



Hands-On After-school STEM Club: To Zoom or Not to Zoom?

Mary Kelly, Family Engagement Coordinator
21st Century Illinois Virtual Spring Conference
May 7, 2021 10:50-11:50 am

Key Topics Today



- Facilitating hands-on STEM activities in a virtual or non-virtual setting
- Developing effective partnerships between business and community and our after-school program
- Shared discussion of family engagement events based on STEM activities

About Beyond The Bell



Program Purpose



- Create Community Learning Centers that provide academic enrichment opportunities during non-school hours for children.
- Help students meet state standards in core academics like Reading, Math and Science.
- Offer students a broad array of enrichment activities that can complement their regular academic programs.
- Offer literacy and other educational services to families of participating children.

COMMUNITY LEARNING CENTER PROGRAMS

After/Before School Clubs

Grow! Club

Math Recess

Beyond The Page

Club Wild!

Icky Science

Club Invention

Boost!(Before School)

Libraries & Literacy (6 Saturdays)

-Each grade has a time slot (1 hour)

-Read Aloud & Home Literacy Kit

Academic Support

Ask A Teacher! (optional)

Summer

Scholastic LitCamp and Camp Invention

Family Engagement

Monthly Meetings (continuous feedback loop)

Year 1 Schedule

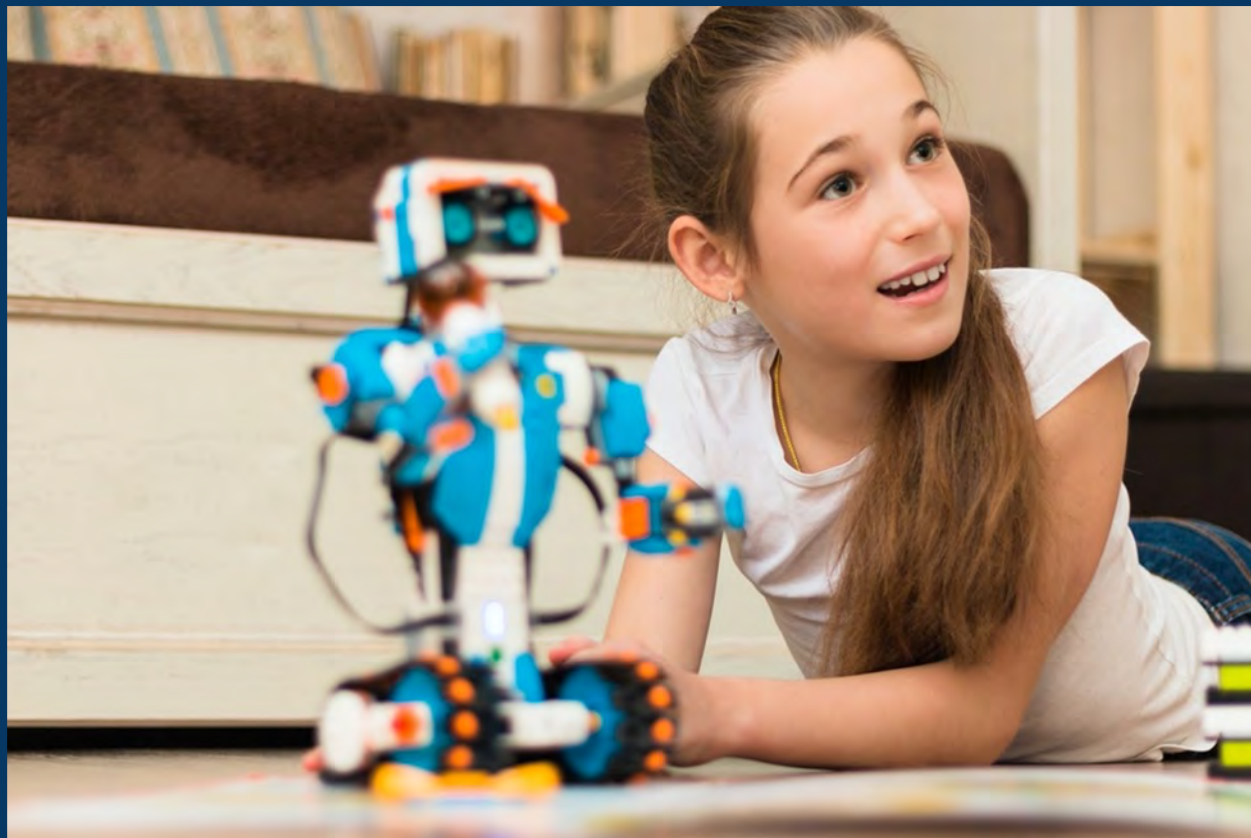
Students Attend Most Blue, Green & Orange. Families Attend Red.



Begin Week of February 15 and Finish Week of May 24, 2021. Spring Break Week of March 29.

| | | | | | |
|---|---|-------------|---|-------------|---|
| Monday | Boost! Teachers: Dr. Bell & Naperville Public Library | 8:00-9:00am | Beyond The Page Teachers: Ms. Walsh & Dr. Walther | 4:00-5:30pm | Ask A Teacher! 6:30-7:30pm https://ipsd.zoom.us/j/98754957420 |
| Tuesday | Icky Science 3-5 Teachers: Mr. Ragusa, Ms. Ragusa & Dr. Bell | 4:00-5:30pm | Camp Invention Georgetown Teachers: Ms. Grecu & Ms. Cossyleon/Longwood Teachers: Ms. Black & Ms. Murphy | 4:00-5:30pm | Ask A Teacher! 6:30-7:30pm https://ipsd.zoom.us/j/98754957420 |
| Wednesday | Math Recess Teachers: Ms. Palmquist & Ms. Czaplewski | 4:00-5:30pm | Club Wild! Teachers: Ms. Rahman, Dr. Bell & Hidden Oaks Nature Center | 4:00-5:30pm | Ask A Teacher! 6:30-7:30pm https://ipsd.zoom.us/j/98754957420 |
| Thursday | Icky Science 3-5 Teachers: Mr. Ragusa, Ms. Ragusa & Dr. Bell | 4:00-5:30pm | Grow! Club Teachers: Ms. Eaton, Ms. Mathews, Ms. Brouch & Ms. Sanders | 4:00-5:30pm | Ask A Teacher! 6:30-7:30pm https://ipsd.zoom.us/j/98754957420 |
| Saturday Program Offered 10 hours/month=2.5hrs/wk | All Students on March 6, March 20, April 10, April 24, May 8 and May 15 https://ipsd.zoom.us/j/99370271597 9-10am (Grade 1), 10-11am (Grade 2), 11-12pm (Grade 3), 12-1pm (Grade 4) and 1-2pm (Grade 5) | | | | |
| Family | 7:00-7:30pm: February 1, February 10, March 3, April 7, May 5 and June 2 https://ipsd.zoom.us/j/97761878328 | | | | |
| Summer | All Students: June 10 Orientation, June 14-17, June 21-24, June 26 Outing and June 28-30 | | | | |
| Total (13.5 Hours Per Week) | 20 Club Days + 6 Family Engagement Events + 1 Materials Day + 13 Summer Days = 40 Days | | | | |

Club Invention



This Year
Putting
\$15,250 of
Materials
Into the
Hands of
Students
(KEEP IT)

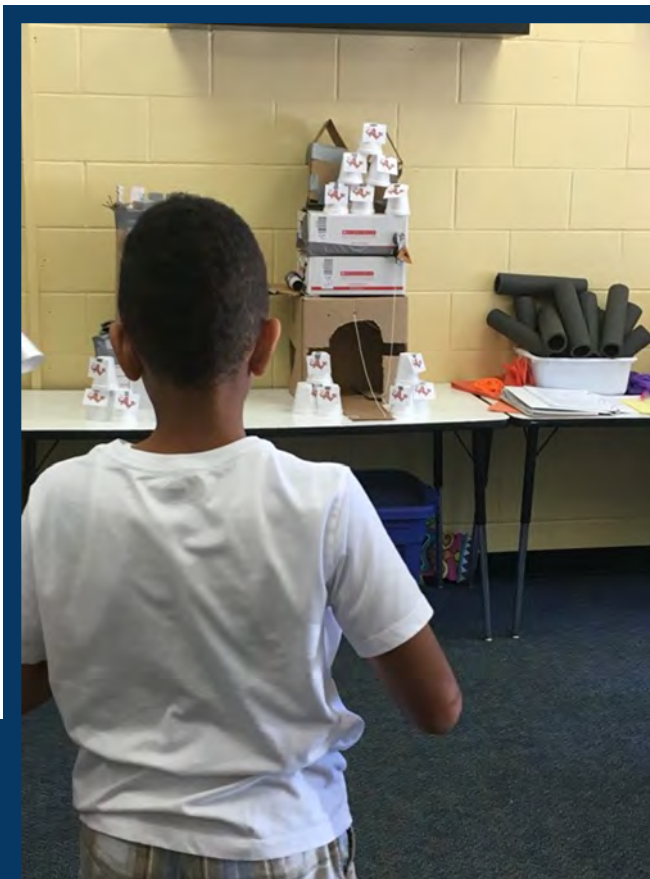
Club Invention (Tuesday 4-5:30pm Zoom)

Teachers This Year
Ms. Black, Ms. Grecu
Ms. Cossyleon and Ms.
Murphy

Materials (Keep)
Club Invention All
Inclusive Kits (5
Modules)

Zoom Activities
Coding, **Robots**, Cars,
Building Structures
and Careers.

30 Students/School



Grow! Club



This Year
Putting **\$6,460**
of Materials Into
the Hands of
Students
(KEEP IT)

Grow! Club (Thursday 4-5:30pm Zoom)

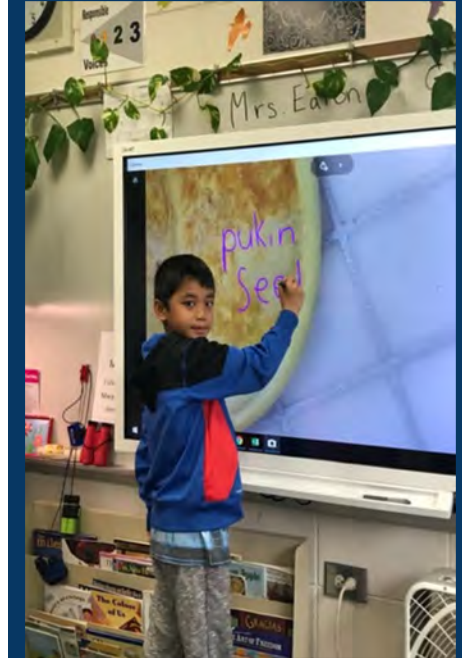


Teachers This Year
Ms. Brouch, Ms. Eaton,
Ms. Mathews, Ms.
Sanders (ELL/Reading)

Materials (Keep)
Aerogarden Harvest,
Seed Kits, Hand Lens,
Journal & Color Pencils

Zoom Activities
Grow Herbs/Lettuce,
Hydroponics, Roots, Soil,
Seeds, Read Plant
Stories, Microscope
Observations, Careers,
Science Journal & Guest
Speakers.

30 Students



Icky Science



This Year
Putting **\$7,495**
of Materials Into
the Hands of
Students
(KEEP IT)

Icky Science (Tuesday or Thursday 4-5:30pm Zoom)



Teachers This Year

Ms. Ragusa, Mr. Ragusa and Dr. Bell

Materials (Keep)

8 Science Kits (A Lot of Materials)

Zoom Activities

Engineering, Slime, Crystals, Geodes, Dissect Owl Pellets, Snap Circuits, Build with Kinex, Goggles, Gloves, Hand Lens, Color Pencils, Science Journal & Guest Speakers (Scientists).

30 Students **Grades 3-5 This Year**

Supervision Required At Home

Math Recess



This Year
Putting
\$4,987 of
Materials
Into the
Hands of
Students
(KEEP IT)

Math Recess (Wednesday 4-5:30pm Zoom)



Teachers This Year
Ms. Czaplewski and
Ms. Palmquist

Materials (Keep)
Uno, Connect Four, LEGOS,
Quirkle, Tenzis, Dot
Notebook & Color Pencils

Zoom Activities
Each week's focus will bring
math to life through games,
art, building and more. It will
be exciting!

30 Students

Club Wild!



This Year
Putting **\$5,330**
of Materials Into
the Hands of
Students
(KEEP IT)

Connection to/Building Upon District 204 Initiatives



Program Designers
Ayesha Rahman (ELL-
Watts), Tara Bell

ELL Initiatives and
Successful Previous
Partnerships with Hidden
Oaks Nature Center
Naturalists (Title Projects)

Topics: Animals, Plants,
Nature Hikes, Collect &
Study

Club Wild! (Wednesday 4-5:30pm Zoom)



Teachers This Year
Ms. Rahman & Dr. Bell

Materials (Keep)
Owl Pellet Dissection Kit, Nature Journal, Autofocus Binoculars, Color Pencils, Goggles & Hand Lens.

Zoom Activities:
Each week Hidden Oaks Nature Center will bring the Wild indoors through Zoom! They will share stories, show us things from nature, we will observe them, draw in a Nature Journal and get ideas for exploring our area!

30 Students/School

Boost! Club



This Year
Putting **\$5,184**
of Materials
Into the Hands
of Students
(KEEP IT)

Boost! Club (8:00-9:00am Monday Zoom)



Teachers This Year

Dr. Bell & Naperville Librarians

Materials

At Home Math Kit, Versatiles Literacy Kit and STEM Activity Bin

Zoom Activities

Reading and Math with Hands-On materials and build structures with STEM bins. Interactive activities designed to support home and school connections, address learning loss from COVID and Zoom with the Naperville Public Library for interactive stories!

30 Students/School

Beyond the Page (Monday 4-5:30pm Zoom)



This Year
Putting
\$7,316 of
Materials
Into the
Hands of
Students
(KEEP IT)

Connection to/Building Upon District 204 Initiatives



Program Designers

Dr. Maria Walther

Jessica Walsh

K-8 Demonstration
Classrooms

Volume Reading
Initiatives

Social Studies
Curriculum Revision

Maria & Jessica's
VERY popular PD
classes for K-8
teachers



Libraries & Literacy



This Year
Putting
\$6,372 of
Materials Into
the Hands of
Students
(KEEP IT)

Libraries & Literacy (6 Saturdays Zoom)



Program Designers*

Mary Kelly, Mimi Raczak & Tara Bell

*We do not expect school librarians to commit to Saturdays for 5 years.

Materials

At Home Literacy Kit

Zoom Activities

Provide ALL 300 students with literacy support, read alouds, tutoring, independent reading and skills practice that they can continue at home with families.

Dates _____ March 6,
March 20, April 10, April 24, May 8 and
May 15 (1 hour)

ALL 300 Students

Summer 2021 (In Person)



This Year

Camp Invention

\$19,500 Materials

Georgetown &
Longwood Teacher
Pay + Benefits

\$31,627

Total = **\$61,877**

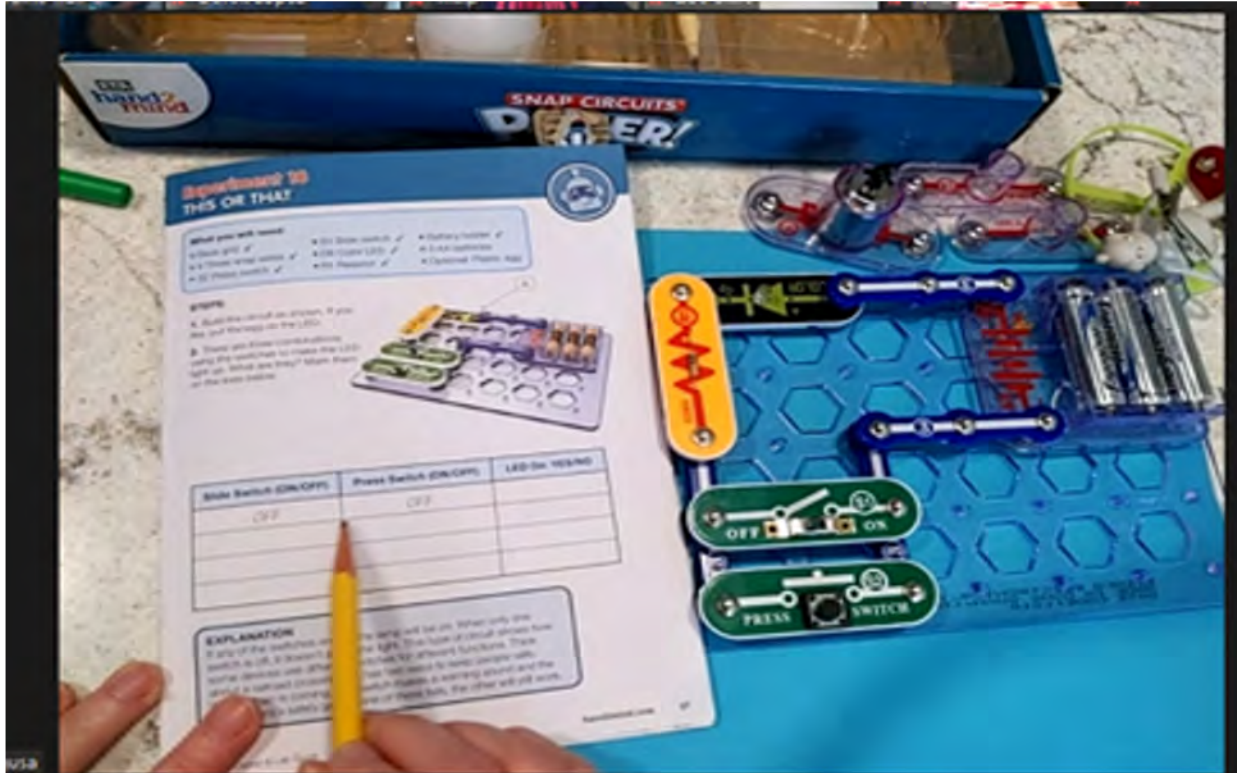
Hands on Activities on Zoom: An Oxymoron?

In addition to the usual remote strategies:

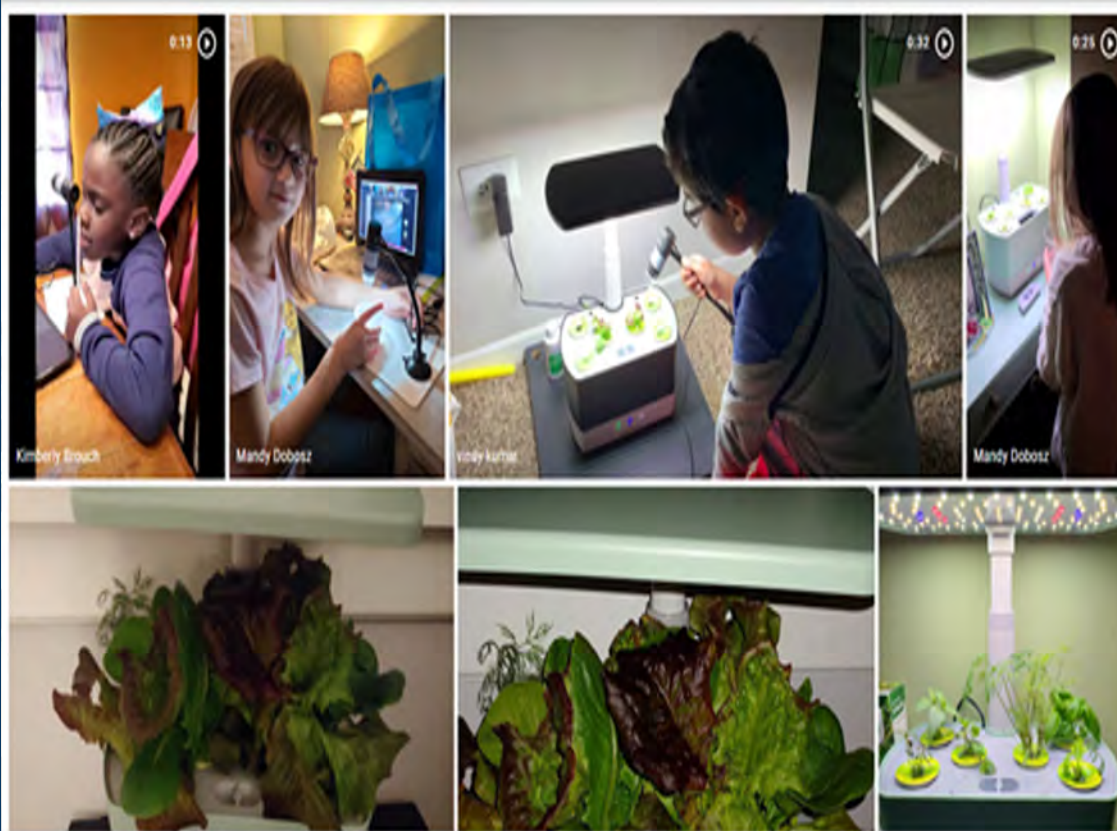
1. Album with student photos and videos
2. Digital journals and books
3. Industry partners on Zoom



The usual remote learning techniques



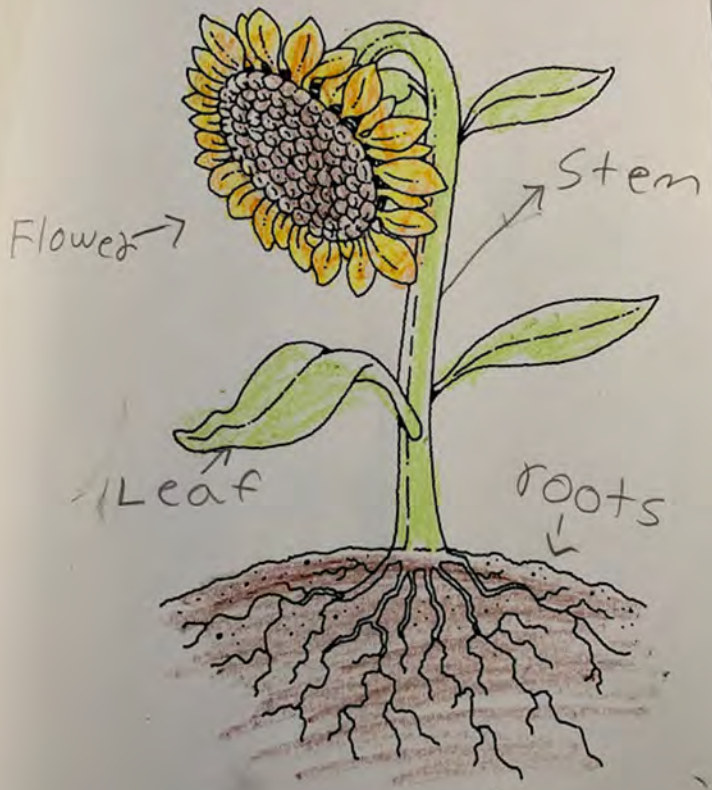
Uploaded Student Photos and Videos



Teachers have created Google Albums where students can upload photos and videos of their projects.



Name Nagarsi Patuni

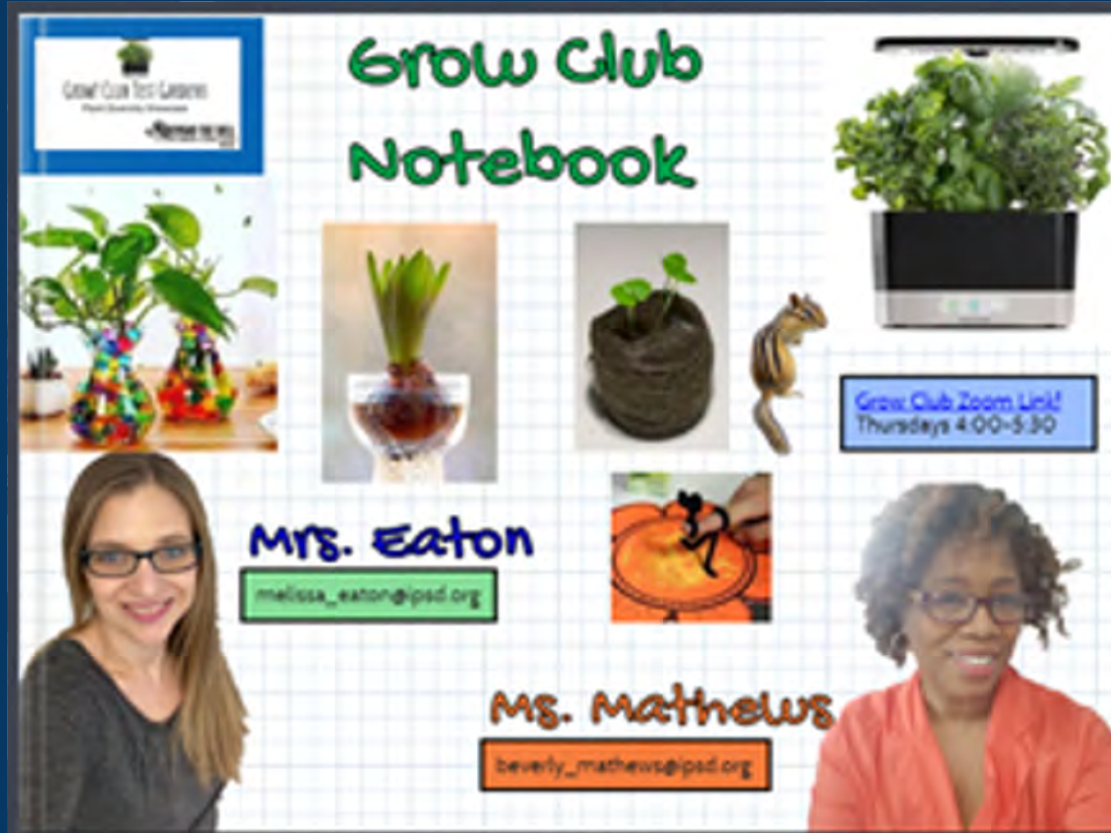


Favorite student video

<https://photos.google.com/share/AF1QipOXk9HrlxH5pBGTyuEobjnGq7IchsgaIPPbc893ganu--rXCLYhNEYxJ0Ahf5d2jQ/photo/AF1QipMJTh68iVZCqEbPAbMjITZ7kbhonEEZ3L3nPWhi?key=VFd6a3oxRjRINTFvQmx1bThxN0d3>



Digital Journals and Notebooks



The image shows a digital notebook cover for 'Grow Club'. The title 'Grow Club Notebook' is written in large, green, bubbly letters at the top. Below the title, there are several images: a potted plant in a colorful vase, a plant in a glass jar with water, a small plant in a dark pot, a chipmunk, and a plant in a black pot on a stand. A blue box on the right says 'Grow Club Zoom Link! Thursdays 4:00-5:30'. At the bottom, there are two photos of women: Mrs. Eaton on the left and Ms. Mathews on the right. Mrs. Eaton's name and email 'melissa_eaton@psd.org' are in a green box. Ms. Mathews' name and email 'beverly_mathews@psd.org' are in an orange box. A small illustration of a person on a wheel is also visible.

Grow Club Notebook

Grow Club Zoom Link!
Thursdays 4:00-5:30

Mrs. Eaton
melissa_eaton@psd.org

Ms. Mathews
beverly_mathews@psd.org

<https://read.bookcreator.com/NxSB3JRoyTdbOzKgNQ5SDDC7BE3/YL6NuqPFRUiguwSs1xLL2w>

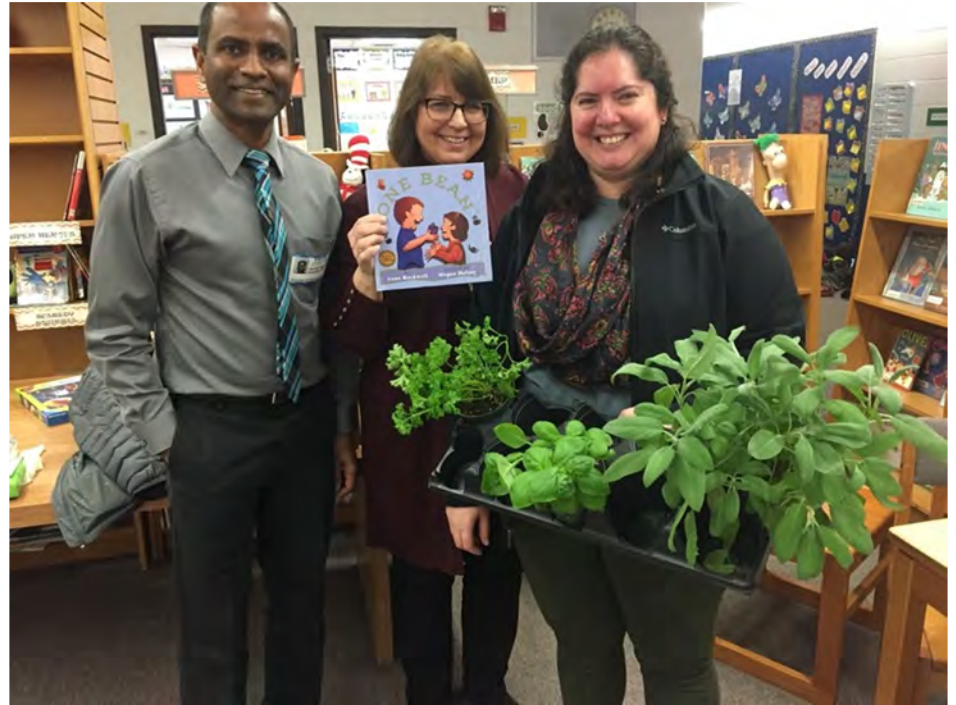
Business and Community Partnerships



Business and Community Partnerships

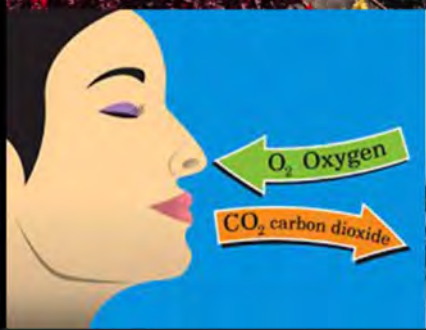


Partnership: Ball Horticultural Company



Project SMILE introduced Arlene to Dr. Alappat from Ball Horticultural. She worked with him and Cheni Filios on her Action Research Project. Dr. Alappat is an organic chemist.

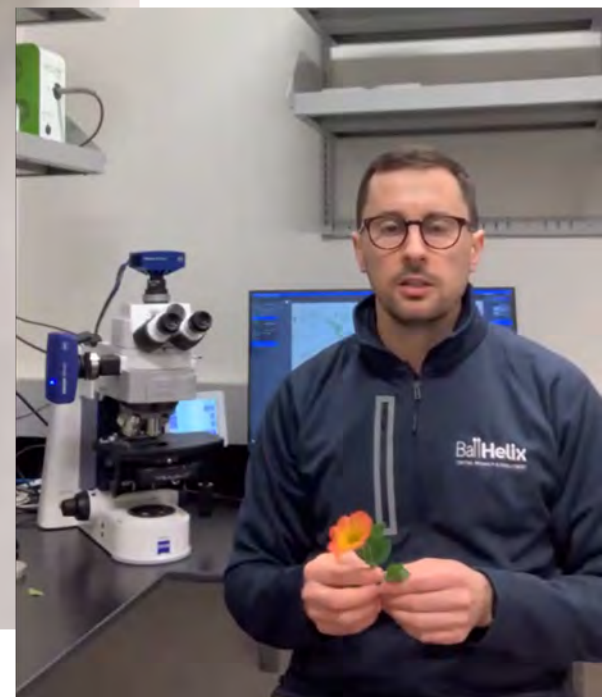




A Visit from Plant Scientists

From Ball Seed Company







Plant facts

- Some Plants are carnivores like the Venus Flytrap
- Sunflowers can be used to remove dangerous chemicals from the soil
- Pumpkins are technically a fruit because they contain seeds
- Plants come in many colors, shapes and forms.

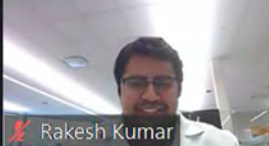




Melissa Eaton



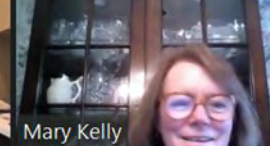
Beverly Mathews



Rakesh Kumar



Megan Bowm...



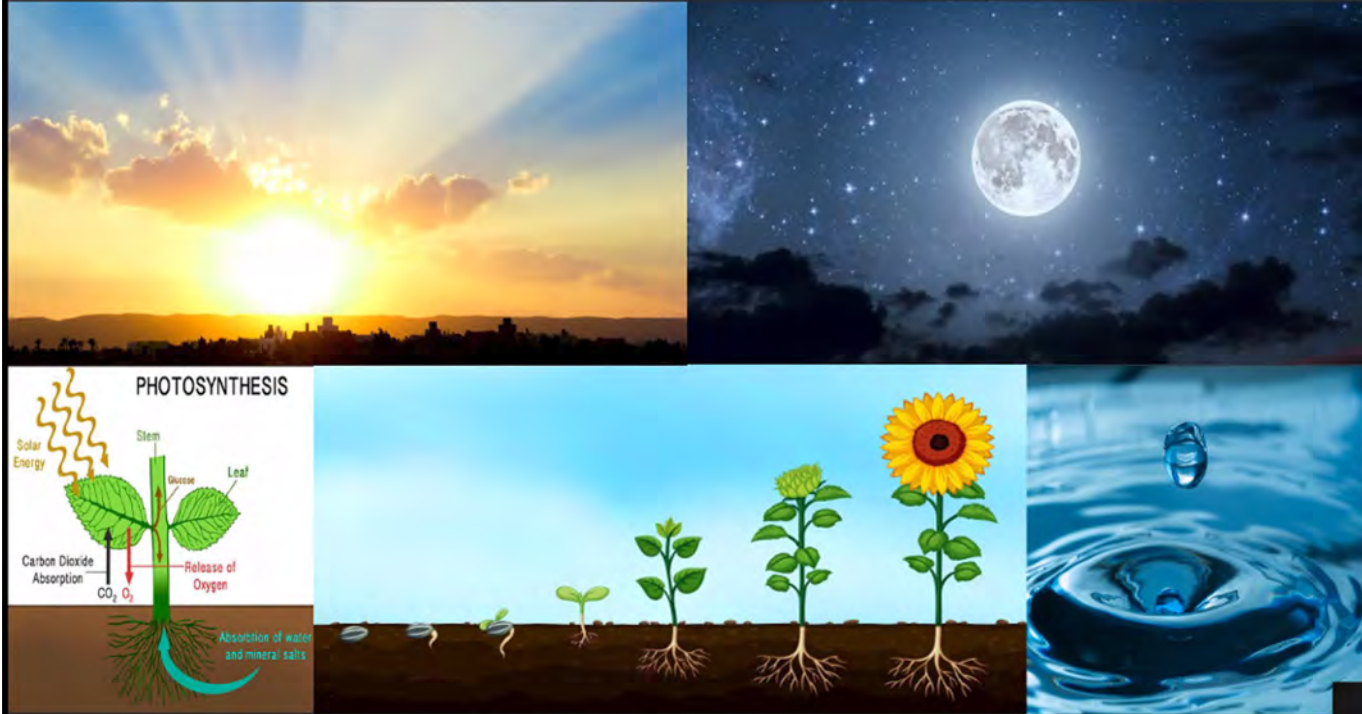
Mary Kelly



Abigail Hoep...



How do plants grow?



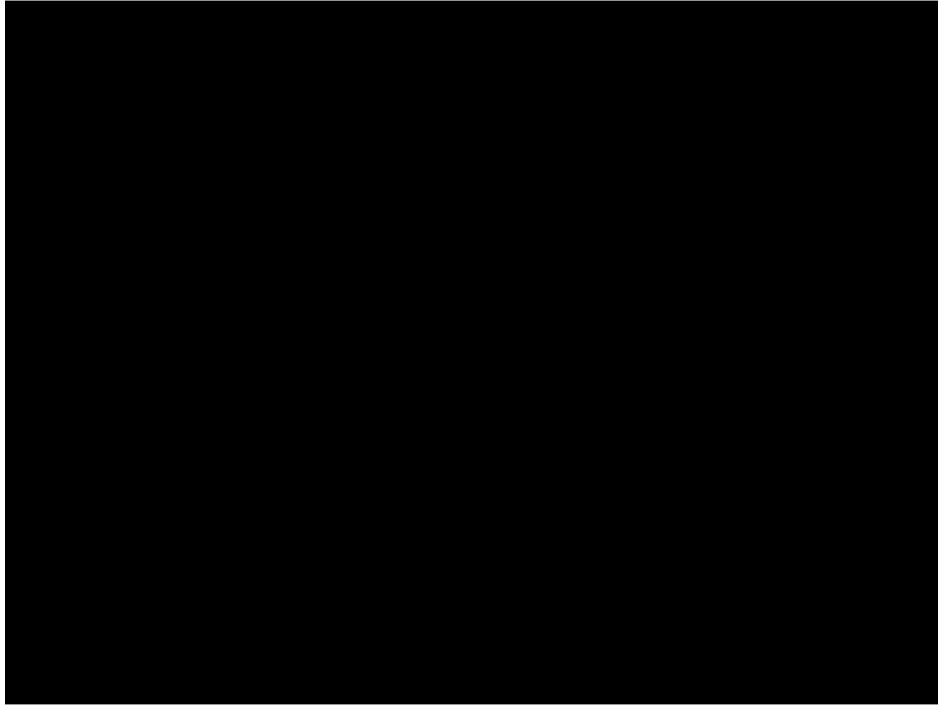
Partnership: Hidden Oaks Nature Center



Owl Pellet Dissection Via Zoom



Partnership: Aerogarden



Partnership: Wildcat Summer STEM



Partnership: ETA Hand2Mind



Partnership: QuesTek Innovations



Partnership: National Inventors Hall of Fame

Innovation Force

Robotic Pet VET

Bot Ann-E

DIY Orbot

Optibot



Partnership: Retired Teachers

- Have the time to teach after-school and Saturdays
- Familiar with district goals and objectives
- Experience with district curriculum



Family Engagement



First Friday of each quarter:

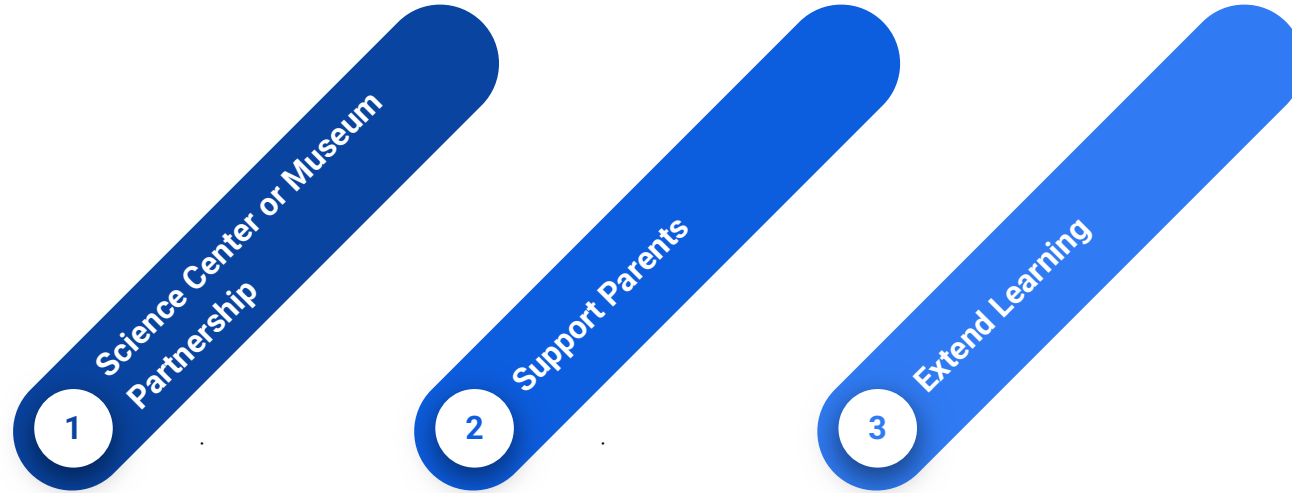
1. District planetarium family night
2. STEM night
3. Literacy focus
4. Bilingual family focus

In addition:

-Host Monthly Family Zoom Meetings (source of support and feedback for families)



Best Practices in Developing a Family Science Program



Ennes, M. and Jones, M.G. 2021. Building a Science Community. *Science Scope* 44 [4]:29-35.

Let's share our Family Engagement Events

- What have been successful events for you?
- What made these events successful?
- How did you insure family attendance?
- What resources were required?
- How did you extend the learning beyond the event?