educators.

Commitments to Support Early STEM Learning through Television, Media, and Technology

- **Common Sense Education** will produce a set of recommended tools and resources, which have the potential to reach more than 300,000 teachers in 100,000 schools and 65 million households across the country.
- **The Corporation for Public Broadcasting (CPB), Public Broadcasting Service (PBS)**, and local PBS stations will increase the availability of STEM learning tools for young children through content and community engagement. By 2020, a series of new, engaging, and evidence-based media experiences across multiple platforms will be available for free to aid families and educators in helping children develop early STEM skills. These will include resources ranging from new episodes of STEM television programs, to parent apps and classroom-ready, curriculum-aligned STEM resources that supplement instruction in preschool through third grade classrooms. CPB and PBS will also support a network of 30 STEM-focused community collaboratives that will elevate early STEM learning across the country, enhance community-wide efforts to engage underserved children, and help formal and informal caregivers become more confident and competent in supporting their children's STEM learning.
- **The Fred Rogers Company**, in partnership with the Allegheny Intermediate Unit's Head Start and Math and Science Collaborative, the University of Pittsburgh's Collaborative for Evaluation and Assessment Capacity, and Rockman, with funding from the National Science Foundation, leads the Peg + Cat Early Learning of Math Through Media (ELM2) Project. ELM2 supports the integration of an animated math-based PBS television series, Peg + Cat, professional development for Head Start teachers, and family engagement resources. ELM2 will design and disseminate Facilitator and Educator Resource Guides to support more students, families, and practitioners in early mathematics. ELM2 is expected to reach 80 educators and 1,500 children and families in Head Start programs.
- **Ready Jet Go!**, a new STEM series that promotes astronomy, earth science, and technology for children ages three to eight will produce a second season and develop a new set of digital resources, which include a free app in both English and Spanish to accompany the program. The app will allow young children to explore the night sky with their phone or tablet.

- **Tiggly** will bring early STEM learning to millions of children by expanding its line of resources to more than 5,000 retail stores and over 6,000 schools around the country.
- **Versame** will provide STEM resources for 1,000,000 families by creating STEM focused tips and activities for their Starling app to foster STEM learning at home and in informal settings by 2019.
- **WGBH Boston** will produce additional apps and hands-on activities for parents and their preschool children, targeted to early math, science and computational learning, as well as work with parents and Head Start teachers through a series of hackathons to determine how to effectively build the home-school connection around STEM learning.

The White House, and the U.S. Departments of Education and Health and Human Services would also like to thank the following organizations who submitted information about their programs in support of the President's goals to support every child in early STEM learning.

- 7 Senses Labs, Inc.
- Above the Edge
- Accelerate Learning, Inc.
- Adelphi University Ruth S. Ammon School of Education
- Amazing Grace and Renton Prep Schools
- American Museum of Natural History
- Associated Universities Inc.
- Astronomical Society of the Pacific
- Goddard Systems, Inc.
- Baby Loves Science
- Whiting School of Engineering, Johns Hopkins University
- Big Creek Elementary
- BLDG-25 Inc
- Blue Springs School District
- Bluffton Elementary
- Bullis Charter School
- Campbell County School District #1
- Carnegie Science Center
- Center for Math and Science Teaching, Loyola Marymount University
- Center for Math and Science Education, University of Mississippi
- Center for STEM Education as the University of Texas at Austin
- Center on Media and Human Development, Northwestern University
- CHAMPS
- Chicago STEM Education Consortium (C-STEMEC)
- Chicago Pre-College Science and Engineering Program, Inc.
- Children's Science Center
- Civil Air Patrol
- Colorado School of Mines
- Connect4Learning
- Couragion
- Development and Research in Early Math Education (DREME)

- DevTech Research Group, Tufts University
- Dickinson Public Schools
- Discovery Cube Orange County
- Eagle Academy Public Charter School
- East Tennessee State University
- Education Assessment and Training, Inc.
- Education Development Center
- EverFi
- EveryoneOn
- Exploracise
- Fairfield Community Schools
- Fall River Public Schools
- Florida VPK
- Fun Learning!
- Geeki Girl, Inc
- Georgetown County School District
- Get Ready with Words
- Girls Prep
- Golden Apple
- Great Lakes Bay Regional Alliance
- iBio Institute EDUCATE Center
- Illinois Math and Science Academy
- Imagine Tomorrow Education Foundation
- Integrating Practices from Math, Science, and Engineering with Technology (IDEAS 2.0)
- International Technology and Engineering Educators Association
- National Investors Hall of Fame
- Johns Hopkins University
- Kansas City STEM Alliance
- Kinderlab Robotics, Inc.
- KISS Institute for Practical Robotics
- Knock Knock Children's Museum
- Koantum
- LabCandy, LLC
- LAUP
- LEARN
- Lewis County Head Start
- Lipscomb University
- Little Bird Games, LLC
- Little Math Genius
- Lowell Public Schools
- Maple Shade School District
- Massachusetts College of Liberal Arts, Williams College and North Adams Public Schools
- Mathematically Connected Communities (MC2)
- Merrimack College
- Pittsburgh Association for the Education of Young Children
- Michigan Math and Science Network
- Mile High Early Learning
- Mind Meets Music
- Montour School District
- NASA Goddard Child Development Center
- National Afterschool Association
- National Geographic
- Natural Math
- Nevada Mathematics Project
- New Mexico: Explora Ingenieria
- New York Botanical Garden
- Niagara Falls City School District
- North American Association for Environmental Education
- Northeastern University Center for STEM Education
- Office of the State Superintendent of Education, Washington DC
- OpenWorld Learning
- Orlando Science Center

- Outlier Research and Evaluation
- P.K. Yonge Developmental Research School at the University of Florida
- Pacific Oaks College School of Education
- Paige & Paxton
- Paleo Quest
- Parents as Teachers and BLOCK Fest
- Patricia and Phillip Frost Museum of Science
- PictureSTEM
- Pittsburgh Association for the Education of Young Children
- Predicate Academy
- Project BEEMS of Clemson University
- Public Education and Business Coalition
- Reading is Fundamental
- REM Learning Center South, Inc
- Rocket Fuel and KiwobaCARES
- Sacred Heart University
- School Fuel
- Science Museum of Virginia
- Science Tots, Inc
- Sea Research Foundation
- Serious Games Association
- Si Se Puede Foundation
- Slide-A-Round Math Manipulatives, LLC
- Socorro Independent School District
- South Kern Mathematics Partnership
- Southern Connecticut State University
- Spark! Discovery Preschool
- Spotsylvania County Public Schools
- St. Teresa Catholic School
- STEM Advisory Council, Iowa
- STEM New Hampshire Coalition
- STEM Tot Academy
- STEMBusUSA
- Stratford School
- Sugar Kids Beauty
- TEACH
- TECH Corps
- Texas Alliance for Minorities in Engineering
- The Allen Distinguished Educators Program
- The Bridge Golf Foundation
- The California Early Math Project
- The Catholic University of America
- The Children's Center at Cal Tech and Early Childhood STEM
- The Children's Museum of Indianapolis
- The Gateways Early STEM Learning Action Group
- The Hundred Acre School at Heritage Museums and Gardens
- The National Institute of Early Education Research at Rutgers University
- The Orange County STEM Initiative
- The SABENS Group
- The Science Center of Iowa
- The STEM Education and Research Collaborative LLC
- The University of Miami's Early Science Initiative
- Tiffany Ridge Elementary School
- Tools of the Mind
- Tulsa Children's Museum
- Tulsa Regional STEM Alliance
- University of Louisville
- University of Nebraska – Lincoln
- USC Rossier School of Education

- Victor Cruz Foundation
- Vulcan, Inc
- Warsaw Community Schools
- Washington College, Center for Environment and Society
- Welasco Independent School District
- Whiting School of Engineering, Johns Hopkins University
- Wild Sanctuary
- Working in the Schools
- Zero to Three

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