



Sparking the Creative  
Potential of all Kids



KID Museum  
**2016-2017**  
Annual Report



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# BY THE NUMBERS

At KID Museum, we measure success in the smiles we see every day, but our numbers tell a great story too.

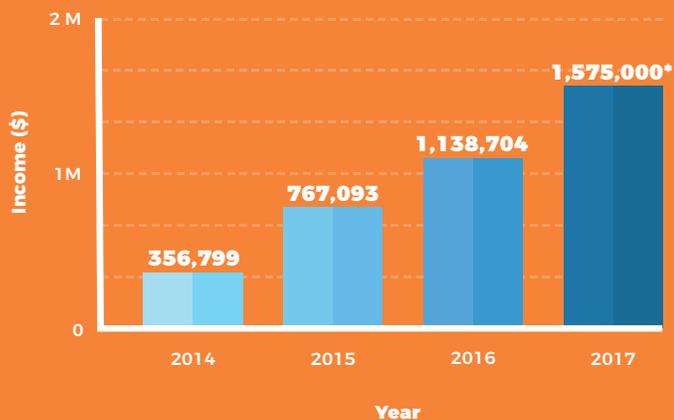
## Annual Growth in People Served



**134** on-site school and group visits during the 2016-2017 school year

**30%** from high-needs schools

## Annual Growth in Income



## Growth in Staff

	Total	Full-Time	Apprentices
2014	10	3	25
2017	33	12	164

\*Income projected to year-end

# A TIME OF GROWTH AT KID MUSEUM

Dear Friends,

It's wonderful to reflect on what has been a strong period of growth for KID Museum. It's evident in our numbers. We're serving more children, families, and teachers than ever before. But this is also a story about our personal growth. We've strengthened our offerings, demonstrated an impact on those we serve, and branched out in new directions, all the while staying focused on our core goal of sparking the creative potential in all children and inspiring the next generation of inventors and problem solvers through maker-based learning.

Just as we encourage the children who walk in our door each day to hone and develop their skills, we're doing the same. I'm grateful to lead a team of educators, makers, and STEM experts who aren't afraid to challenge one another, learn from mistakes, and strive for continuous improvement. Our programs, outreach efforts, and results are better off for it.



We're now serving 55,000 children annually with hands-on learning opportunities that incorporate STEM, art, and design both on site and at community events. That's double the number we served in 2014, the year we opened. We continue to gear our core programs toward elementary and middle school students, but we also have built and expanded opportunities for preschool, high school, and college students.

We've also stepped up our work supporting teachers and schools. Teachers come together at KID to exchange ideas through our Learning Collaborative. We also have expanded our educator workshops, and we've designed professional development days during which a school's staff can come to KID and participate in hands-on activities. We're proud to be part of a national effort along with Google, the Children's Museum of Pittsburgh and Maker Ed to help schools design their own makerspaces. Invention Studio, a multi-session program for middle school students, now reaches kids in seven schools—up from just one when we started in 2014. We've sharpened our focus in the program on developing students' social and emotional learning skills, such as the ability to persevere through problem solving, show agency over learning, and collaborate with peers.

We wouldn't be where we are without our devoted staff, generous sponsors, Montgomery County, and the more than 250 volunteers who turn out annually to make KID a leader in maker-based education and a place of deep learning for students, teachers, and families. That support is changing lives and helping to build bright futures.

With gratitude,

Cara Lesser  
Founder & Executive Director



# PROGRAM OVERVIEW

Every day at KID Museum, young people transform the ordinary into something extraordinary: discarded cardboard becomes a motorized airplane; plastic cups and markers become drawing robots; and wood, circuits, and microcontrollers combine to make interactive sculptures. These hands-on, STEM-focused activities inspire creativity and help develop a love of learning. Our programming integrates art and world cultures with maker experiences. Educators, artists, scientists, high school apprentices, and college interns are all part of our team, serving as role models for the next generation of innovators. Below are just some of the programs we offer.

## **Invention Studio**

An intensive maker program for middle school students, in which they work in groups to design inventions that combine skills in coding, engineering, electronics, and fabrication.

## **Maker Studio**

Two-hour sessions where participants build skills and have mentored open studio time in our woodshop, fabrication lab, textiles studio and electronics lab.

## **School and Group Visits**

Customized to grade and curriculum, one-day field trips, or multi-visit workshops. During the 2016–17 school year, about a third of school visits were from high-needs schools.

## **Weekend Programming**

Hands-on weekend activities for families to explore at their own pace, as well as workshops. Serves preschool through middle-school children and their families.

## **Educator Programs**

Programs developed specifically for educators, including the Learning Collaborative, Educator Workshops (hands-on training in tools and skills), and support in creating school-based makerspaces.

## **Featured Workshops & After-School Classes**

In workshops, visitors learn a specific skill, such as how to solder or program a robot, meet an artist or inventor, or learn about a cultural tradition. After-school classes are offered for 10 weeks at a time and focus on a key learning area or set of skills.

## **School's Out Programs**

Daily and weekly summer camps and school day-out programs.

## **KIDfest**

KIDfest is the Washington D.C. region's premier family festival celebrating making and creativity, and KID Museum's signature event.

## **World of Montgomery Festival**

Held each fall to celebrate the rich diversity of our region through international music, food, dance, culturally authentic arts demos, and hands-on activities.

## **Mini-Makers**

Weekly programs for preschool children. Children participate in age-appropriate maker projects focused around themes such as electricity or woodworking.



MEASURING



**KID helped me expand outward. It's really shaped how I interact with other people, and I see that happening with younger kids I work with now through the Coding Corps.**

*- Jason Skill, Walter Johnson High School Student*



# CODING AND ROBOTICS

**Coding Corps** is a new program for high school students, which KID Museum got off the ground this year with support from the Montgomery County Government. KID educators train corps members in coding as well as how to teach coding to elementary and middle school students. Then, Coding Corps members help lead coding jams, coding camps, and after-school classes.

Jason Skill, a rising senior at Walter Johnson High School, says being part of the Coding Corps has been rewarding. He particularly enjoyed helping to lead a free coding camp for students at Roberto Clemente Middle School. “It was pretty amazing watching the kids who had never done programming before look at what their friends made and then become motivated themselves,” Jason said. “They ended up making maze games, doing animation, and more. It was a really positive, shared learning experience. As someone discovered something new, they would share it with their friends, and they motivated each other.”

Jason says he loves that even introverted kids learn to collaborate with their peers at KID Museum. He says watching them reminds him of his first experience with KID a few years ago, trying out some of the maker-education programs as a shy student.

“When I would be tinkering with my own projects at KID, another student would often come up and say ‘What are you doing?’ They’d get interested, and we’d often end up talking and working together,” Jason recalled. “KID helped me expand outward. It’s really shaped how I interact with other people, and I see that happening with younger kids I work with now through the Coding Corps.”

KID Museum also coached several **FIRST LEGO League** (FLL) teams this year. Each team researched a real-world problem, designed a solution, and then designed, built, and programmed a Lego robot that could accomplish certain tasks. The teams took home trophies in FLL competitions for core values and robot design and functionality.

Santosh Nanda, father of 11-year-old Shivani Nanda, whose FLL team competed at the state level, said his daughter relished the chance to participate. “This kind of hands-on experience is a great opportunity for kids,” Santosh said. “I really feel KID Museum is filling some gaps that are not available in school or elsewhere.”

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**It was pretty amazing watching the kids who had never done programming ... become motivated themselves.**

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**Girls Code Club**, an after-school class focused on getting girls excited about coding, was a hit this year. And **Kindercoders** taught kindergarteners the basics of coding using developmentally appropriate tools, often without relying on screens.

We’re expanding our coding offerings in the year to come, with drop-in coding activities available each weekend, more after-school coding choices, and intensive programming sessions as part of our first annual Invent the Future Challenge for middle schoolers.

# INVENTION STUDIO

Through our **Invention Studio program**, middle-school students attend multiple sessions at KID Museum and gain skills in wood fabrication, mechanisms, analog circuits, and microcontrollers. Then they collaborate with their peers to design and create an interactive, multi-disciplinary invention.

KID Museum launched the program in 2015 in partnership with Montgomery County Public Schools and Parkland Middle School. Seven schools participated in 2016-17, and that is set to expand further in the year ahead. We sharpened our focus this year on helping kids develop strong social and emotional learning skills, such as perseverance through problem solving, agency over their work, and the ability to collaborate. We also introduced new initiatives, like building in peer-to-peer mentorships.

“Seeing how that worked was eye opening,” said Parkland STEM team leader Stephanie Seo, of the peer mentorships. “One of my students struggles a lot with working collaboratively. During the final project, when the kids were working on an interactive sculpture, I could see some problems for this student coming up. I was going to intervene and say something to him, but his mentor got in there and said, ‘I can handle it. I’ve got this.’ And the mentor was able to talk him through

it, calm him down, and he was able to work beautifully with his teammates. I almost wanted to cry at that moment. It was amazing to see. And the student mentor got so much out of the experience too. She is a shy kid. I was surprised she wanted to be a mentor, but she did so well in that role.”

Emily Blankingship is an Argyle Middle School teacher whose students participated in Invention Studio this year. “We loved the way the program operated, how it was steeped in project-based learning and encouraged kids to attain skills first, and then apply those skills to designing and creating a project,” Emily said.

Emily also liked how student-directed the experience was. “If a student said, ‘I want to make this,’ the KID team’s response was never no. It was, ‘How can we support you as you get to that point?’” Emily said. “They had so many resources to allow the kids to lead their learning and succeed. In school settings, sometimes you’re limited with resources, and you’re often focused on one specific learning objective. It can be hard to let go of that as a teacher.”

We are particularly grateful to the Trawick Foundation, the Rales Foundation, and Montgomery County for their generous support of Invention Studio.

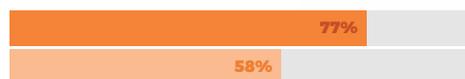
## Evidence of Impact

Harvard University’s PEAR Institute found that Invention Studio students made significant gains in STEM and 21st century skills, exceeding the impact of other programs nationally.

Science Interest



Science Enjoyment



Perseverance



Critical Thinking



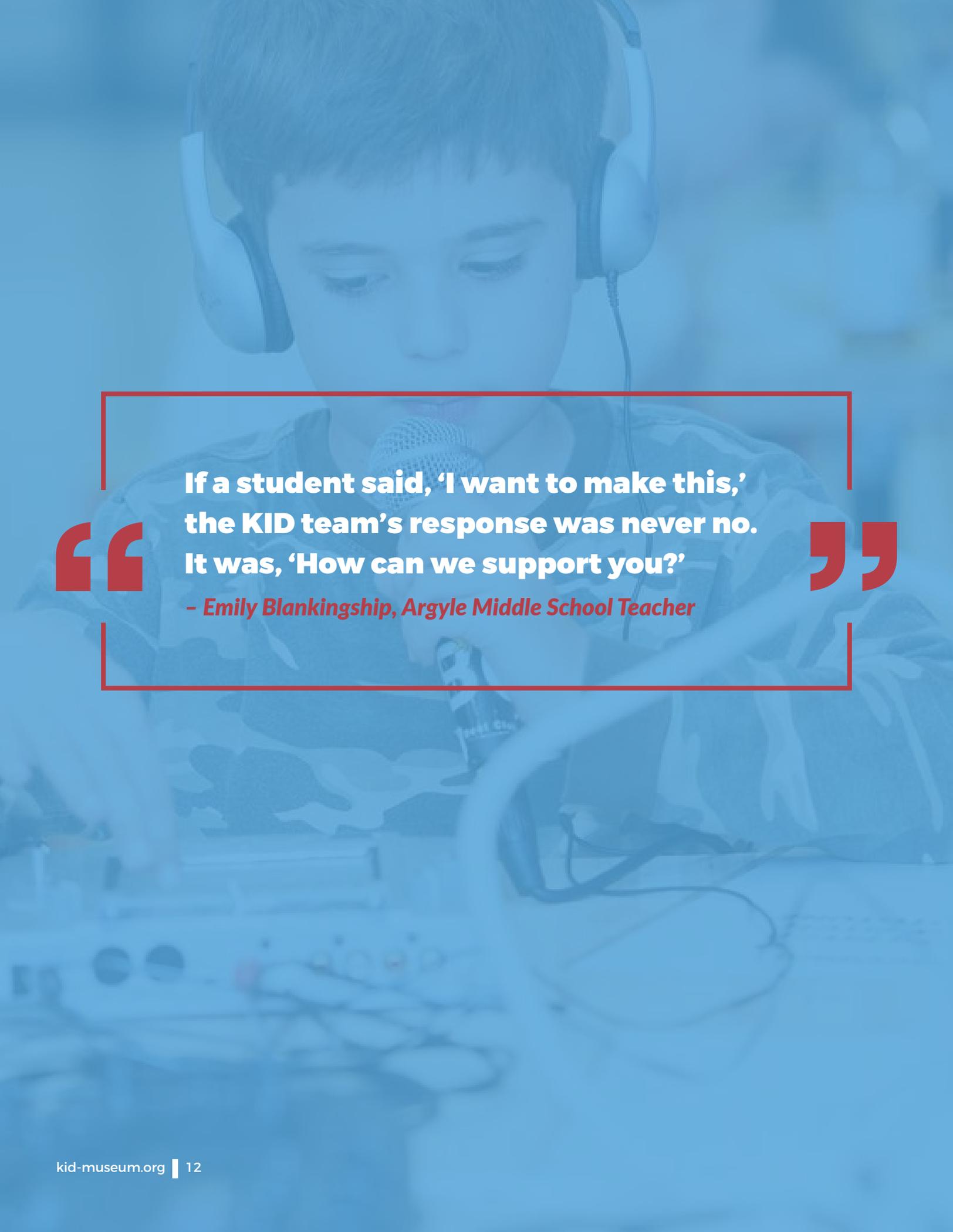
KID Museum's Invention Studio Program



STEM Enrichment Programs Nationally



*Invention Studio with Clemente Middle School students. May 2017*



**If a student said, 'I want to make this,'  
the KID team's response was never no.  
It was, 'How can we support you?'**

*- Emily Blankingship, Argyle Middle School Teacher*

# SUPPORT FOR TEACHERS AND SCHOOLS

KID Museum convenes teachers through our **Learning Collaborative** regularly throughout the year. These are facilitated conversations about areas of maker-based education that teachers want to discuss and explore together. We also run programs in which teachers come in and do the kind of hands-on, project-based learning that their students experience at KID, and learn how to lead instruction using new tools and technologies.

Naomi Manzella is a media specialist at Norwood School and a dedicated participant in the Learning Collaborative. “We get together and share ideas about our successes with maker education in our schools, as well as our difficulties. Those may involve getting buy-in from administrators or other teachers, how to work with the physical spaces we have, and how to do a lesson plan,” Naomi said. “One of the discussions that really helped me, I was teaching a coding class at the time, was around how you grade this stuff. That was really difficult for me. But we had a great discussion about how to think about that, and it touched on the practical - like how to make rubrics. That helped me enormously. “

This year, KID Museum also held half a dozen **Educator Workshops** for teachers on working with microcontrollers, known as Arduinos, or circuit boards that students can use to create interactive objects. Technology teachers with whom we worked said they were so glad to have targeted professional development designed for them.

KID Museum plans to hold similar deep-dive workshops with educators on additional topics of interest going forward. We also are starting to run a hands-on professional development days for teachers across grades and subject areas. One school recently sent their entire instructional staff to KID for professional development. The teachers experienced the kind of project-based learning we make available to students.

Stephanie Seo, Parkland’s STEM team leader, praised this approach to professional learning. “Schools have been so structured. But now we’re rightly saying let kids explore and find conclusions themselves. As a teacher, I might be thinking, ‘I don’t want that chaos in my room.’ But KID teaches us to let students live in the chaos. When you do that, one or two kids will usually find the answers, and that spreads to others. It’s like a chain reaction. They all become willing to help each other out, and they use each other as resources,” Stephanie said. “Our role as teachers is changing. Instead of making students memorize concepts, we have to help them explore the concepts themselves and come to conclusions themselves.”

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**Schools have been so structured. But now we’re rightly saying let kids explore and find conclusions themselves.**

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This year KID Museum became one of about a dozen organizations around the country selected to help schools bring makerspaces and maker-based education to their own buildings. The **Making Spaces Initiative** is a partnership with Google, Maker Ed, and the Children’s Museum of Pittsburgh.

Bethesda Elementary School is among the schools working with KID on this initiative. The school is focused on tapping into the power of hands-on, project-based learning to meet the needs of all students with a special focus on students with learning disabilities. “This has a real buzz in the student community, and we’ve heard a lot from parents too. Families are very excited about seeing maker-based learning become more of a focus at our school,” said Rebecca Berman, a parent volunteer and co-coordinator of STEM events at Bethesda Elementary.

# APPRENTICESHIP & INTERNSHIP PROGRAMS

While most of KID Museum programs are geared towards elementary and middle schoolers, we also offer hands-on learning programs for preschoolers and programs for high school and college students.

In the **Apprenticeship Program**, KID educators and field experts provide high school apprentices with training in STEM and technical skills. Those students, under the guidance of our educators, then teach STEM and art-related hands-on programming to children ages 4-14. The high school apprentices are trained to know when to step back and let the kids figure things out on their own and when to intervene and assist.

Apprentices also have opportunities to take part in deep-dive professional development programs in selected disciplines, such as woodworking and 3D printing throughout the year. We offer fall, spring, and summer apprenticeship sessions. In 2016, about 100 young people participated in the program.

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## The hands-on experience I gained at KID definitely gave me a leg up in my first-year engineering curriculum.

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Taylor Anne Frey is now a Northeastern student who recently reflected on her time as an apprentice and its impact on her college experience. “The woodshop, the wind tubes, and the DrawBots were my favorite stations at KID Museum, and coming into work felt like I was a kid in a toy store every day,” Taylor recalled. “I was initially undeclared when I was accepted to Northeastern, but after working at KID for the summer, I was absolutely set on studying mechanical engineering. The hands-on experience I gained at KID definitely gave me a leg up in my first-year engineering curriculum.”

KID’s **Internship Program** is geared toward college students interested in project-based learning, maker education, museum management and more. Interns are involved in numerous aspects of KID Museum. Several have gone on to join our staff upon graduating. We generally have about a dozen interns at KID over the course of a year. Most are with us in the summer.

Northwestern University engineering and theater student Warren McQueary has been a volunteer and intern at KID Museum, most recently helping to lead a Harry Potter-themed camp. “I love KID’s approach. I wish I was exposed to more of this approach when I was younger, especially the hands-on, learning,” Warren said. “There are many topics that are much less accessible when approached through a lecture. By cutting that out and allowing students to simply try getting their hands on whatever field they’re studying, through directly engaging with the material rather than learning all manner of theory, these subjects become so much more familiar and less scary for students.”

Franklin & Marshall College student Isabelle Schellenger also participated in KID’s internship program. “I loved how KID emphasized educational growth, personal development, and fostering a sense of community in kids,” Isabelle explained. “At KID Museum, children cultivate a passion and a curiosity for learning by exploring a variety of different subjects from science to engineering to culture.”

Isabelle helped out with KID operations. “I genuinely enjoyed being a part of this intricate machine that is KID Museum,” she said, reflecting upon the experience. “The amount of passion that every member of the staff has towards the work that they do is contagious, and I can see how each kid is positively impacted by the guidance of the educators and the types of programs in which they participate.”



# AWARDS & RECOGNITION

- 1** The Catalogue for Philanthropy identified KID Museum as one of the best nonprofits in the Washington D.C. metropolitan area. The seal of approval is awarded annually to a select number of community organizations that have undergone a rigorous program review and financial assessment from the Catalogue.
- 2** Washingtonian Magazine named KID Museum “One of 24 Local Charities Worth Your Time and Money.”
- 3** Bethesda Magazine named KID Museum as one of the “Best Places to Take Kids.”
- 4** Fatherly, a national blog aimed at fathers, listed KID as one of the “12 Best Makerspaces in America Where Kids Learn to Create.”

## ***Previous honors also include:***

The White House Initiative on Educational Excellence for Hispanics recognized KID Museum’s work making a difference in the lives of Latino Youth

Washingtonian Magazine named KID as “Best New Creative Zone for Kids.”

White House Office of Science and Technology and Policy included KID Museum and its leadership in numerous activities including White House Maker Faire, the White House’s Hour of Code, roundtable on increasing diversity and opportunity in STEM education; and White House Tribal Youth Gathering’s Innovation Festival.



# CULTURAL PROGRAMS

At KID Museum, we encourage the exploration of world cultures and global citizenship through a variety of programs for children and families.

A highlight of our cultural programming is The World of Montgomery Festival, held each October. The purpose of the festival is to celebrate the rich diversity of Montgomery County through international music, food, dance, art, and maker-based activities, punctuated by the lively and popular Parade of Cultures. The 2016 festival drew close to 10,000 attendees from across the region.

KID Museum continues the cultural focus throughout the year with monthly Cultural Days, where we partner with embassies and organizations to highlight different countries with hands-on activities, performances, and explorations of cultural traditions. Countries featured this year included: Australia, Brazil, Japan, Mexico, Thailand, and Zambia.

During the summer, we offer week-long Around the World summer camps. This past summer highlighted Turkey, Indonesia, Italy, Mexico, and Japan. Campers loved getting their “passports” stamped when they moved from one project to the next, and the week culminated in a presentation for friends and family, where they wore traditional dress and showcased their projects.

Tania Tibincoski, mom of 8-year-old Nickolas, said the camp broadened her son’s horizons. “Around the World gave him the flavors of different countries,” she said. “Each day he came back home with different projects and information about the countries he was learning about. Around the World gave him the knowledge that I wasn’t always able to give him.”



*Performers from Thailand Day.  
December 2016*

## Income by Category



- Contributed Income: \$542,491**
  - Corporate: \$89,561
  - Foundation: \$158,028
  - Government Grants: \$148,986
  - Individual: \$145,916
- Earned Income: \$363,958**
- Gift Shop: \$7,121**
- In-Kind: \$225,134**

## Functional Expenses



- Program Services: \$931,597 (80%)**
- Management and General: \$151,458 (13%)**
- Fundraising: \$80,704 (7%)**

## Change in Net Assets

Net Assets (Beginning of Year)	<b>\$160,393</b>
Net Assets (End of Year)	<b>\$135,338</b>
Change in Net Assets	<b>(\$25,055)</b>

## Cash & Cash Equivalents

End of Year	<b>\$52,881</b>
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