

# NORTH PENN SCHOOL DISTRICT EDUCATIONAL FOUNDATION



2021-2022  
FUNDED GRANTS

## A Note from the Trustees:

For this year's grants the North Penn School District Educational Foundation awarded 42 grants totaling approximately \$47,000. These grants have benefitted students at each grade level.

Grants like these not only enhance the curriculum but provide a hands-on and innovative way for students to embrace and fully comprehend the lesson. When NPSD educators and staff apply for these grants, some think of how this experience will affect the student in the future. Science and technology grants allow students to understand theories at the next level of thinking. Other grants allow teachers to think about how this experience will benefit students socially and vocationally. We are sure that when you read through these grant descriptions you will see how these experiences allow our students to develop into better students and citizens. Without you and your generosity, the NPSD students and staff would not have access to these amazing opportunities.

### Friendly Monster Project

Gwynedd Square Elementary School and Pennedale Middle School, *Jessica Kenney*

1st grade students at Gwynedd Square Elementary designed their one-of-a-kind "friendly monsters." These monsters were sent to the 9th grade Family Consumer Science (FCS) students of Pennedale Middle School where they sewed the monsters and had them "come to life" as stuffed animals.

### Indoor Air Quality

North Penn High School, *John Collier*

This grant funded a Pocketlab Air module, which is a sensor that measures several air quality indicators, like carbon dioxide, particulate matter, ozone, and more. The sensor is used in the NPHS AP Environmental Science class, which is the highest enrollment AP course in North Penn for the previous school year. This allowed students to collect and analyze real-world data about the quality of our own air to better understand what factors contribute to air quality, and to design their own experiments to see what factors can impact air quality.

### Virtual Speaker Series

North Penn High School, *Dave Hall and Bob McCreary*

North Penn students went on a virtual tour to meet students their age in South Africa, Costa Rica, and the Dominican Republic. They also spoke with former and current inmates in learning about criminal justice. This grant helps utilize virtual meetings in a sociology class, bringing the world into North Penn classrooms.

### FCS Culinary Field Trip

Pennbrook Middle School, *Lauren Ewaniuk*

Pennbrook Family and Consumer Sciences (FCS) 9th grade major classes traveled to Montgomery County Community College's Culinary School to learn about the opportunities in the field of culinary arts. Students toured the facility, learned about their college program and teenage cooking classes, and got hands-on experience cooking in an industrial kitchen. Giving the students an opportunity to work in various types of kitchens and learn about career opportunities helped inspire students to continue with the education in FCS at NPHS and beyond.

### Nanotechnology and Engineering Research

North Penn High School, *Mike Boyer*

The Future is N.E.A.R. (Nanotechnology Education and Research) is a STEM education research program that parallels the senior capstone course, Engineering Design and Development (EDD), of the North Penn High School Engineering Academy. With this grant, students worked in design teams, utilizing a combination of creative problem solving and the latest published research available to improve the human condition by researching and developing solutions to global energy, environment, and healthcare issues that capitalize from fundamentals of nanotechnology and cutting edge engineering research.

### Kids Service Project

North Wales Elementary School, *Tracy Schaefer*

North Wales Elementary students participated in a project that brings warmth, some comfort, and nourishment for those in need. Students in grades 4, 5, and 6 participated in a Sock Roll Challenge. Each student created a sock roll made up of a pair of socks wrapped around a granola bar, a pack of crackers, and a note with a personalized message for community members experiencing homelessness. This project showed students the importance of helping others and giving back to the community.

### Farm to Table Hydroponic Garden

Pennfield Middle School, *Leslie Fulp*

This grant allowed for a fully inclusive student body to teach students how to become self-sufficient in the farm-to-table environment. Students worked independently and grew part of their food for their Family and Consumer Science classes.

### Physical Computing with RaspberryPi

North Penn High School, *Michael Voicheck and Curt Reichwein*

Students in the engineering program at North Penn High School learned physical computing through microcomputers, allowing them to analyze and develop solutions to real problems. Through the use of the RaspberryPi microcomputer and basic Python programming, students manipulated real-world data and control electronic devices with coding and circuit building.

### Communication Board for Elementary Playgrounds

All Elementary Schools, *Michelle Kusturiss and Jessica McCollian*

Communication boards installed at each of North Penn's 13 elementary school playgrounds provided a means for students of all communication abilities to connect with each other and their educators. These bilingual picture communication boards created an inclusive environment for all students, but particularly those with communication disabilities, autism spectrum disorders, and/or limited English language proficiency. The use of the communication boards also promotes awareness, understanding, and acceptance of picture-based communication systems and the individuals who use them. Approximately 6,500 elementary students across the district in kindergarten through 6th grade, as well as community members who use the playgrounds outside of school hours, benefit from the use of the communication boards.

### A Path to Proficiency

Gwynedd Square Elementary School, *Stacey Moyer, Kelly McCarthy, Megan Dolan, and Rosemary Hilsey*

The 1st grade teachers of Gwynedd Square used this grant to purchase diverse literature selections to help students grow, learn, and value different cultures and heritages. Through these books and related teachings, acceptance, respect, and self-worth will be emphasized and celebrated. Each year approximately 75-100 students will be reached by using these books, thereby opening the doors for future teachers to build on this foundation, and empowering students to become more loving, respectful, and accepting people.



### **PixtonEDU Subscription**

Gwynedd Square and Oak Park Elementary Schools, *Margaret Ridge*

PixtonEDU can be used in grades K-6 at Gwynedd Square and Oak Park with their gifted support teacher, Mrs. Ridge. Students used PixtonEDU as a tool to create graphic novel-like stories. This software can be used for English language arts, content, and even math. Students created stories to share with other grades to build connections across grade levels.

### **Modern Classrooms Project**

Pennfield Middle School, *Joann Samuel*

Have you wondered what it would look like if schools placed learning right in the hands of the students and gave them control? This is what Pennfield tried this year with the modern classrooms model, building a mastery-based, self-paced classroom. By placing students in control of their learning, they not only learn math content but also self-regulation. They were able to figure out ways to learn a new concept that they can take with them into not only their classes, but their life outside of school.

### **Trip to Elmwood Park Zoo**

York Avenue Elementary School, *Tami Cantilina*

Students in the English Language Development (ELD) program at York Avenue explored the wild world of animals at the Elmwood Park Zoo! 22 students in grades 1-6 spent the day learning about animals by observing them in their habitats and by attending a nature show. This gave them a shared experience that they can write and talk about.

### **Light Up Learning**

Gwynedd Square Elementary School, *Stephanie Brecht*

Light Up Learning provided students with the gift of seeing their manipulatives on a whole new level. Having a lightbox in the classroom allowed students to interact with transparent manipulatives to build, explore, and create across all content areas. The materials gave students an opportunity to practice a range of skills from fine motor to cooperation.

### **Culturally Cooking Club**

Pennbrook Middle School, *Pennbrook FCS Department*

The Pennbrook Family Consumer Sciences (FCS) Department created a cooking club that focuses on diverse foods from around the world. Students researched recipes, heard the historical background, learned international cooking techniques, and sampled foods from different cultures around the world.

### **The Butterfly Guy Presentation**

Bridle Path Elementary School, *Jennifer Oakes, Kate Huynh, Teresa Young, and Maddi Clugston*

2nd graders at Bridle Path got up close and personal with butterflies and moths from around the world. "The Butterfly Guy", Rick Mikula, presented a high-energy performance while sharing dozens of mounted specimens to demonstrate camouflage, disguise, and survival. The students also learned how to raise butterflies and moths using simple recyclable items. They learned how to attract pollinators to their own gardens to increase their population. This special presentation was a wonderful enrichment to the students' scientific study of Insects and Plants and their raising of Painted Lady Butterflies in the classroom.

### **Kinder "Garden" Patio**

Oak Park Elementary School, *Christina Bortnichak and Deb Milano*

Oak Park is fortunate to be surrounded by natural beauty, named for the majestic Oak trees surrounding the school. This is the type of natural, experiential learning that can take place daily in the Kinder Garden Patio Outdoor Learning Space. The tables provide a peaceful and engaging space for kindergartners to read, write, draw, explore, observe, and use their senses to connect with their natural world. Families can bring their children on the weekends and over the summer to show and share what they learned at school.

### **Gizmo Grant**

North Penn High School, *Eric Weathers and Daniel Krueger*

Gizmo simulations is an online platform that can be utilized by teachers to improve learning. These simulations help students to comprehend difficult concepts and bring the biology curriculum to life. This grant gives students the 21st century skills that are needed to succeed in the future.

### **Splitting Light- Atomic Spectroscopy**

North Penn High School, *John Collier and Pat Dougherty*

This grant purchased 2 lab-grade spectrometers for use in NPHS chemistry classes. A spectrometer splits light into the colors that make it up. Students used this in class to identify which elements are present in a sample, which is part of the chemistry curriculum.

### **Race for the Sun**

North Penn High School, *John Collier*

This grant purchased solar car kits from Carolina Scientific for use in AP Environmental Science at North Penn High School. With the kits, students teamed up to design, build, and race solar-powered cars. Solar power is part of the AP Environmental Science curriculum, as are many elements of engineering and problem solving.

### **Sphero Robotics**

All Middle Schools, *Nicasio Lorenzo and Andrew Hollstein*

This grant provided funding for the technology and engineering department to purchase the Sphero Bolt Robots for all three middle schools. Approximately 4500 students across the middle schools will have the opportunity each year to use and learn to code the robot. The activity allowed students to make connections with other subject areas, like science and math, by applying what they have learned in those subject areas into coding activities.

### **Impact of Geometry in Structure Design**

Pennbrook Middle School, *Andrew Hollstein*

Using math, science, and the brain, students are challenged to design the strongest structure possible. Students discover why geometry and physics are such important concepts to understand as they learn how bridges, buildings, and other structures, are created to sustain such incredible forces. Students researched ideas, designed structures, and tested strength on a stress analyzer to see the effectiveness of the design.

### **Kangaroo Club**

York Avenue Elementary School, *Von Muller*

Kangaroo Club is a program that encouraged students to be physically active and builds cardiovascular endurance by learning how to jump rope for extended periods of time. Students in grades 3-6 were tested at the end of each month for Kangaroo Club in physical education class as students attempted to jump rope consecutively without any mistakes for a certain amount of time. Students earned incentives such as bracelets and jump ropes.

### **Culturally Responsive Classroom Library**

Oak Park Elementary School, *Nicole Lanetti, Meghan Kosydar, and Danielle Snyder*

The 1st grade students of Oak Park Elementary School benefited from this diverse addition to their classrooms. Having a new culturally responsive library where students can choose books from helped to develop an inclusive community of readers. This classroom library also allowed for choice among a wide variety of texts and levels that are more relatable and engaging to our students.

### **Student Constitutional Rights Institute**

All Middle Schools and North Penn High School- *Dave Hall, Dr. Lauren Ewaniuk, Tara Kadyszewski, and Florence Wydra-Gat*

The Student Constitutional Rights Institute is a collaboration to teach students about LGBTQ+ issues and the Constitution. Supporting organizations of this North Penn Educational Foundation program include the Pennsylvania Council for the Social Studies, Montgomery County Bar Association, and Montgomery County Courts.

### **CIM - RVR + Little Bits AGV Kits and Sphero Bolts**

North Penn High School, *Curt Reichwein and Drew Daubert*

This grant funded new devices which provided opportunities for students to go farther in the design process by adding elements that can be added to the RVR platform. The Sphero Bolts allowed students to code several robots at once which communicate with each other to complete a series of tasks. The Little Bits Kits allowed students to design solutions to various challenges while building up their coding skills.

### **Pre-Algebra Document Camera**

Pennbrook Middle School, *Erica Volm*

This grant provided a 7th grade math classroom with a document camera. This camera is used on a daily basis to display student work during lessons, present 3-D objects in the geometry unit, record support videos or lessons for students, and provide a consistent form of instruction in the event of virtual or hybrid learning. All students, present and future, benefit from this grant as they deepen their understanding of algebraic thinking.

### **Laser Cutting in the Manufacturing World and Beyond**

North Penn High School, *Julia Young*

Laser cutting is a cutting-edge technology that allows students to think outside of the box. Students can cut, engrave, and design their own projects that can solve everyday problems. The Glowforge laser is a student-friendly machine that allows anyone who uses it the ability to dream of many different ideas and bring them to life.

## **EITC: YOUR BUSINESS + NPSD + OUR STUDENTS = A WINNING COMBINATION**

NPSD Educational Foundation has been approved by the PA Department of Community and Economic Development (DCED) as an Educational Improvement Organization (EIO), meaning that our organization can accept Pennsylvania Educational Improvement Tax Credit (EITC). The EITC makes it affordable for you to contribute to the education of Pennsylvania's children and make a footprint in our community.

## Ukuleles

Gwynedd Square Elementary School, *Noelle Horrell*

The Ukelele Project at Gwynedd Square transformed the music class experience for over 500 students in grades K-6 each year. The students not only learned how to play an instrument they hear on the radio, but learned how to compose songs, read chord symbols, and perform in an ensemble. The Ukelele Project empowered students to take what they learn in class and connect it to music in their everyday lives, sparking joy for learning in all students.

## Children's Literature and STEAM Activity Boxes

All Elementary Schools, *Marjorie Scott*

The Extended School Care Program received a grant that allowed them to create 4 STEAM activity boxes, shared among the 13 program locations. The boxes feature children's stories that teach concepts such as resilience, perseverance, kindness, estimation, creativity, and thinking outside the box. Art and science activities accompanied each book which provide enrichment opportunities and reinforce the concepts of math, science, and art.

## Video Editing

Gwynedd Square Elementary School, *Derek Fickert*

This grant provided Gwynedd Square 6th grade students the ability to produce quality videos of assemblies and special events for students and the community to access in a timely fashion. Students learned how to utilize editing software such as Final Cut Pro and iMovie to produce a final product of prerecorded events. This educational tool helped provide students with a better opportunity to be successful with 21st century skills.

## Embryology in the Classroom

Knapp and Walton Farm Elementary Schools, *Melissa Walsh*

Gifted students at Walton Farm and Knapp Elementary schools developed an understanding of biology concepts through the Embryology in the Classroom program from 4-H. During this program students had direct experience with living things, their life cycles, and their habitats, in particular the chick embryo development from a fertile egg up through the hatch. They studied the process of the developing embryo and observe the various stages of development. Lastly, students researched and evaluated the assertion that eggs should be harvested from free-range chickens rather than caged chickens.

## Elementary Classroom to Cafeteria Hydroponics Project

Hatfield, Knapp, AM Kulp, and Oak Park Elementary Schools, *Melissa Froeblich and Jonathan Winkle*

North Penn elementary schools, in partnership with North Penn School Nutrition Services, embarked on growing produce locally through hydroponic gardens maintained by intermediate elementary students. Students gained knowledge in the area of maintaining a hydroponic garden, as well as the various components that enable the successful growth of crops. The final products were served in our elementary cafeterias to enable students to experience the complete process of plant growth to consumption.

## Help Hatfield Play On!

Hatfield Elementary School, *Erica Johnson*

This grant provided ten additional xylophones and metallophones to the general music classroom at Hatfield Elementary. All Hatfield students had access to an entire classroom set of barred instruments that provided 1 to 1 opportunities for all students to explore, learn, create, and perform regularly. This project reached 485 students in the school.

## Math Enrichment

Montgomery Elementary School, *Melissa Deets*

This grant gave the 5th grade math students at Montgomery Elementary the opportunity to grow as critical thinkers and problem solvers by focusing on hands-on activities. These activities provided opportunities for them to continue learning beyond the regular curriculum, including STEM activities, games, brainteasers, and puzzles that helped them grow as learners in math, science, and even English language arts.

## Art: Graphic Design

North Penn High School, *William Raab*

Students in the Electronic Art & Graphic Design Class at NPHS experienced what it is like to work in the graphic design industry through thought-provoking lessons. They created a fictitious company, design aesthetics for the brand, and produced a prototype product. With a vinyl cutter, students took this one step further and created tangible products associated with their design, such as stickers and t-shirts with the logo of their company. In addition to the cutter's design applications, the art department used the cutter across disciplines to create stencils for screen printing, resist templates for glazing and stamps in ceramics, and to cut intricate shapes in various materials for a sculpture class.

## Engineering Projects in Community Service (EPICS)

North Penn High School, *Mike Boyer*

Students in the EPICS Club at North Penn High School worked to develop solutions to problems in the local community while learning about the engineering design process. Students became civically engaged in the engineering design process to improve the community for all.

## Bilingual Picture Books

Inglewood Elementary School, *Allison Detweiler*

This grant purchased bilingual picture books written in a variety of languages and English, providing literacy opportunities for multilingual students and their families. Students gained access to books they can enjoy reading with their families which will encourage language development, comprehension skills, and foster a love of reading at school and home. All current and future students are able to enjoy the books and gain an appreciation for other languages and cultural diversity.

## NPenn Secondary Strings Go to the Sellersville Theater

All Middle Schools and North Penn High School, *Blair Cunningham, David Pimentel, and Erica Milbourne*

Orchestra students from the middle schools and NPHS traveled to see a performance by Scottish fiddle/cello duo Alasdair Fraser and Natalie Haas, in partnership with Sellersville Theater. The orchestra students at North Penn are trained primarily in a Western classical music style and their performance inspired students to create and perform music outside of their comfort zone. This trip was memorable and motivational to all secondary orchestra students at North Penn who may not have had the opportunity to observe high-quality live music.



THE NPSD EDUCATIONAL FOUNDATION &  
THE NP ALUMNI ASSOCIATION:  
A PARTNERSHIP WITH THE PAST FOR THE FUTURE

**NORTH PENN  
ALUMNI  
ASSOCIATION**



In 2012, the NPSD Educational Foundation, in conjunction with NPSD administration launched the North Penn Alumni Association as a committee of the Foundation. The association's mission is to encourage networking and communication among North Penn School District alumni and to help maintain and enhance the legacy of North Penn schools for future generations. We hope to see more graduates join us for NPSD and Foundation events, attend reunions and stay informed on the happenings of the district.

We see that NPHS graduates do great things, but what is the most amazing is the pride one takes in saying they are a graduate of North Penn High School. Whether a member of the Class of 2022 or someone who is celebrating their 50<sup>th</sup> reunion, alumni see North Penn High School as a place that helped to shape them into whom they are today. We are confident that with the support of the community and the 40,000 NPHS graduates, the North Penn Alumni Association with help the Foundation in leaving a lasting effect on our students and North Penn School District. For more information on the North Penn Alumni Association, please visit [www.NorthPennAlumni.org](http://www.NorthPennAlumni.org).

