Introduction

Students who are engaged in maker-centered learning develop the mindset, skills and experiences that are critical to preparing them for the jobs of the future, being innovative problem-solvers and creative entrepreneurs.

Maker-centered learning, also known as maker education, focuses on experiences that empower students to explore their world through designing, hacking, building, prototyping and experimenting. Through these experiences, students have the opportunity to develop their curiosity and skills such as open-ended problem solving, collaboration, persistence and creative confidence.

To realize this potential for all students in the U.S., the Make For All initiative, led by Citizen Schools, launched a national call for commitments earlier this year for new and expanded partnerships, initiatives and programs that will broaden opportunities for students to engage in meaningful making. More than 290 K-12 schools, libraries, museums, makerspaces, colleges, companies and foundations responded and are taking action. 149 communities are represented here, ranging from Woodbury, TN and Bentonville, AK to Arvada, CO and Lemoore, CA.

These commitments indicate that the need for maker-centered learning is significant and that more organizations need to continue to step up to meet this demand. Communities are growing and sustaining these opportunities for students. This includes expanding maker-focused professional development opportunities for educators, creating ways for students to engage with maker mentors and developing more culturally relevant and inclusive programs.

This catalog details the Make For All commitments for 2019, the impact that these efforts will have on their communities and the additional resources that they are looking for to make their commitments a reality. We hope this will inspire you to collaborate with or support one or more of these organizations or develop a commitment in support of maker-centered learning for your community.

As an ongoing initiative, Make For All will continue to grow the number of organizations and institutions it works with in support of maker-centered learning. Make For All will launch another call for commitments and updates to existing commitments in 2020, with the goal of securing 100 new commitments and ensuring that at least 75% of existing commitment makers are able to make substantial progress on their commitments.
Data Points

149 Communities Represented

295 Organizations & Partners

CITIES
LIBRARIES
MUSEUMS
COMPANIES
NON-PROFITS
UNIVERSITIES
K-12 SCHOOLS
COMMUNITY COLLEGES

768,000+ Students Reached in the Next 3 Years
K - 12 Commitments

Bergettstown Middle/High School - Burgettstown, PA

Burgettstown Middle/High School will create Mobile Maker carts that will travel between classrooms and help expand opportunities for students to engage in maker education. The Carts will serve almost 600 students in Southwestern Pennsylvania and will be introduced in the 2019-2020 school year. Burgettstown Middle/High School will also continue to engage students taking Physics and Chemistry in the engineering process each semester through hands-on maker focused projects such as hydraulic robotics and hovercraft centered around student-based designs.

Cannon County High School - Woodbury, TN

Cannon County High School in Woodbury, TN plans to create a makerspace in the next two years that would serve the 500 students at the school. The school is interested in connecting with organizations and individuals that could assist with the design, implementation and funding of the space.

“Maker-centered learning is essential to the development of the youth we serve in rural South Carolina. Youth in rural communities thrive in environments that are project based and hands-on.”

Steven D.K. Brown, DIG Founder

Dreams, Imagination and Gifts (DIG) - Allendale, SC

Dreams, Imagination and Gifts (DIG), an educational non-profit organization is collaborating with the Savannah River Site Community Reuse Organization (SRSCRO) to expand existing STEM-focused maker programs to serve the rural South Carolina school districts of Allendale County, Barnwell-29 and Barnwell-45 reaching an additional 150 students. In addition, DIG’s annual STEM Festival will continue to provide free interactive hands-on maker-oriented STEM activities to more than 4,000 youth and their families in the greater Willis ton, SC area. DIG and SRSCRO would like to involve more local and global industries to establish a rural model for maker-oriented learning.

Tulsa Regional STEM Alliance/Fab Lab Tulsa - Tulsa, OK

The Tulsa Regional STEM Alliance (TRSA) will work with Flight Night and Cox Media Group to host the 2019 Back to School STEM Expo. More than 50 community partner organizations will attend to provide free, hands-on STEM activities, such as building miniature AC units or learning flight dynamics with straw rockets. Roughly 1,500 students are expected to participate. TRSA is looking for more partnerships in the healthcare industry due to lack of participation in previous programs and high demand from students.
A leader in the maker movement in Northwest Arkansas (NWA), the Scott Family Amazeum seeks to amplify maker work around the region and provide accessibility to differently-resourced portions of the larger community. The Scott Family Amazeum will outfit and pilot a mobile makerspace, supporting NWA, focused on growing the opportunity for high-quality, maker-rich STEAM activities for 5,000 children, families and adults in diverse and rural communities by fall 2020.

“\nAt the Scott Family Amazeum, we believe that innovation is born in the sharing of ideas. By creating the opportunity for authentic, hands-on experiences in tinkering and making, we empower the next generation of creators and innovators.”

- Joel Gordon
Tinkering and Making Manager, The Scott Family Amazeum

ENGINE of Central PA

ENGINE of Central PA is a collaborative network aimed at building opportunities for youth to engage in relevant, meaningful, transdisciplinary experiences to better prepare for the workforce of tomorrow through activities and programs such as teacher research experiences in academia and industry, Chief Science Officers Leadership Program, and ENGINE Days. Participating organizations include Discovery Space, Whitaker Center for Science and the Arts, Penn State Center for Science and the Schools, Penn State Humanitarian and Social Entrepreneurship, South Central PA Works and Intermediary Units of Pennsylvania that collaborate with 63 school districts. In the next 3 years, ENGINE aims to expand its cross-sector partnerships and programs to reach more than 150,000 students in Central Pennsylvania.

Project Exploration - Chicago, IL

Project Exploration, Chicago STEM Co-op, Chicago Learning Exchange, and others are working together to engage more youth in maker-oriented STEM learning opportunities through whole family engagement. In May 2019, these organizations hosted Remake Learning Days CHI and hosted over 130 events city wide! In Summer 2019, Project Exploration will work with 100 youth participating in a 8-week Summer of STEM Camp where they will experience the engineering design process and have a chance to learn more about careers in STEM, ranging from manufacturing, architecture, engineering, and more.

Girls create a contraption at the Scott Family Amazeum
Photo by The Scott Family Amazeum

A young girl takes apart a car during hands-on activity
Photo by The Scott Family Amazeum
New Mexico Institute of Mining and Technology - Socorro, NM

New Mexico Institute of Mining and Technology (NMT), as the backbone organization for the community alliance, STORM FORCE (STEM OutReach and Mentoring Fueling Opportunity through Relationships, Community, and Education), is working with community leaders to plan and implement a community-wide makerspace that will serve 100 students and families daily, providing opportunities to work on projects and activities at the intersection of making and science. In addition, NMT, Socorro Consolidated School District, Magdalena Public Schools, and Alamo Navajo Schools are partnering to create the Socorro County Teen Science Cafe Network, creating opportunities for approximately 50 students per month to interact with STEM experts through informal conversations, maker-oriented activities, and mentorship. This commitment is made possible by collaborations between NMT, school districts across the county, and memberships from city and county leaders and organizations. In addition, they are actively pursuing support from capital gains allocations, grants, foundations, and private donors to create the opportunities related to this commitment.

Drake Middle School - Arvada, CO

Drake Middle School (Arvada, CO) is developing a makerspace that will serve almost 1000 students and provide them with opportunities to work on making and science projects, robotics and solutions to problems in their own community. The school will host a series of 10 Family Maker Nights to introduce families to makerspaces and the maker mentality.
“[Making] is the link between parents or grandparents and the younger generation, regardless of college degrees—parents are empowered to connect with their technologically savvy children through maker activities. In this way, Explora allows everyone to be a learner and a teacher.”

- Andrés Barrera Guerrero, Lead Maker, Explora

Explora - Albuquerque, NM

Explora is celebrating more than 15 years of providing high-quality, hands-on, STEAM-rich learning for people of all ages throughout New Mexico. Explora sees potential in maker-centered learning to practice the engineering design cycle and 21st-century skills in relevant and real-world ways at the intersection of art and science. To provide maker-centered learning experiences to more children, teachers, and families with a specific focus on affordable and inclusive uses and ideas, Explora will work across sectors in 2019-2020 to 1) Develop and install a maker-centered exhibit space and classroom featuring new public programs and partnerships accessible to 200K+ annual visitors and supported by quarterly staff trainings 2) Develop and offer 15-20 maker-centered school and community programs to a broad range of audiences and in a variety of community settings, including professional development for educators and 3) Serve as a leader to support the community-identified need to convene a Maker Community of Practice for Educators here in the central NM region.

Remake Learning

Remake Learning in collaboration with Reimagine America’s Schools and with support from The Grable Foundation, Hillman Foundation and Benedum Foundation, will launch the Blueprint for Learning Grants program which will initially support a cohort of 16 organizations redesigning spaces for the future of learning in the Western PA and Northern WV regions. In addition, Remake Learning will continue to grow its regional Maker Learning Collaborative, which brings together organizations and institutions focused on engaging youth and families in making. This includes continuing to update the regional educational makerspaces map, which to date has over 200 locations. Over the next year, Remake Learning will continue to support educators with the resources they need to connect their students to these meaningful experiences, including co-hosting a series of “What Do I Do With This Stuff?” convenings with the Children’s Museum of Pittsburgh to help educators repurpose and better understand their maker learning assets.
Genentech

Genentech will develop and launch a new, hands-on and interactive biotechnology curriculum for high school students, engaging them in the real-world, entrepreneurial experience of researching, developing, manufacturing and bringing life-changing medicines to patients. Along the way, students will develop valuable skills in conducting lab research, computational thinking, data science/analysis, design thinking and making. This curriculum will also empower students to be empathetic, think critically and make decisions based on a deeper understanding of how developments in science, technology and innovation impact our healthcare, life sciences and biotechnology fields. Genentech aims to reach high school science teachers in California, providing them with the professional development, curriculum and resources to bring this learning experience to underserved students. Genentech is excited to hear from California high school science teachers who might be interested in learning more about or providing input around this curriculum. Please reach out to Eileen Yang at yang.eileen@gene.com if you’re interested in learning more!

Greater Cincinnati STEM Collaborative - Cincinnati, OH

The Greater Cincinnati STEM Collaborative (GCSC), in collaboration with a vast network of education and non-profit partners, will engage 1,300 K-12 students during the 2019-2020 school year in three “at school, after school” making-centered programs with the support of volunteer mentors: the 3D Printers Club, the STEM Bicycle Club, and for the first time, the Garden Engineers Club. Students across GCSC’s three-state region will build their design, making, technical, and problem-solving skills while also increasing their confidence. As with all GCSC programs, students will disproportionately be those under-represented in STEM: students of color (African American, Latino/Hispanic), low-income students, and girls. GCSC is seeking both financial and volunteer support for these students. Please contact gcscstemmed@gmail.com for more information or donate through GCSC’s fiscal agent, the University of Cincinnati, here: https://foundation.uc.edu/donate/gcs

Mentors and youth build together at Greater Cincinnati STEM Collaborative’s STEM Bicycle Club

Photo by The Hartongs, Photojournalists

“ The fact that GCSC clubs last 10 weeks enable our volunteers to bond and build a positive rapport with students and be a positive force for their futures.”

Marvin H. Masterson, GE Aviation, Founding GCSC Clubs Volunteer

Monticello Academy - Santa Clara, CA

Monticello Academy in Santa Clara, CA will provide professional development to support teachers and administrators to further integrate maker education into classrooms. Over the next three years, this effort will reach 400 K-8 students.
Digital Promise and Maker Ed are expanding the Maker Promise initiative to engage community members, including parents and mentors, to support and advocate for maker learning in their local schools and institutions. To date, Maker Promise has engaged over 1,400 schools in all 50 states in committing to broadening access to maker education in the classroom and informal learning spaces. Through this network we have seen that the most powerful making experiences develop in partnership between schools and their local communities to make maker learn-

more authentic and meaningful and to build broader support for these initiatives. This expansion of the network will serve to cultivate the development of more of these collaborative and community oriented maker learning programs.

Digital Promise will release a revised and updated Maker Learning Leadership Framework in 2019 to provide access for school administrators and teacher leaders to tools and resources that will help them design, launch and scale equitable and sustainable maker learning programs in their schools. This framework has been developed with the feedback and partnership of more than sixteen school districts across the United States, and the organization will continue to seek partnerships to support and learn from schools using this framework to develop their programs.

“Creating access for all students to make is a powerful way to unlock their creative potential, to build confidence and to empower them to create solutions to everyday challenges in their lives. Infosys Foundation USA is proud to bring making to thousands of children across the US.”

- Kate Maloney, Executive Director, Infosys Foundation USA
Maker Ed

Maker Ed is expanding its free, curated library of more than 260 resources designed to help educators, administrators and caregivers build on their maker education efforts. This includes professional development modules, project ideas, research and case studies and tools for evaluation and assessment. Newer resources include online learning modules; Agency by Design’s Pictures of Practice; and an introduction to physical computing. The Maker Ed Resource Library 2.0 will provide individuals with a recommended set of resources based on their specific needs. Maker Ed is interested in connecting with organizations that have resources that they would like to contribute to the library and/or beta test new functionality.

The Museum of Discovery - Fort Lauderdale, FL

The Museum of Discovery and Science in Fort Lauderdale, FL is opening a 5,000 square foot aviation-themed maker space called “The Hangar” in October 2019. Designed to inspire careers in aviation, children, families and educators will gain the skills to become creators of our future. The exhibit will serve 400,000 visitors annually.

South Fayette Township School District - South Fayette Township, PA

The South Fayette Township School District will continue to build a regional ecosystem of leaders in maker-centered learning, including the development and expansion of curriculum and tools for assessing the learning that matters most. This builds upon efforts over the past several years, which has involved collaborations with industry, academic and non-profit organizations across the region.

“ At Maker Ed, we believe maker-centered learning has the power to transform teaching & learning, and we imagine a future of equitable access to learning experiences that support the development of children’s agency. Make for All is harnessing the power of dozens of organizations to move us closer to a world in which all youth have what they need to build a bright future.”

Kyle Cornforth,
Executive Director, Maker Ed
STE(A)M Truck - Atlanta, GA

STE(A)M Truck is focused on closing the inequities in making opportunities for youth. Working with Metro Atlanta public schools and early childhood centers, STE(A)M Truck served over 10,000 youth in 2018 and will serve 20,000 youth over the next three years. STE(A)M Truck is also focused on supporting a national network of communities leveraging mobile makerspaces.

Kid’s Innovation Playground - Slippery Rock, PA

Kid’s Innovation Playground, an educational non-profit organization, is collaborating with the Alliance for Nonprofits, Slippery Rock Parks and Recreations, Slippery Rock School District and Slippery Rock University to bridge the educational gap in STEAM experiences for under-served pre-K-8th grade children in rural western Pennsylvania. In the next year, Kid’s Innovation Playground plans to develop more class offerings for children and teachers, will be open for drop-in after-school and weekend programming and grow its makerspace, reaching 50 families weekly and working with 20 teachers monthly in the community.

WhyMaker

WhyMaker will work with 2,000 educators in 2019-2020 to provide maker education professional development opportunities focused on creating opportunities for 40,000 students across the U.S. to engage in making in and outside of the classroom. WhyMaker will collaborate with schools of education and teachers associations as part of this effort.
New Castle Area School District - New Castle, PA

The New Castle Area School District will continue to grow its Maker Learning initiative, focused on literacy and Social Emotional Learning. Within the next year, the District will work with local mental health agencies to deepen and expand Maker Learning at the secondary levels. The District also plans to develop and host a multi-district Maker Challenge Showcase Event in the region in the next two years.

“Maker learning is a collaborative process that promotes student agency by allowing them the freedom to design, create and innovate. By adopting maker-centered learning, we have been able to enhance our STEAM program while fostering social-emotional learning and have seen students take on roles which help them move beyond stereotypes and build empathy for one another.”

-Emily Sanders, Director of Assessment, Data and Technology, New Castle Area School District

Rec-to-Tech

The Rec-to-Tech National Design Challenge, a national initiative of the Digital Harbor Foundation aimed at building a scalable model that creates maker and computer science education programs serving youth in recreation centers around the country, announces its first cohort of national sites to include community spaces in Atlanta (GA), Baltimore (MD), Cambridge (MA), Gainesville (FL), Miami (FL), Mobile (AL), New Orleans (LA), Pittsburgh (PA), Providence (RI), Standing Rock (Sioux Tribe), Wallingford (CT), and Wenatchee (WA). These sites each commit to creating a feasibility study and implementation plan to transform spaces in their community by creating computer science and maker education opportunities for youth. The project is supported by Schmidt Futures with collaboration from the National Recreation and Park Association, National League of Cities, and the Association of Science-Technology Centers.

Thimble - Buffalo, NY

Thimble, www.thimble.io, was founded three years ago with a vision of bringing the maker-space experience to the masses through monthly projects to teach making, computer science, and engineering. In 2019, Thimble will further that vision by expanding into schools. Thimble will host Buffalo, NY’s first teacher hackathon to further engage teachers through a unique professional development experience, roll out Thimble Courses curriculum that marries Next Generation Science Standards with making best practices, and further expand the number of middle schools to ensure making, problem-solving, and project-based learning are firmly part of the public education system, locally and nationally.
Post-Secondary and Higher Ed Commitments

North Carolina Central University FAB Lab - Durham, NC

North Carolina Central University (NCCU) FAB Lab will launch SPARK FAIRE—a series of workshops and events to engage the youth and community of Durham, NC in digital fabrication and computation, reaching over 500 K-12 students in 2019. NCCU FAB Lab is looking to connect with organizations with expertise in maker education and institutions and companies with maker tools, technologies and equipment that could support this work.

Illinois Makerlab - Champaign, IL

Illinois Makerlab at University of Illinois’ Gies College of Business is partnering with the School of Art and Design, the Siebel Center for Design, and Milestone Studio Labs to create a course sequence focused on human-centered design and making for social impact. Students will work alongside individuals who are differently abled to design, develop, and test solutions to address their needs. The initial pilot included 21 students in six teams. A subset of these prototypes could be further developed into products and launched as part of an on-campus incubator, iVenture Accelerator. Illinois Makerlab is looking to learn from others who have done this at a larger scale and get advice on grant opportunities to sustain this initiative.

National Association for Community College Entrepreneurship

The National Association for Community College Entrepreneurship (NACCE) has the potential to expand making opportunities to 3.3 million students through its global and national programs. From 2019-2020, NACCE commits to working to provide professional development opportunities in maker education for all 40 member community colleges and historically black colleges and universities, which will serve 4,800 under resourced middle school boys of color and girls from rural areas. In addition, NACCE will work with a cohort of 24 college presidents, deans and faculty members in 2019 to develop cross-cultural maker education opportunities for students in the U.S. and India. Both of these initiatives align with United Nations Sustainable Development Goals. For more information on NACCE’s initiatives focused on entrepreneurship and making, please visit nacce.com.
Rogue Community College - Grants Pass, OR

Rogue Community College will develop the Rogue Innovation Hub in Josephine County, OR to provide opportunities for makers of all backgrounds and economic levels to develop their maker and entrepreneurship skills, launching in Spring 2020. Josephine County is the slowest county in the state to recover from the Great Recession and continues to have the highest poverty rates in the state. The Innovation Hub involves partnerships with the City of Grants Pass, local non-profit organizations, school districts, business partners, and other regional maker spaces. This is part of a larger effort to create a vital maker ecosystem in southern Oregon.

Community College of Allegheny County - Pittsburgh, PA

The CCAC North Campus Innovation Lab will continue to expand its work with local school districts, business and industry and non-profit organizations to provide them with recommendations and solutions for their workforce needs. North Campus faculty and students have worked with the Northgate School district, WesBanco and Economy Borough as recent clients. Working on micro-projects that can be completed within three months, more than 35 faculty and students have participated in this program on nine projects. In the next two years, North Campus expects to engage over 100 additional faculty and students in this effort.

West Hills College Lemoore - Lemoore, CA

West Hills College Lemoore in Lemoore, CA will develop a makerspace connected to its Workforce Internship Networking Center, aimed at engaging students in design thinking and real-world problem-solving. West Hills College Lemoore is interested in working with volunteers to help with the planning, design and implementation of the makerspace and organizations that could provide support and mentoring to students in this endeavor.

UTeach Maker - Austin, TX

UTeach Maker is a micro-credentialing initiative developed as part of the UTeach program at The University of Texas at Austin. It supports preservice STEM teachers as they develop innovative, project-based, maker practices for their learning environments. UTeach Maker is leading a collaborative group of partner universities working to incorporate making into 22 UTeach STEM teacher preparation programs by 2022. This will include integrating making into university coursework, connecting with existing university-based maker initiatives, connecting with community and K-12 school partners interested in making, and/or establishing a maker micro-credentialing program. UTeach Maker will continue to develop, publish, and distribute freely accessible resources in support of making in STEM classrooms. This collaborative group of universities hopes to connect with organizations interested in funding the expansion of this effort and to further engage with members of the maker community. For more information and to get involved, visit https://maker.uteach.utexas.edu/make-for-all
Makerlab @ Cornell Tech - New York, NY

Makerlab @ Cornell Tech in collaboration with Weill Cornell CTSC is engaging students across disciplines including medicine, information science, MBA, and engineering in co-designing assistive technologies with community members in NYC through our ‘3D Printed Life Hacks’ workshop, now in its second year. This course brings together diverse teams composed of students and seniors to identify a particular challenge and design and prototype a solution. Examples of innovations developed include a 3D printed prototype to help an individual with a mobility impairment to more easily use a keyboard and a solution to help patients with decreased voice projection communicate better with speech projection. Makerlab @ Cornell Tech is looking for discussion and partnership opportunities. If you are an artist, craftsperson, industrial designer, or medical professional, who values making in your everyday life or practice, and if you are part of an organization, you can collaborate as a community partner—we want to hear from you.

Sierra Makerspaces - Northern California, CA

The Sierra Makerspaces initiative will continue to work in partnership with all three Sierra College campuses (Rocklin, Grass Valley, Truckee) and three private makerspace partners (Hacker Lab, Curious Forge, Truckee Roundhouse), as well as regional and statewide ecosystem partners to offer maker education and experiences to the community and within the post-secondary institution. This includes conducting the Fifth annual Rocklin Mini-Maker Faire on October 12, 2019, outreach to K-12 using the Sierra Makerspaces mobile lab, skills classes at Hacker Lab powered by Sierra College, the integration of making into curriculum, and special events such as Holiday Family Maker Night to benefit the Sierra Student Food Pantry.

“Students learn so much from experimentation and collaboration. For example, art students in our two-dimensional design course discuss, then layout original projects using software and the laser cutter. It’s the perfect bridge between theory and real world applications.”

- Kim Bateman, Executive Dean, Tahoe Truckee Campus, Sierra College
Students As Changemakers
Commitments

Co.Lab
The CO and the Oregon Coast STEM Hub have partnered to expand a coalition of organizations and institutions serving the Oregon Mid-Valley and coastal region focused on building a diverse, regional Maker ecosystem committed to inclusive, applied, place-based learning. Over the next year, The CO & the Hub will collaborate with rural and tribal communities to explore the rich history and culture of rural and tribal making in conjunction with opportunities to engage in digital design and fabrication.

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Idaho STEM Action Center
Starting in summer 2019, the Idaho STEM Action Center will leverage its STEM ecosystem partners of students, educators, learning organizations, industry partners, and individual makers across the state, to crowd source the design and creation of 3D models to enhance learning opportunities for the visually-impaired citizens of Idaho. Both the physical and digital repositories of models will be available free to Idahoans wishing to access them for educational purposes.

BLDG 61 - Boulder, CO
BLDG 61, Boulder Public Library’s free makerspace will expand programming and events to reach more youth through community citizen science initiatives and educator professional development opportunities. BLDG 61 will expand real-world problem-solving programs aimed at data literacy by 15% in the next year to equip citizens with a critical understanding of our data-driven world. The makerspace will engage 25% more underserved students through these efforts and will intentionally focus on creating opportunities for educators in an effort to serve more students. In addition, BLDG 61 will launch new initiatives with the Boulder Small Business Development Center empowering entrepreneurs to design, prototype and manufacture their physical products. This program will engage a minimum of 12 maker-entrepreneurs over the first year of this collaborative accelerator program.

BLDG 61 seeks professional partnerships to help keep these initiatives free of cost, especially to underserved and underrepresented individuals.

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Millvale Community Library - Millvale, PA
The Millvale Community Library is partnering with Shaler Area School District to foster workshops that take making beyond the classroom and into the community. This includes unique opportunities that will civically engage 100 youth ages 11-17 in the coming year.

Co.Lab
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Project Invent

Project Invent aims to empower students everywhere to make for social impact. Project Invent currently partners with 30 schools in 14 states. In 2020, Project Invent plans to expand to more than 50 schools and to have more than 50% of its partner schools primarily serve low-income students. Project Invent expects to serve more than 500 students in 2020.

“Making allows students to translate their ideas into reality: it literally allows them to hold their ideas in the palm of their hands. There are few experiences more empowering than that. Through making, students become confident that they can create anything. And when students make for social impact, they see that what they make can also change the world.”

- Connie Liu,
  Executive Director,
  Project Invent

Conservation X Labs

Conservation X Labs is collaborating with colleges, research institutions and conservation organizations to create more opportunities and enable students to leverage technology, entrepreneurship, and open innovation to source, develop, and scale critical solutions for conservation through the Conservation 3.0 initiative. This includes the creation of an open curriculum toolkit and strategic partnerships with colleges such as Duke University, Arizona State University and George Mason University to pilot learning modules, match students with conservation focused client-projects and develop more internship opportunities at the intersection of conservation, technology and innovation. This initiative will engage more than 100 students across three campuses over the next year. Conservation X Labs is interested in connecting with additional colleges and institutions who want to partner around this initiative.

Maker Therapy

Since 2014, Maker Therapy has created opportunities for more than 100 patients to engage in making, providing them with opportunities to be makers, doers, inventors, and tinkerers, and continue learning while hospitalized. In 2018, Maker Therapy in collaboration with Lucile Packard Children's Hospital Stanford opened the world's first dedicated makerspace for hospitalized chronically patients, and in the same year opened the world’s first family-centered makerspace for patients, families, and siblings at the Ronald McDonald House at Stanford. Maker Therapy is continuing to collaborate with both Lucile Packard Children's Hospital Stanford and Ronald McDonald House at Stanford towards better understanding the
effectiveness of makerspaces as a medical and educational intervention for children experiencing chronic illnesses. Maker Therapy is interested in working with the Maker community towards creating a more hopeful world for all children living with chronic illnesses.

The weekly Maker Club at The Dalles-Wasco County Library

Photo by Jacob Field

The Columbia Gorge STEM Hub - The Dalles, OR

The Columbia Gorge STEM Hub and Wasco County 4-H are organizing Maker Fair at the County Fair in August 2019, introducing Wasco County to diverse makers in their community. More than 100 people will participate in the event. The STEM Hub will also release its Maker Club curriculum in September 2019 to provide STEM-inspired making in elementary through middle school. Nine diverse schools and libraries tested the activities through ongoing maker clubs, ensuring the lessons would give young makers a chance to learn, explore, and have fun. Numerous partners assisted in creating the curriculum, including Wasco County 4-H, The Dalles Library, and Hood River County Schools. Over 100 children will be directly impacted by Maker Clubs in the Gorge in 2019-20, with thousands more impacted by the public release of the curriculum. The STEM Hub is seeking partners from across the country who would like to implement the curriculum, which is freely available through a Creative Commons Share Alike International license.

Oakland Fab City - Oakland, CA

Oakland Fab City is working on a moonshot—to make Oakland a city in which a diverse and inclusive community of its citizens make all the city needs, by the year 2054. Dozens of individuals and organizations have signed on to support this initiative. Oakland Fab City is working with these early adopters to recruit and develop infrastructure, resources and talent necessary to carry out this ambitious program. Key partners include Peralta Community College District and its member schools (Laney College and College of Alameda), and Oakland Unified School District, along with maker-focused schools in that district (Castlemont High School, Skyline High School, Oakland Unified School District Adult Ed and others). This includes convening a workgroup that includes educators from K-12 (public, private and charter), community and four-year college, and adult education representatives. By 2021, Oakland Fab City will launch or recruit at least twelve new FabLabs, each serving dozens to hundreds of students.

United Way of Greater Atlanta - Atlanta, GA

United Way of Greater Atlanta will collaborate with Decatur Makers and the Southeast Makers Alliance to create more opportunities for the nearly 500,000 youth in its 13-county region to engage in meaningful making. This includes the launch of the STEM in Youth Education Spark Prize in the fall of 2019, a pitch competition where students design and develop innovative projects and activities aimed at solving a problem in their communities and engaging their peers in STEM. Winning teams will receive a financial investment in their plan and be connected to coaches, who are professionals in STEM fields, to turn their ideas into real programs. United Way of Greater Atlanta is actively looking for corporate partners to support this exciting project as funders, competition judges and project coaches.

“We’re all makers, but we don’t all realize it. The Columbia Gorge STEM Hub is dedicated to promoting making among all children, especially those coming from populations underrepresented in STEM fields.”

- Christy Christopher, Director, Columbia Gorge STEM Hub
Making and Entrepreneurship Commitments

Sequim Community MakerSpace - Sequim, WA

Sequim Community MakerSpace will work with the Sequim Museum and Art Center to launch more than 50 handmade tool videos produced by inventor and maker Brad Griffith and made available to inspire the next generation of makers.

JAM - Pittsburgh, PA

JAM, a student-led, community initiative established in Pittsburgh, PA, focuses on empowering elementary students to be entrepreneurs and has engaged more than 60 students since launching in 2016. JAM has helped to create student businesses around sewing, weaving and t-shirt making. JAM has succeeded in creating four additional JAM chapters across Pennsylvania and commits to fostering 10 new JAM chapters each year moving forward.

This mom just told her son they are making a catapult at the Sequim Community MakerSpace.

Photo by Brad Griffith

Sequim Community MakerSpace - Sequim, WA

These small, handmade tools are perfect for making.

Photo by Brad Griffith

JAM members creating window clings from recycled plastic bags for nursing home residents.

Photo by Maureen Frew
The National Inventors Hall of Fame

The National Inventors Hall of Fame® will provide free professional development to approximately 300 educators in 2020 by expanding its Innovation Day programming, which will take place in San Jose, CA, Kansas City, MO, and Alexandria, VA. Innovation Day is a professional development program focused on approaches to inquiry based learning through design thinking, creative problem solving, entrepreneurship, making and student-lead learning. The National Inventors Hall of Fame is interested in connecting with educators and administrators who want to participate in Innovation Days and who want to expand and leverage invention-focused, maker-oriented programs (preschool-9th grade).

MakerNet

MakerNet is committed to equipping at least 20 additional makerspaces with its open-source operations platform and access control system before the end of 2019. This platform will help makerspaces with their day to day operations and their ability to more broadly share information about the tools and equipment available in a particular space and the technical skills and experience of individuals makers. Gathering this data and making it more accessible will enable the development of a global ecosystem, which empowers individual makers to identify opportunities that match their skillsets, allows employers to effectively identify key talent and enables makerspaces to more directly work with tool manufacturers as they develop new technologies.

In summer 2019, Boys & Girls Clubs of Western Pennsylvania (BGCWPA) will launch the Artificial Intelligence Pathways Institute and Teen Accelerator Program and Teen Workforce Development Academy, ensuring that youth are making connections to mentors from industry and learning valuable STEM skills needed for high-demand occupations in the Pittsburgh region. Working with organizations such as Comcast, Carnegie Mellon University NREC & Robotics Academy and Hampton Township School District, this initiative will create opportunities for the 8,000 youth served by BGCWPA to earn college credits, participate in summer internships, learn about entrepreneurship and obtain pre-apprentice certificates. Younger learners will engage with STEM and maker-centered learning in makerspaces, after-school robotics activities and by using adaptive software. BGCWPA strives to have at least 75% of its youth actively participate in hands-on STEM programming, with 75% of youth gaining employment or participating in post-secondary education.
More Reflections on Maker-Centered Learning

“We believe all citizens are meaningful makers. It is our commitment to serve our community by sparking connections and helping people discover their potential through maker-centered learning to address purposeful projects.”

- Janet Hollingsworth, Creative Technologist, BLDG 61

“New products and new developments are produced by a creative mind. Therefore, we should encourage the development of such minds and maker-centered learning is important in this respect. Our organization through maker-centered learning is looking to shift our culture from one of consumer and user to maker and producer.”

- Eric Saliim, Director, NCCU FAB Lab

“Maker-centered learning offers students the chance to be civically engaged problem-solvers, to pursue their natural interests in STEM and to prepare them for 21st century careers”

- Emily McCann, CEO, Citizen Schools

“We need to engage with our community, contribute to the research on maker education, and support the role of making in our state. We’re excited to be a part of the UTeach Make For All Initiative.”

- Sharon Cardenas, NAUTeach - Northern Arizona University
Collectively, these commitments demonstrate how high-quality, long-lasting maker-centered learning opportunities are increasingly available to students throughout their lives and academic and professional careers. But there is still a great deal of work to be done to ensure that all students have the chance to be makers. One approach to this has been to create more makerspaces and maker education programming in places that lower the barriers to entry such as public libraries, recreation centers and Boys and Girls Clubs. Another approach has been to create community-driven partnerships between public and private institutions that enable organizations to leverage their strengths and the expertise of others.

Over the next year, the Make For All initiative will work closely with commitment making organizations through a combination of in-person and remote engagements to continue to support their work. This includes monthly calls where organizations will be able to share their work and provide asks and requests for help and opportunities to showcase their progress at events such as NOMCON, Maker Ed's Maker Educator Convening and The Association of Science-Technology Centers Annual Conference.

Citizen Schools would like to acknowledge the hard work and collaboration of the Make For All Advisory Council and thank them for their dedication. These organizations provided their expertise, guidance and leadership to help craft this initiative, engaging their own communities and networks in this work and we are grateful.

If you are interested in getting involved in Make For All, below are a few ways that you can participate:

- Partner with or support an existing commitment maker based on the needs detailed in the commitment
- Develop a Make For All commitment for your own organization in support of maker-centered learning
- Support the development of the Make For All initiative through funding, volunteering or in-kind services
- Your idea here!

To get involved, email makeforall@citizenschools.org