Keeping It Fresh: Creating and Sustaining a Maker Culture that Motivates Teens

Alisha Wilson

2017 School Library Journal MAKER HERO SCHOOL LIBRARIAN of the YEAR

INNOVATOR
Follett Challenge

Teacher-Librarian
Booker T. Washington High School Innovation Center
(Title I School)
Pensacola, Florida

Twitter
@wilsonforthewin
Instagram
@thecatlounge
Blog
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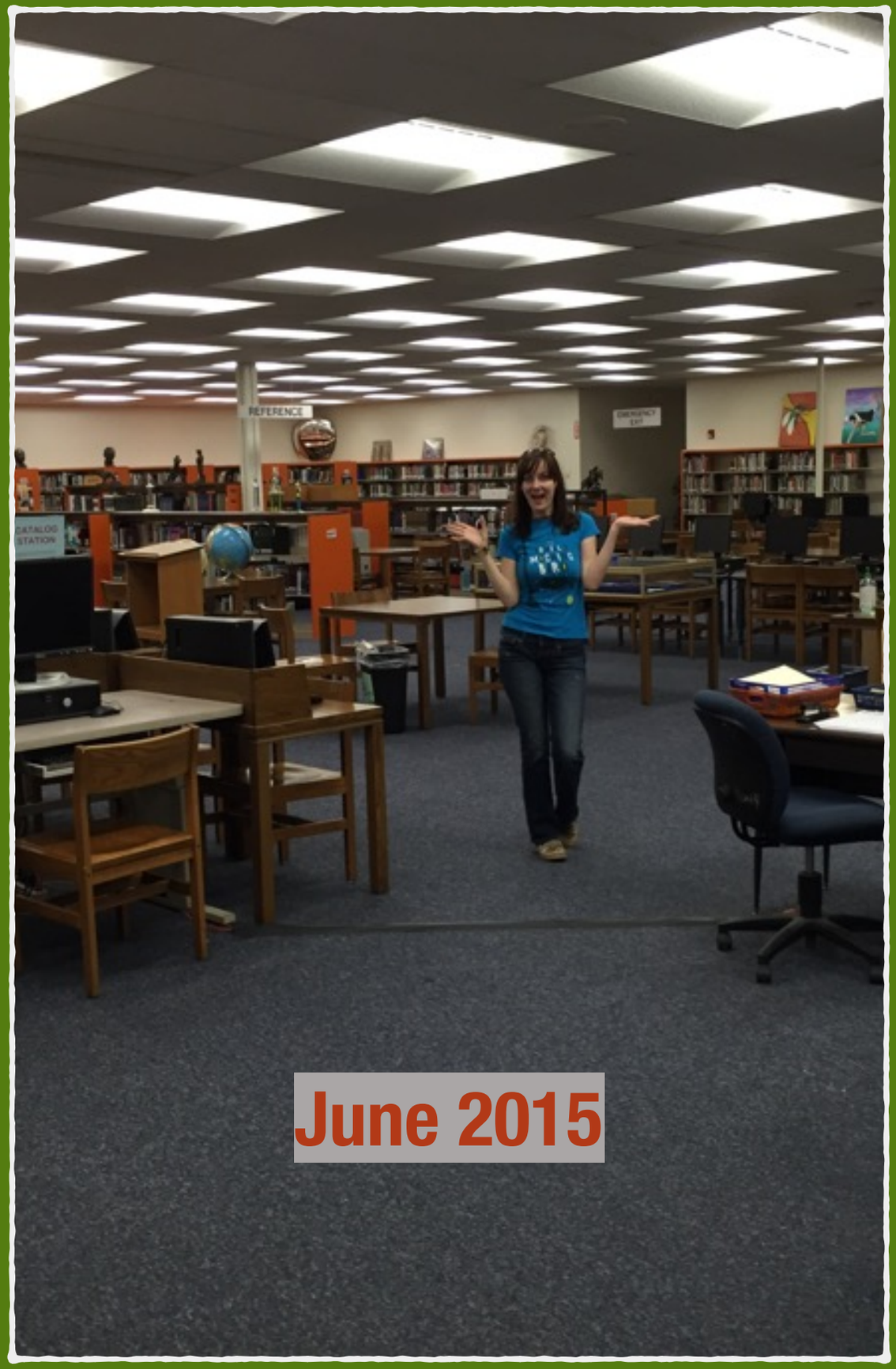
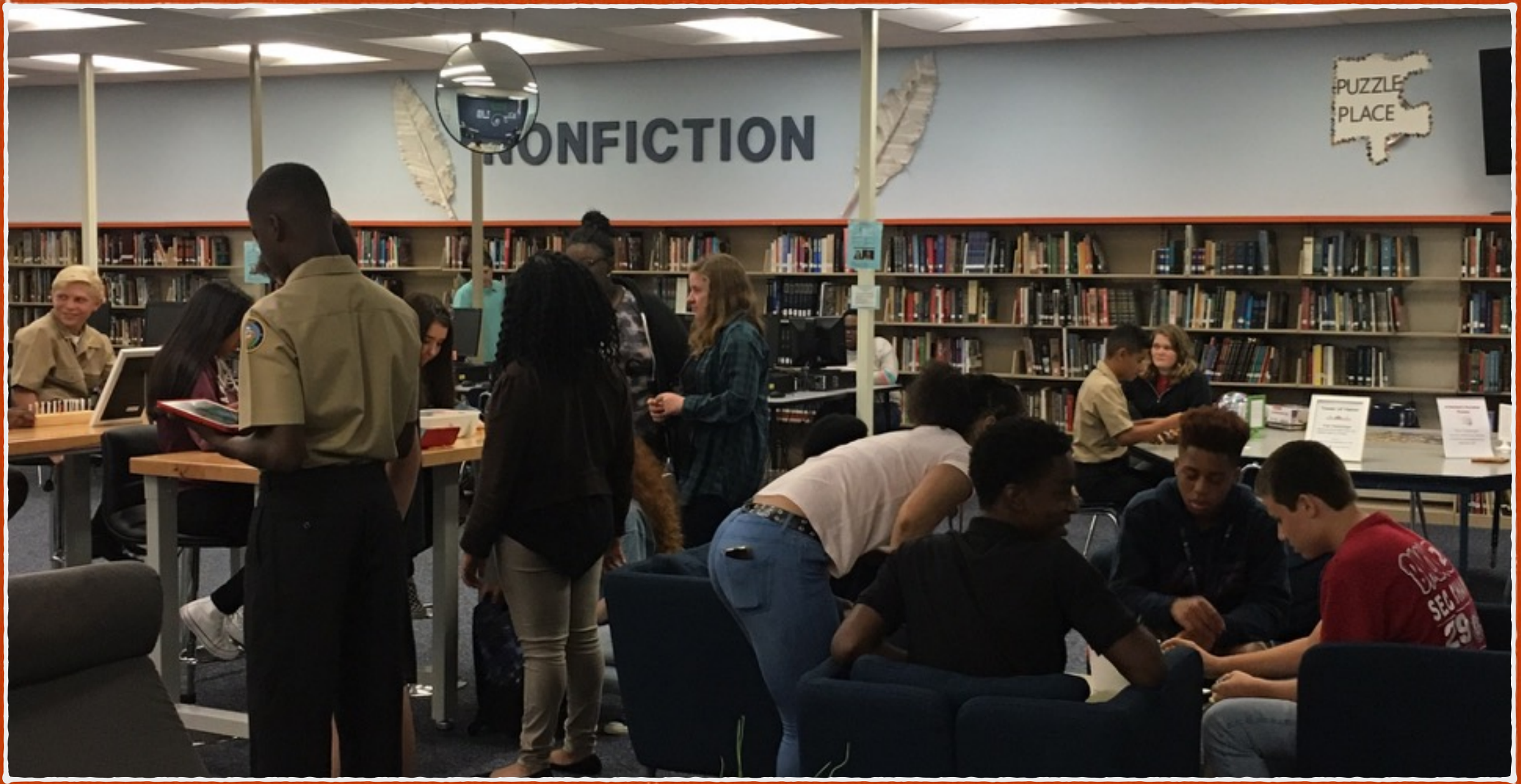
“But Mrs. Wilson, Librarians are so LAME!”





If you *make space* for them and if you make the space *for* them, they will come!

Before	After Year 1	After Year 2
9,000 Student Visits	23,833 Student Visits	30,130 Student Visits

It all started with a Spark!

What is the purpose of this space?

Could it serve a better purpose?

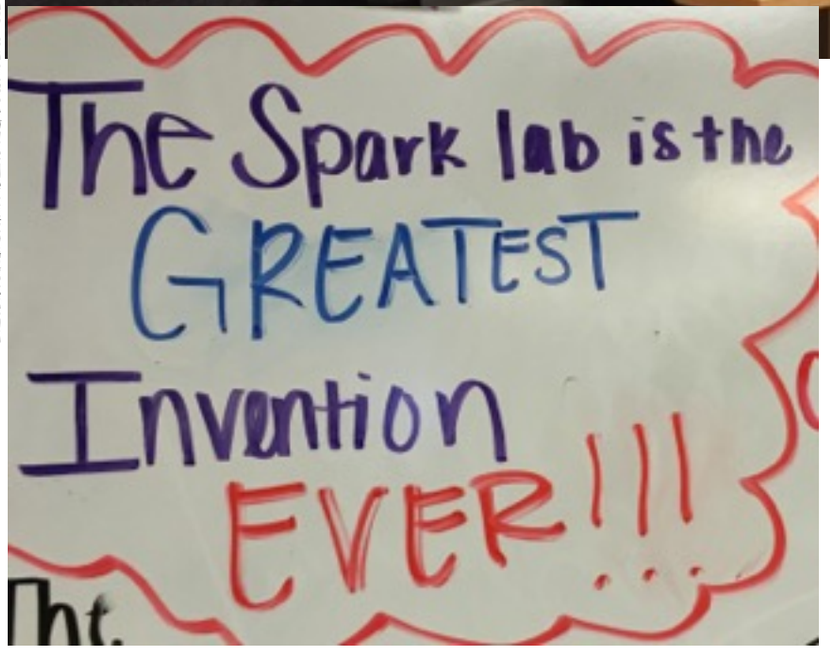
SparkLab

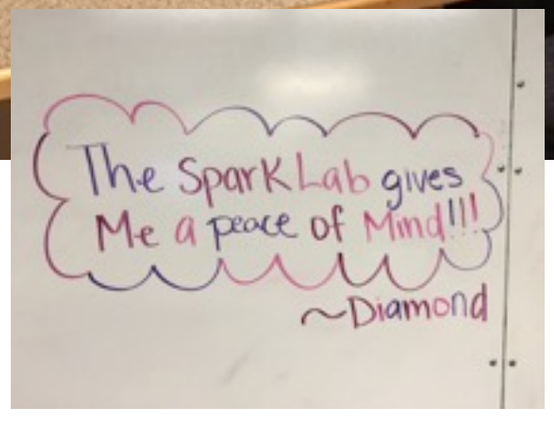
Think. Create. Innovate.

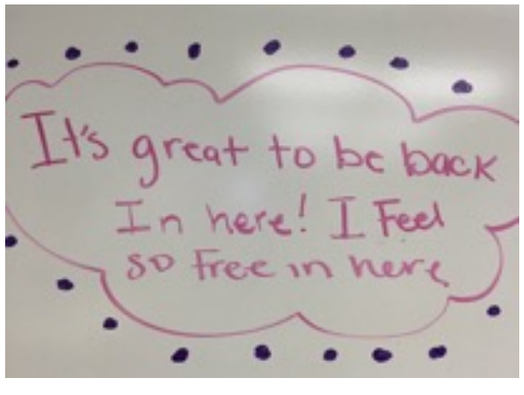
What is a Spark Lab?

A place for students to…

- **Work creatively on school assignments**
- **Pursue personal projects and interests**







Collection Tips

Put out a wish list on Facebook

Send home a flyer to parents

Contact PTSA

Collect the random stuff!

What's in our Spark Lab?

Tips

1. **Sort and label everything!**

2. **Group random items by shape**
"Round things" or by type "spare parts" or "toys"

Sphero

Bloxels

BB8

Ollie

BB8

Ozobots

Cubelets

iPads

HP Sprout

Littlebits

Makey Makey

Lulzbot 3D Printer

Silhouette Cameo

Hummingbird Robotics

Snap Circuits

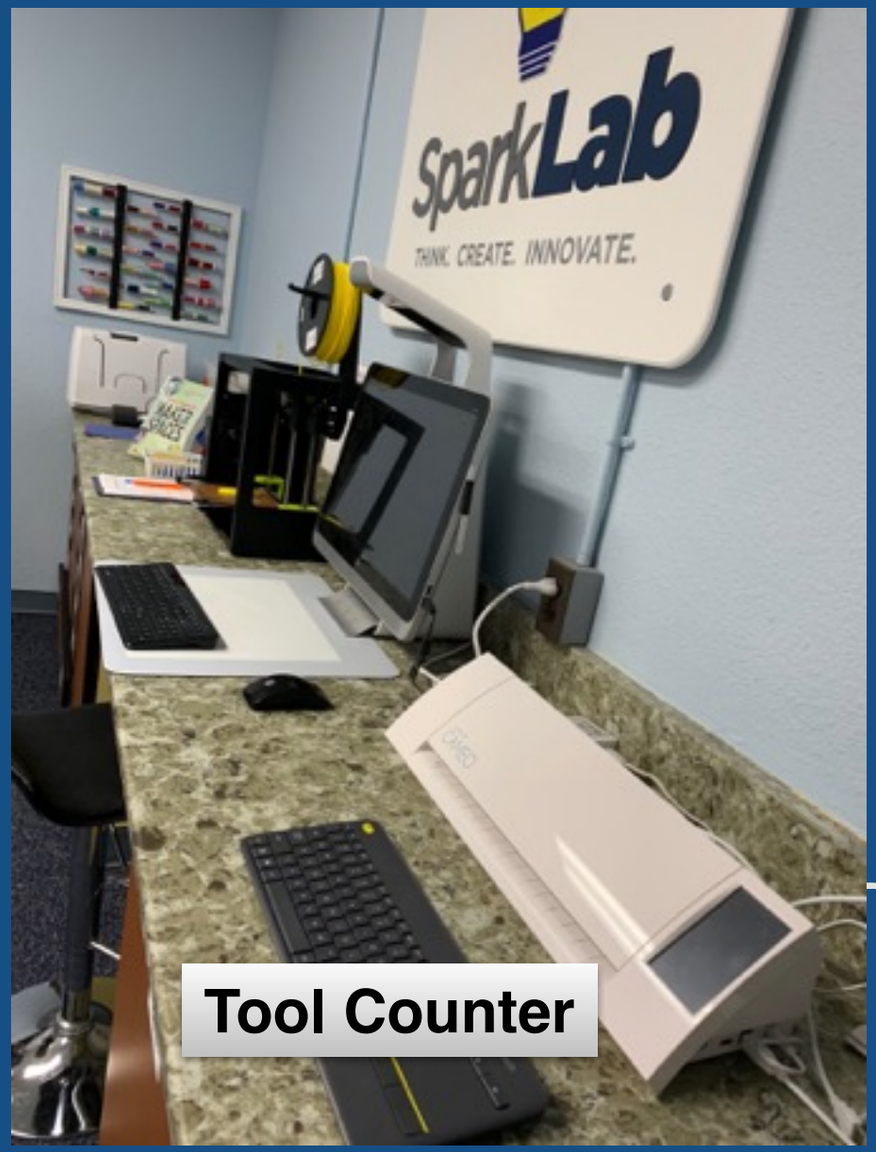
Necomimi Headgear

Virtual Reality Sets (cheap ones from Amazon under $50)

Snap Circuits

Technology in the Spark Lab

Other Designated Stations



Tool Counter

Storage Shelf

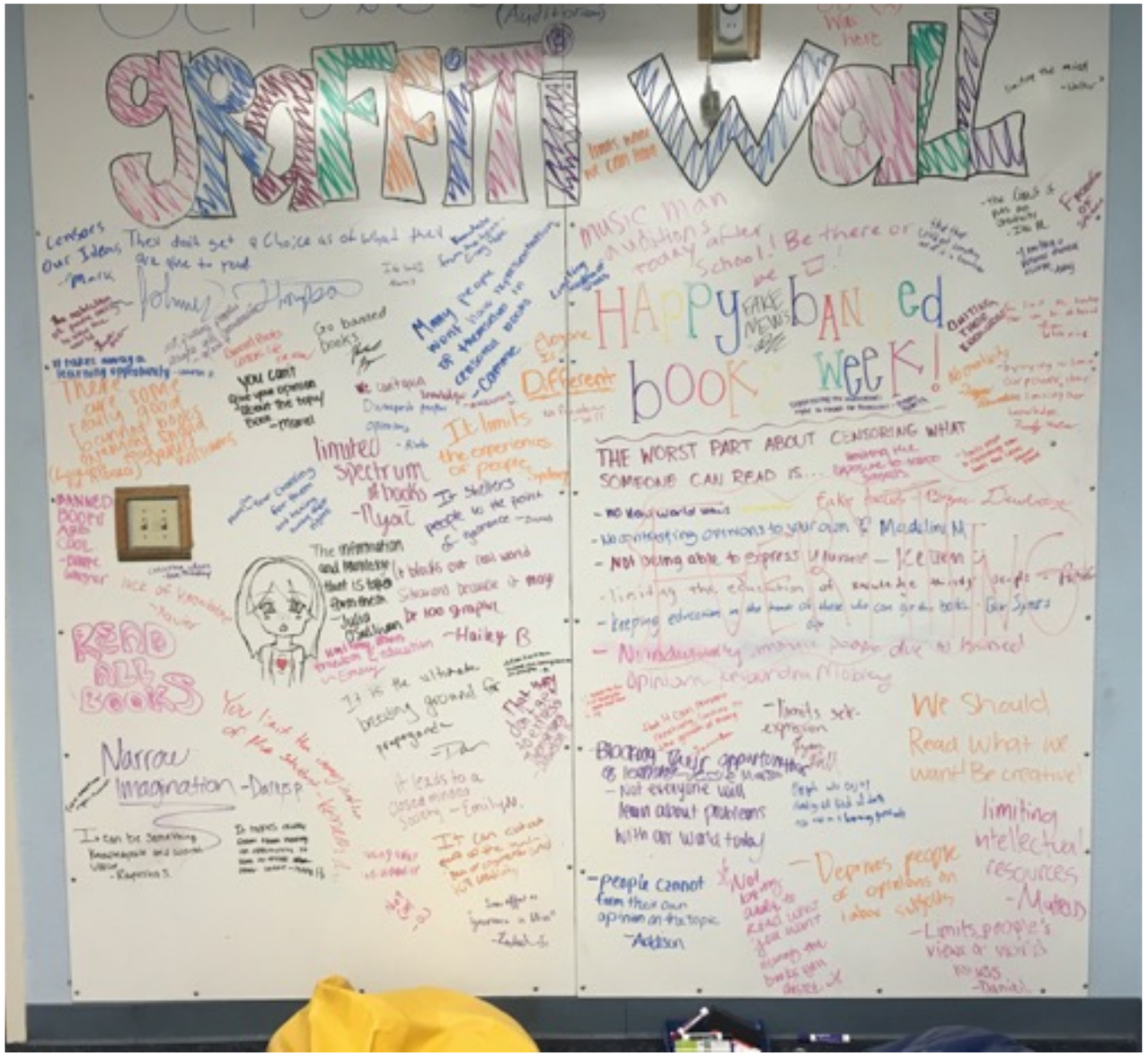
Work Space

Hot Glue Station

Sewing Machine

3D Printer (Lulzbot Mini)
Silhouette Cameo
HP Sprout

PLAN Grant



Creative Outlets

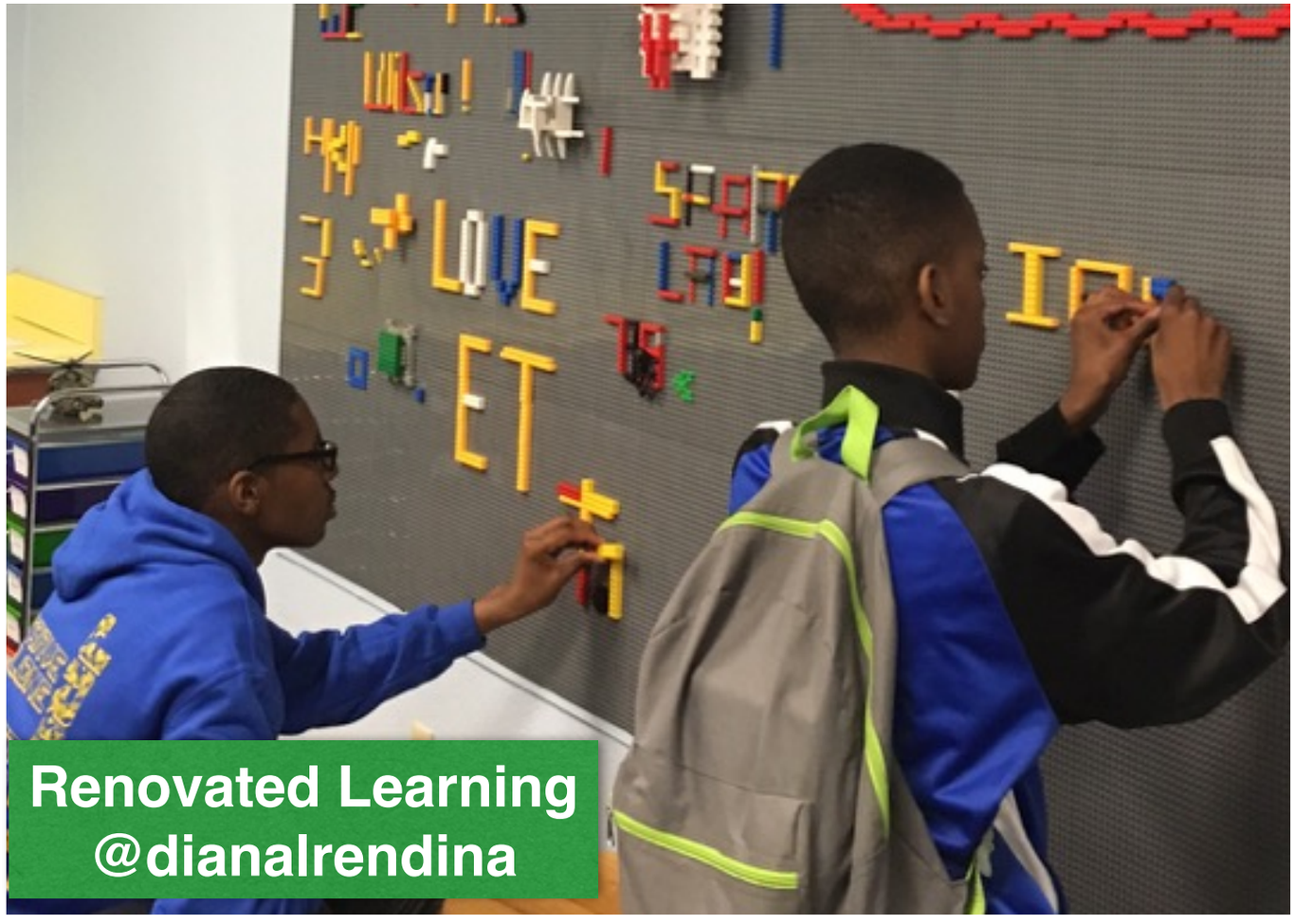
Graffiti Wall

Made with two Smooth White Hardboard Wall Panels from Lowe's

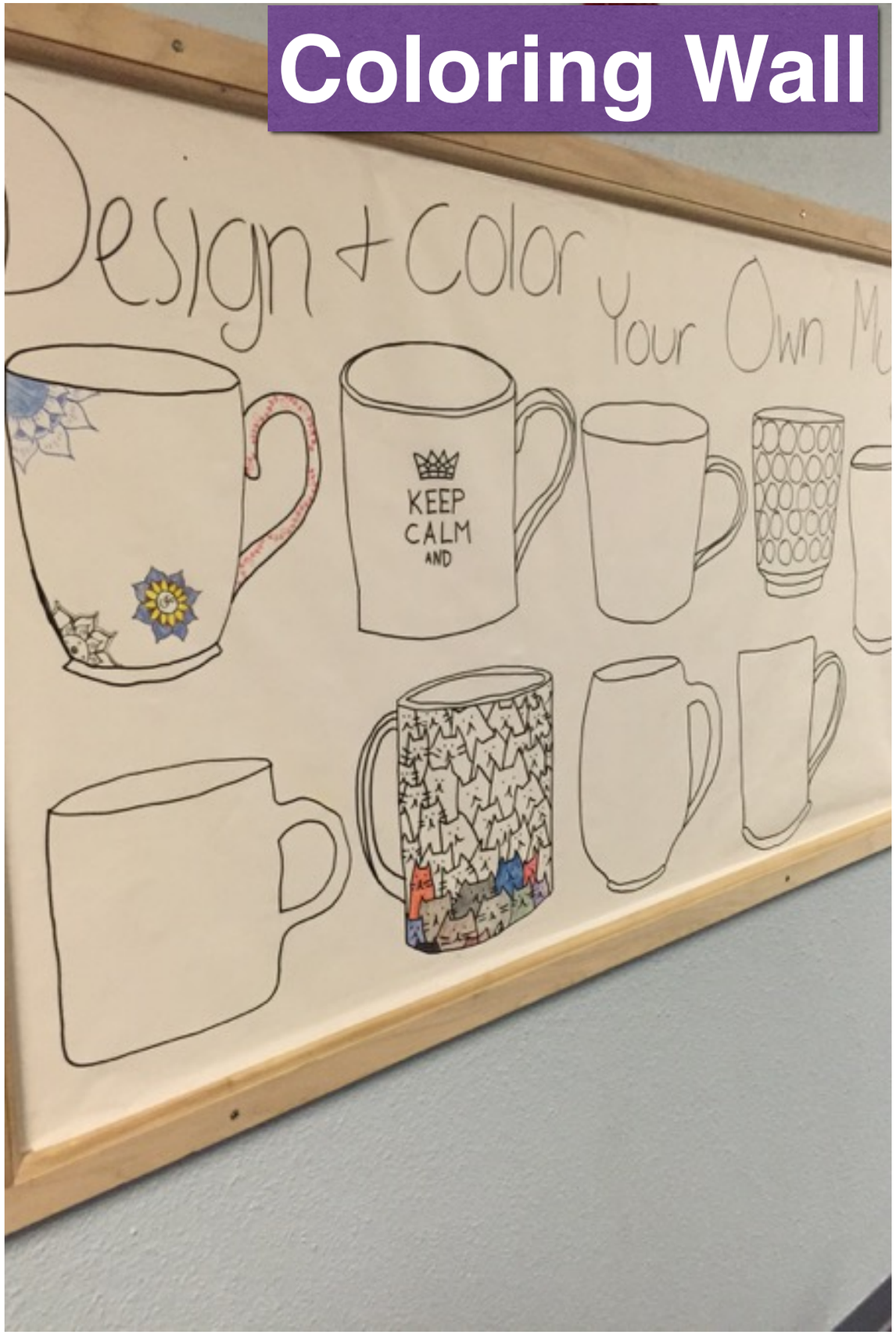
Creative Outlets

Challenge cards on Pinterest

Base Plates and compatible legos from Dream Builder Toy



Coloring Wall



Central Feature Space

Used for the following:

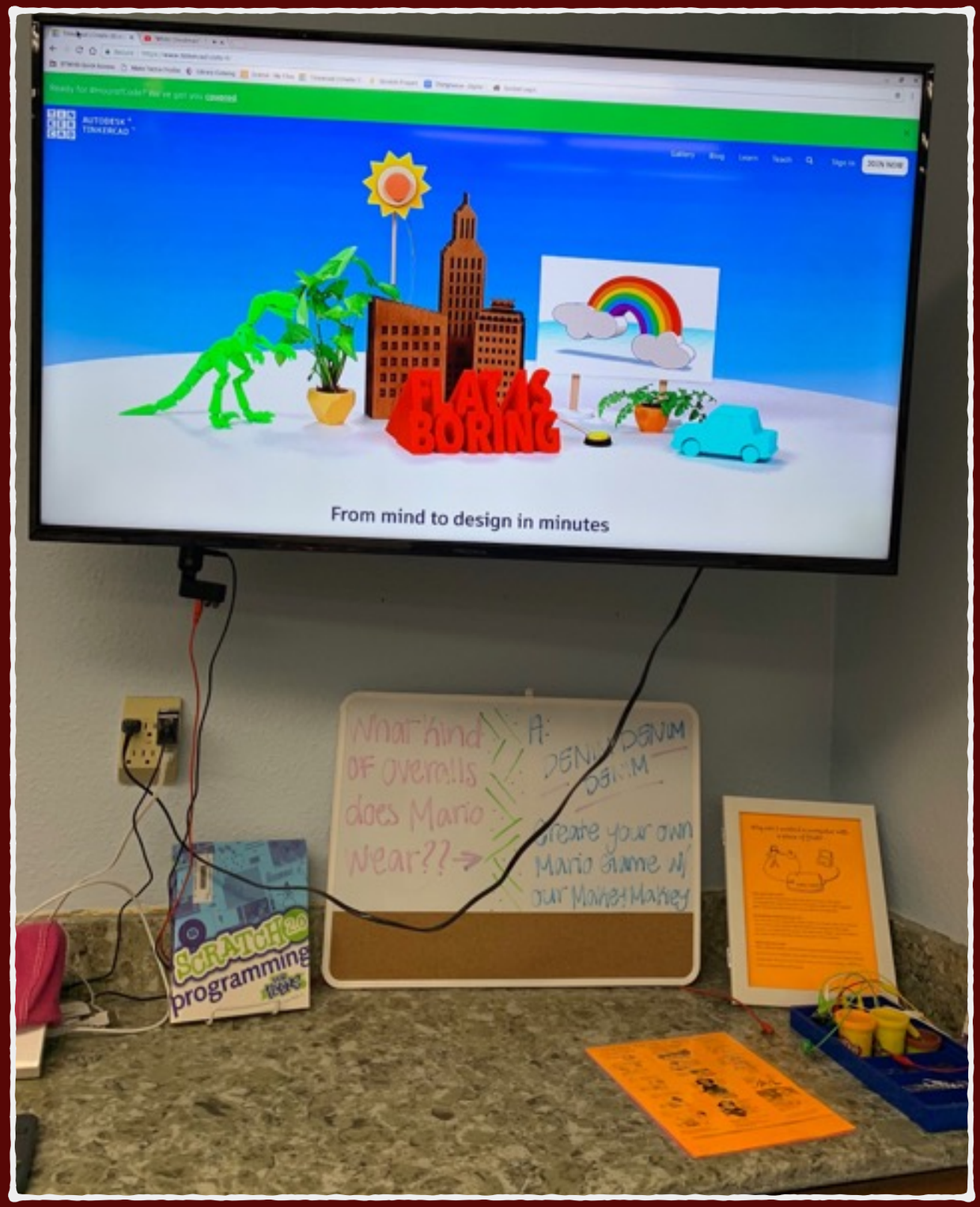
- Coding Station with Scratch and Makey Makey
- 3D Design sites like Thingiverse and Tinkercad
- Group Planning and Creating
- Presentation Practice
- Advertising challenges or new products

Create this space using a…

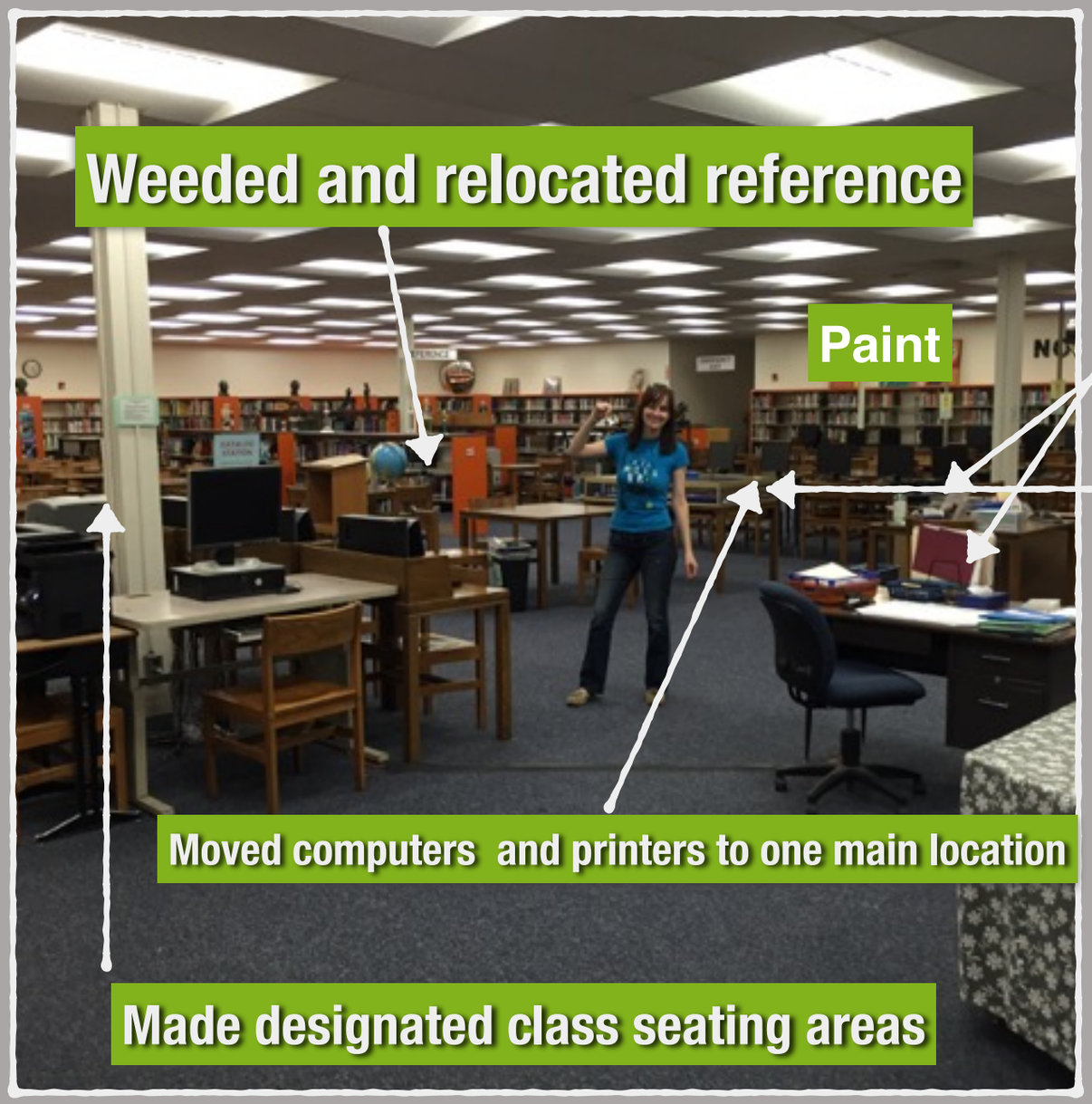
*Standard TV and mount

*Chromebit or Intel Compute Stick to convert the TV into a computer

*Wireless Keyboard



Create Open Space



Relocated the…

- ~~Librarian's Desk~~
- Hand Sanitizer/Tissue Table
- ~~Empty Filing Cabinets~~
- Outdated Display Cases
- ~~Globe~~
- 5 dictionary shelves

THE SPARK BECAME A FLAME

Create DEFINED Spaces

1. What is my purpose for this area?
2. How can this space best be used?

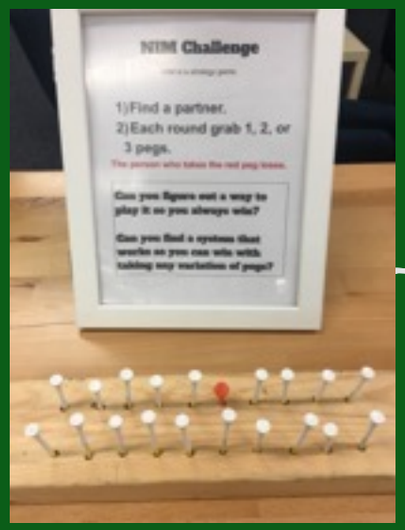
Create Wall Space

Ask students what they like and dislike about the space.

Moved computer tables to create open wall space
FICTION
Students' work added for decor
CHALLENGE
TRY
to build a
funnel
Can you get the ball ALL the way through?
Covered office windows with bulletin boards
Building 3D from a 2D model
Design Challenge
MindWare
KEVA

Rock Me Archimedes

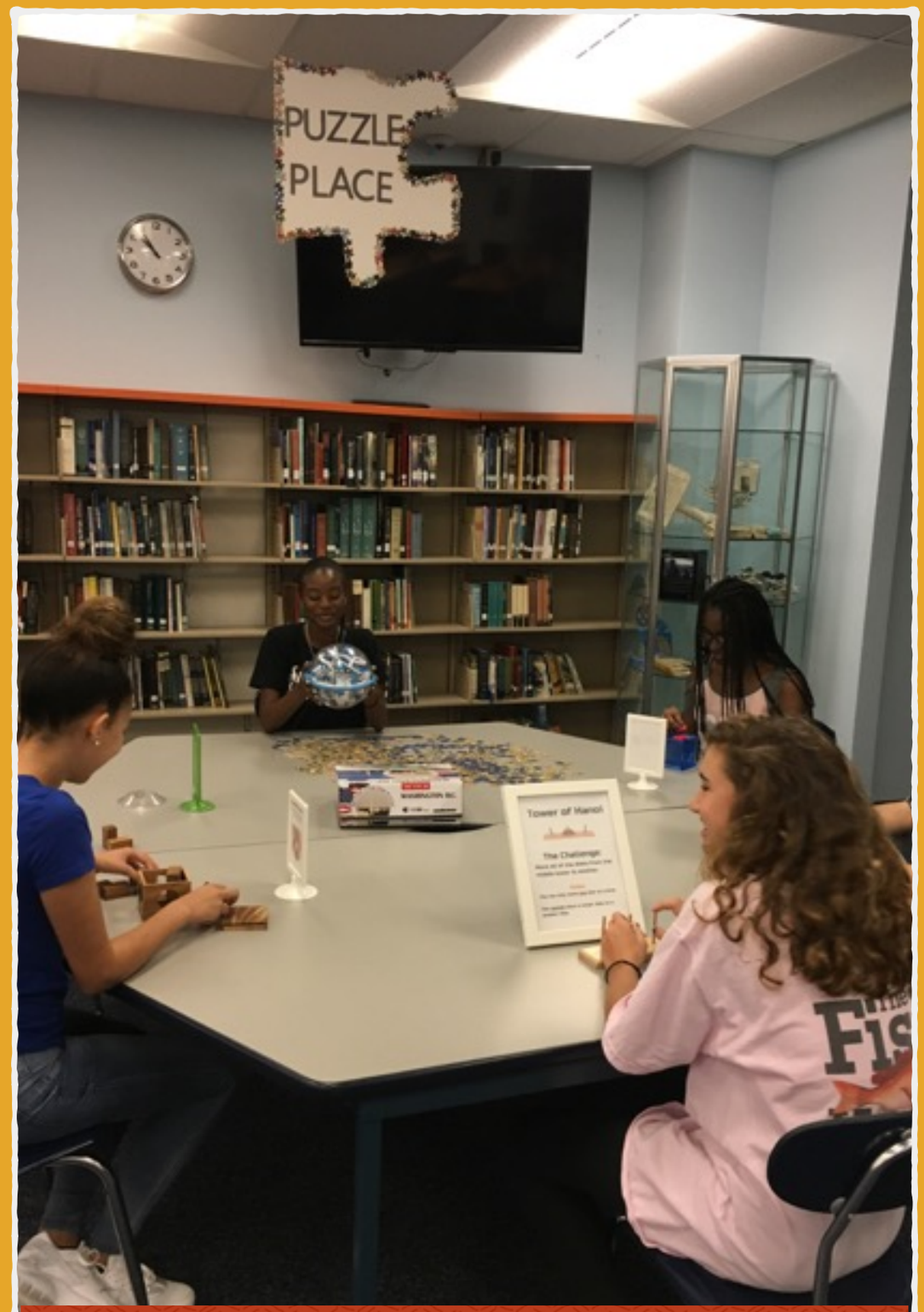
Gravity Maze



NIM Challenge

Suspend Game

Polydron Platonic Set

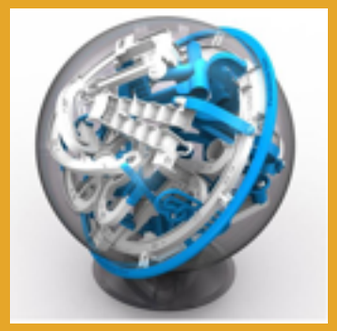


Puzzle Place

Adam's Cube

Soma Cube

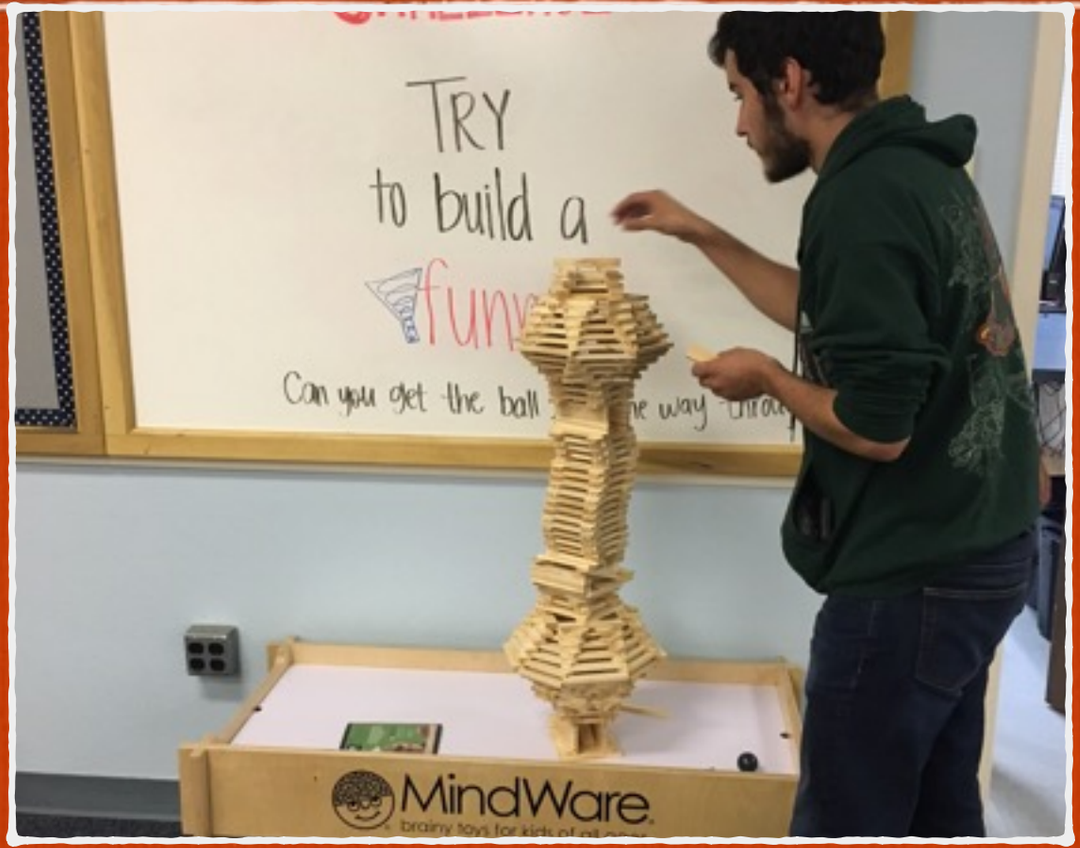
Perplexus Epic



Aristotle's Puzzle

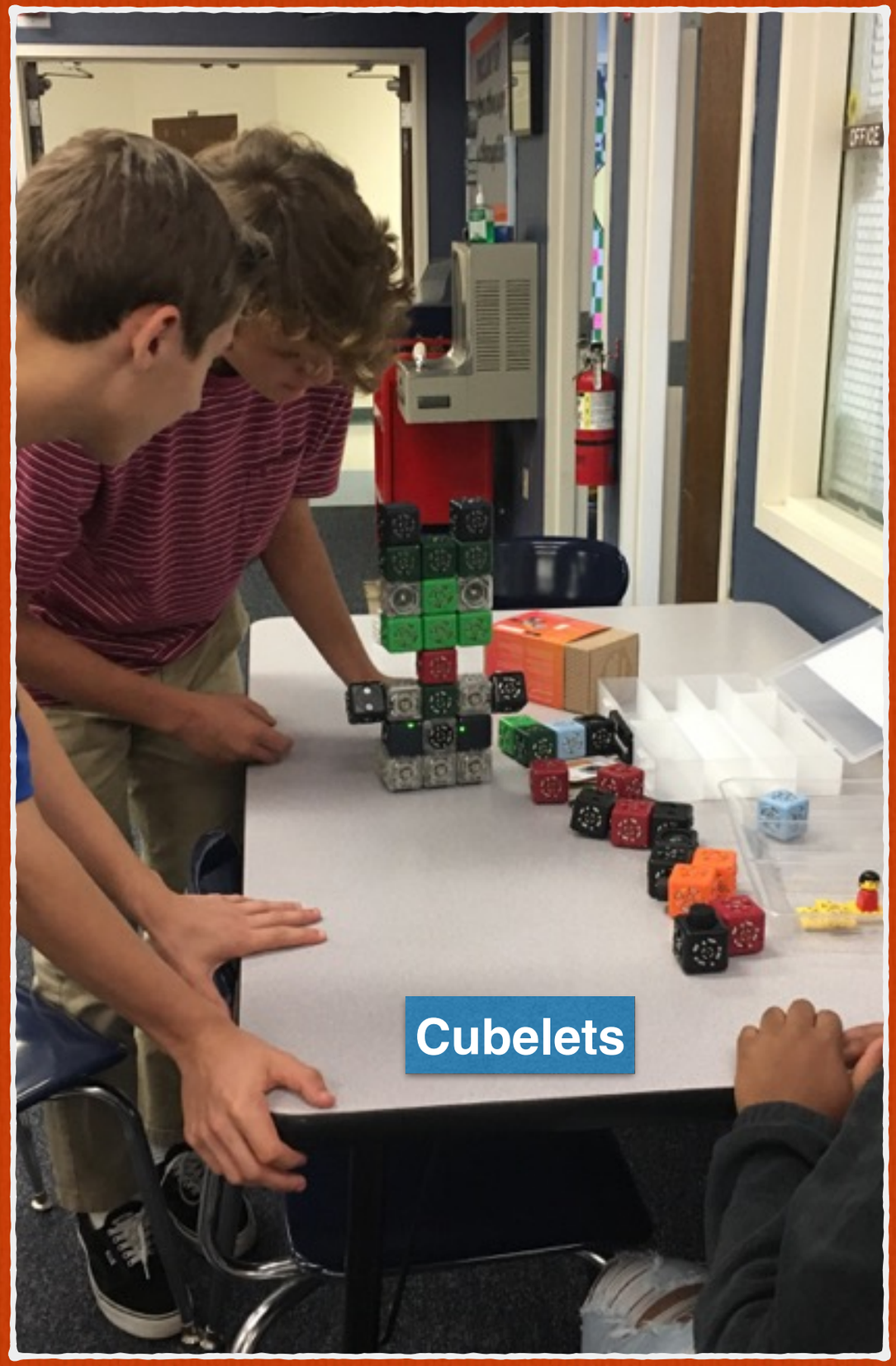
Tower of Hanoi

3D Puzzles



Keva Contraptions Set

http://www.kevaplanks.com/lesson-plans-challenges-games-activities/


Cubelets

Lego Chain Reactions Book

Littlebits

Creation Station

Cat Packs

What are they?

- Rotating Kits for student checkout
- Illustrate a science principle
- Students meet a challenge and keep the item they make.

Resources for making "Mess Kits"

www.pensacolamesshall.org

www.howtosmile.org

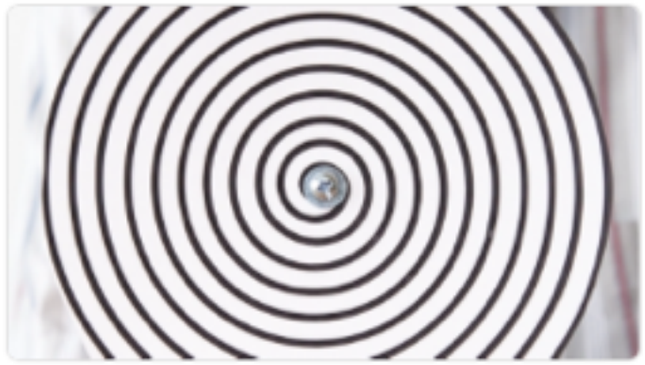
www.exploratorium.edu/explore/activities

Explore Activities

Head Harp
Wrap a string around your head and pluck it to play music.

Inverted Bottles
Watch the rise and fall of hot and cold fluids.

Glow Up
Different kinds of light can be used to study life.



Depth Spinner
What happens when you get off the merry-go-round?

What's Going On?

In this activity, you can actually hear how a string's frequency of vibration depends on its tension and length. When you pull the string tighter, you increase the tension in the string, so the pitch of the sound you hear increases. When you keep the tension constant and decrease the length of the string, the pitch also increases.

You're hearing the resonant frequencies of the string. The frequency is inversely proportional to the length of the string, and proportional to the square root of the tension in the string. The different pitches you hear are produced by the different frequencies of the vibrating string. High-pitched sounds are produced by higher frequency vibrations, and low-pitched sounds are produced by lower

Head Harp

Learn a little string theory.

Wrap a string around your head and pluck it to

Save 9

Subjects:

Biology
- Anatomy & Physiology

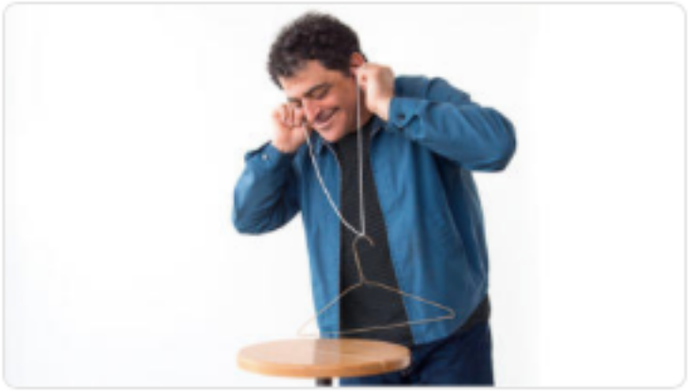
Perception
- Listening & Hearing

Physics
- Sound

Keywords:

vibration instrument sound string

Related Snacks



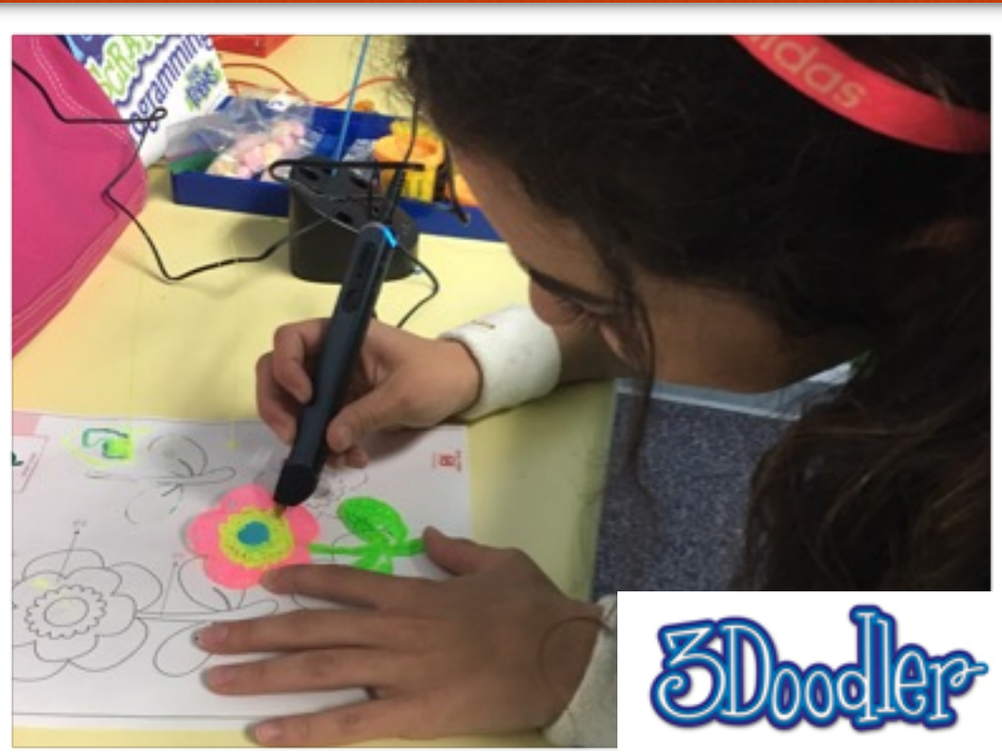
Secret Bells
Use a coat hanger and string to produce musical sounds that only you can hear.

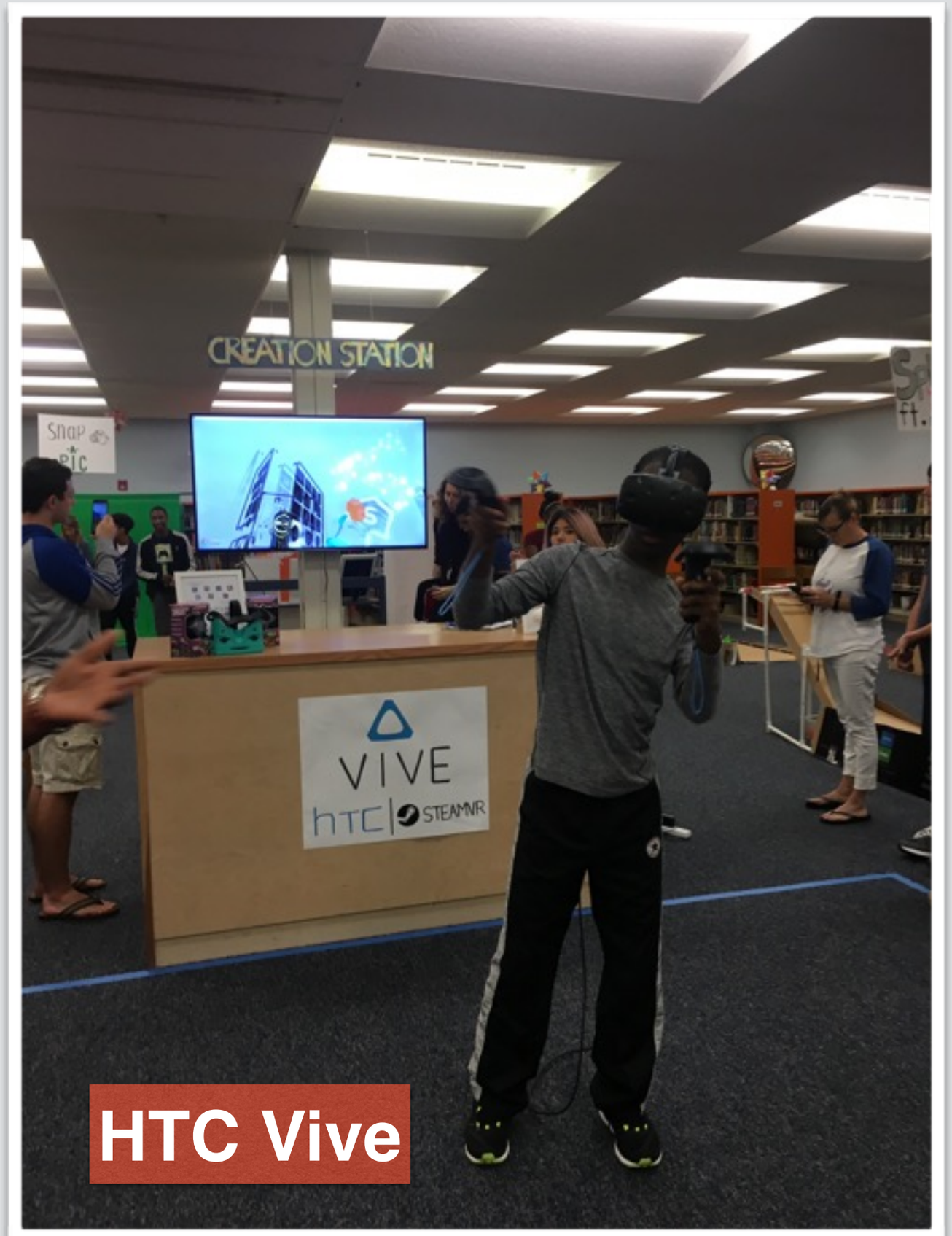
www.exploratorium.edu/explore/activities

World's Smallest Camera Drone

Jamstik

Makeblock Drone/Hovercraft





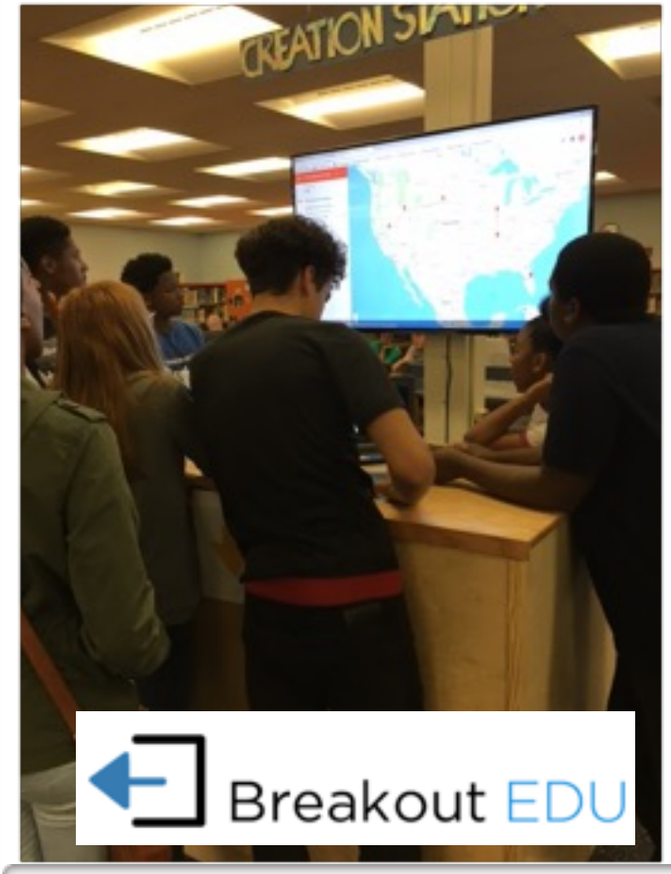
HTC Vive

- Assistant runs it.
- Students must sign an initial contract.
- Set time limits.
- Walk-in and Reservation procedures

Good Starting Experiences

- Journey into a Cell
- The Blu
- Fantastic Contraptions
- Job Simulator
- Tilt Brush
- Keep Talking and Nobody Explodes

Flight Challenge



Breakout EDU

Ollie

Launch Challenge

Roller Coaster Challenge

Vex IQ

Rotation, Rotation, Rotation

- ☐ Rotate the technology or items on display
- ☐ Rotate the Challenges (weekly or monthly)
- ☐ Rotate “Cat Packs” or maybe a make and take craft (seasonal)

Goal: To keep students excited for what they will experience in the space

From Library Assistants to Lead Innovators

Certified in technology (Earn Charms)

Demo Technology

Create and Kick Off Challenges

Train fellow students

Assist with purchasing decisions

, Washington High partn

will be held at 9 a.m.
. Washington High's
o mark the start of a
n the school and the
t Florida's Writing

rtnerships, this one
people with similar
inding ways provide
ping writers, start to
r. This is what hap-
Hixon, UWF's Writ-
nd Virkeisha Palmer,
School District high
ts teacher on special
ether last summer to
rts Workshop for the
s.
ty high schools had a
urs," Palmer said.
onded Hixon. "If the
the resources, then I
versity student staff

SPECIAL TO THE NEWS JOURNAL

Booker T. Washington High and the University of West Florida have partnered to offer a UWF Writing Lab in the school's Innovation Center. From left to right are Rus Phelps, UWF Writing Lab labbie; Mamie Webb Dixon, manager of UWF's Writing Lab; and, Alisha Wilson, Washington High's Innovation Center specialist.

Events on Rotation

National Day on Writing-
October 20

Global Cardboard Challenge-October (usually)

Coding for a Cookie-
December 4-10
Computer Science Week

Black Culture Festival-
Black History Month, February

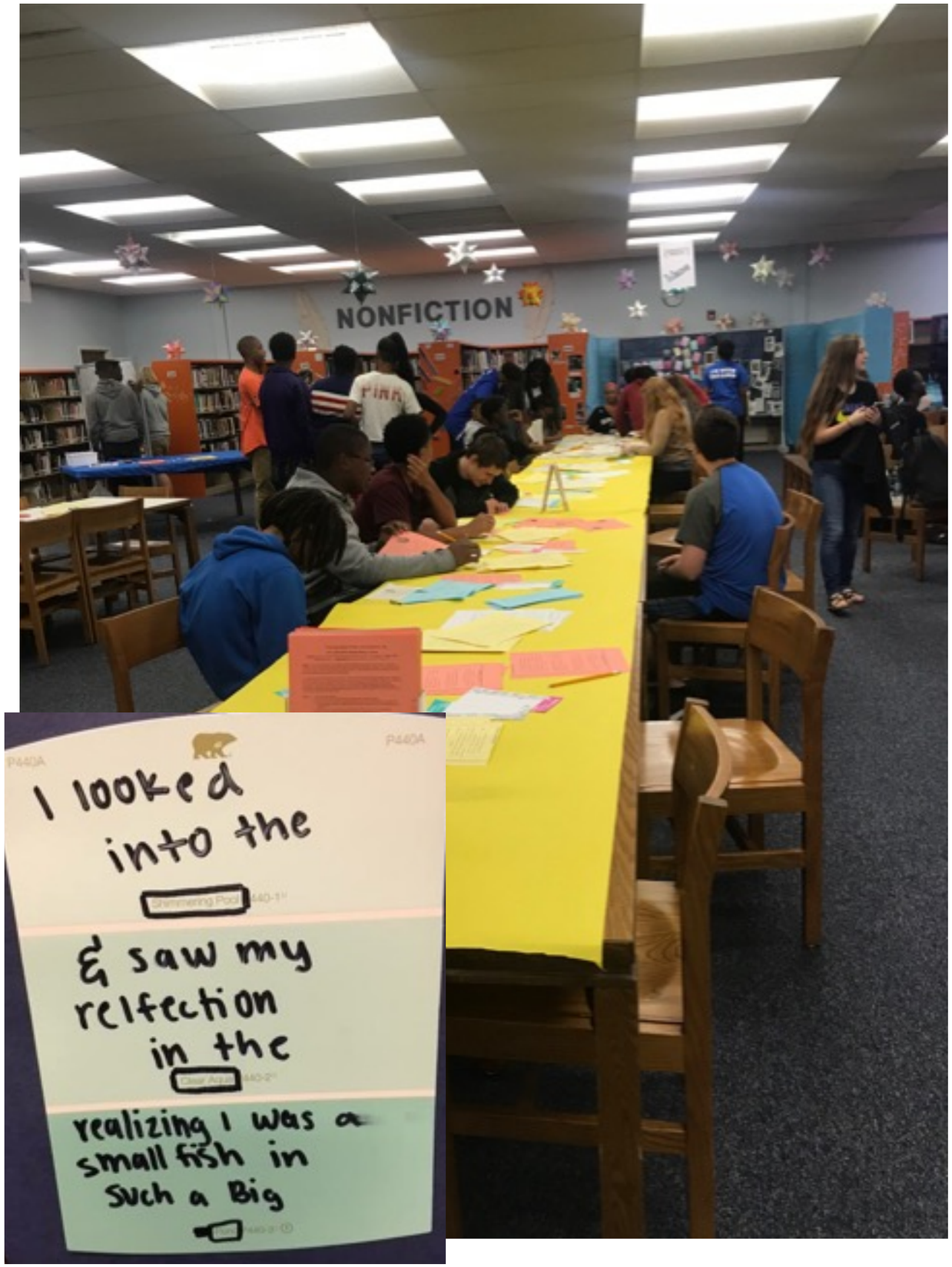
Shakespeare Festival-
March

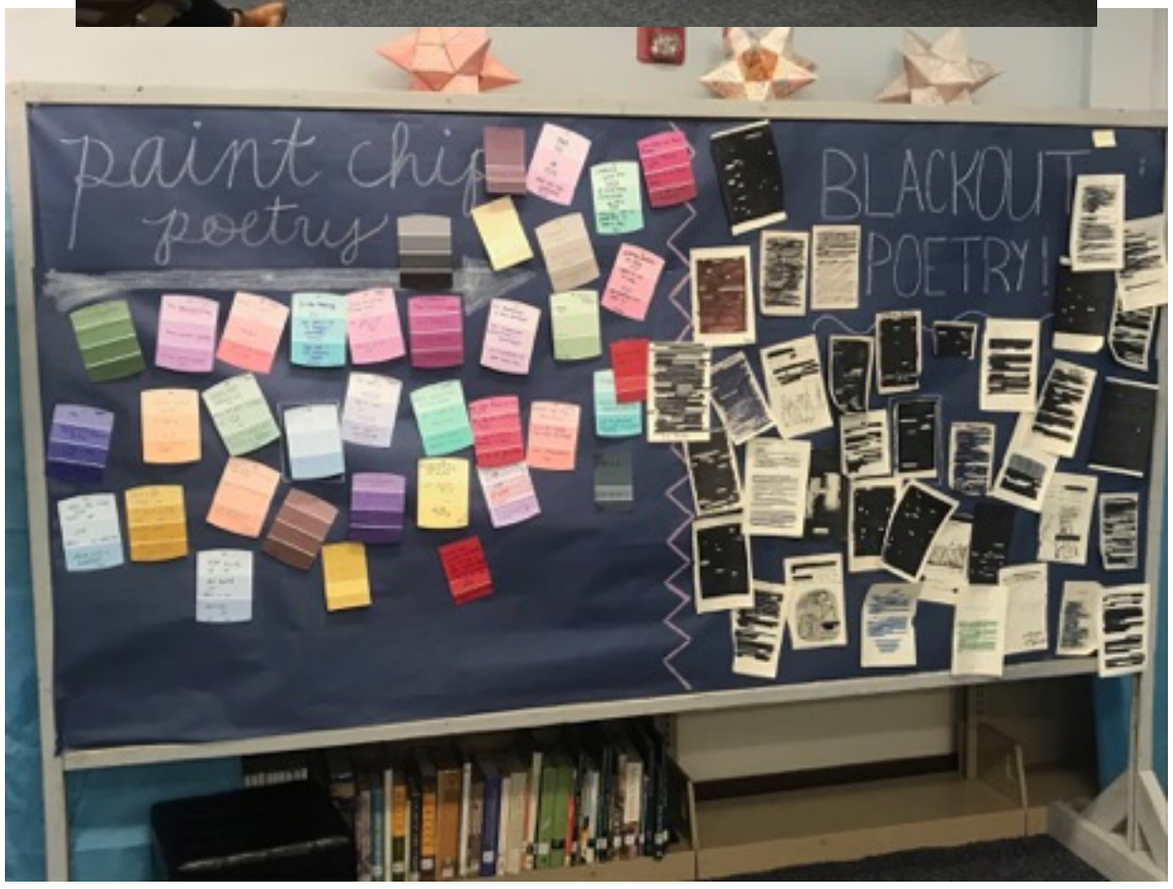
Library Showcase-
National Library Month in April

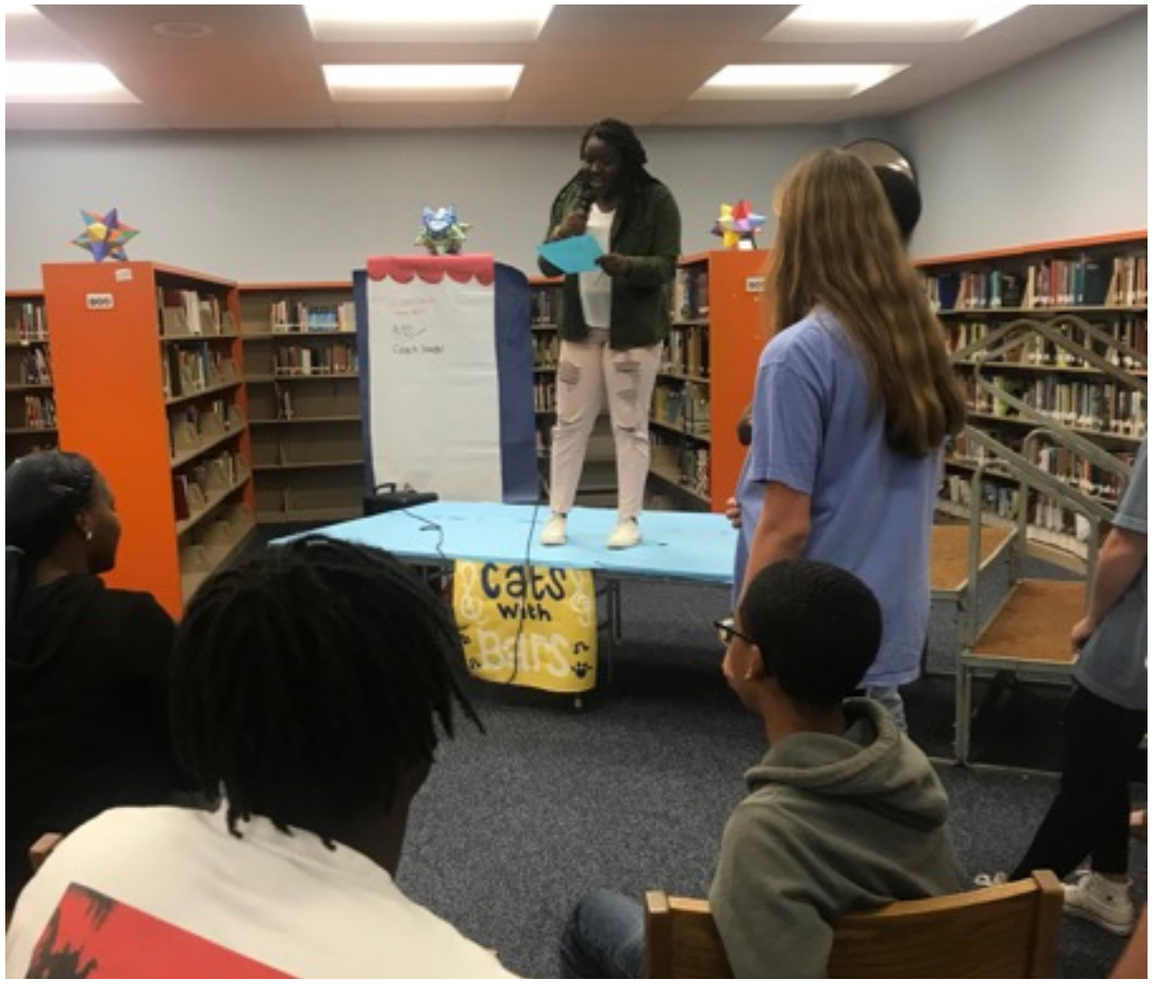
Gaining Student and Teacher Buy-in

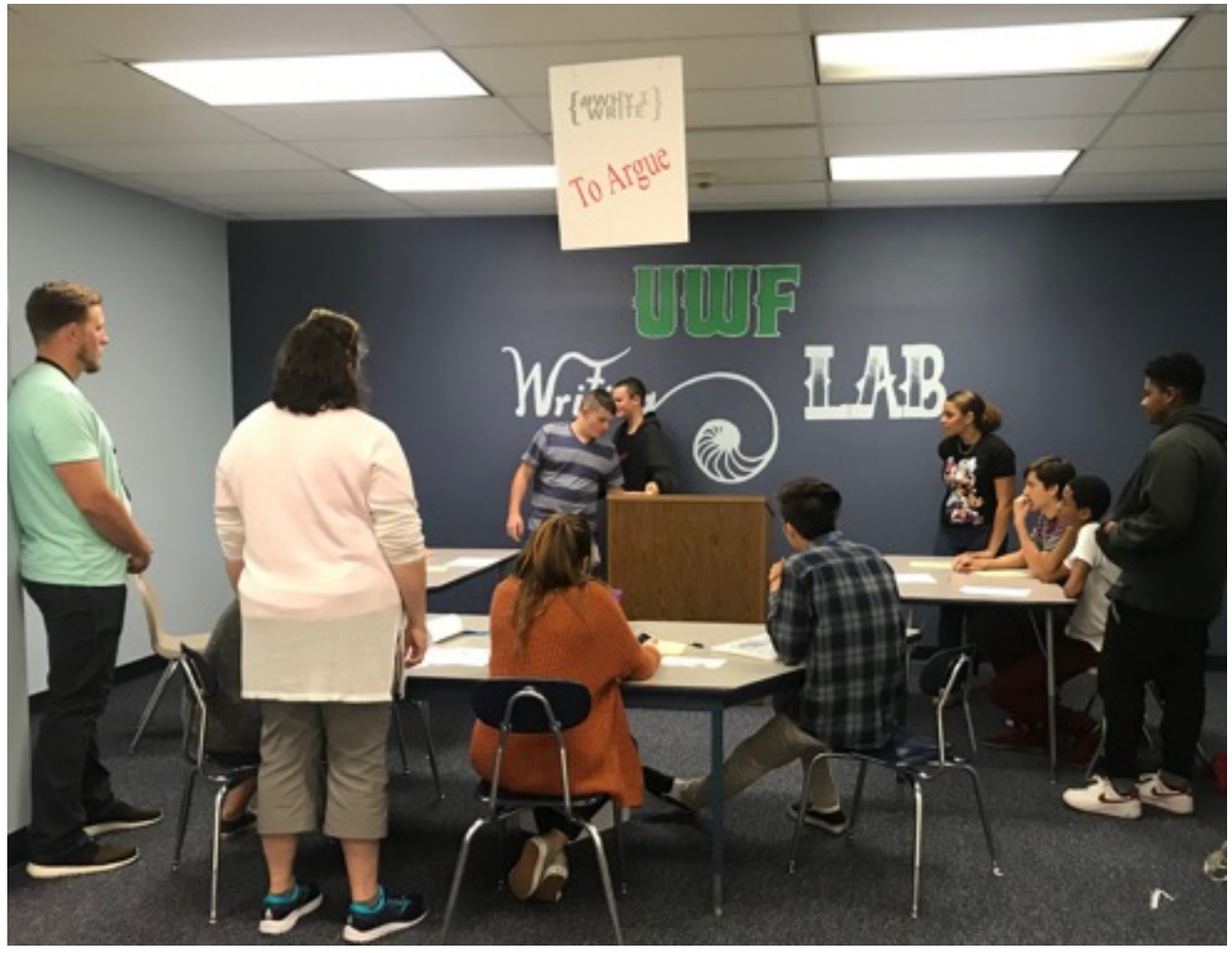
#whyiwrite Event

National Day of Writing









#tolove

#toargue

#tolearn

#toentertain

#toexpress

#todiscover

#tothank

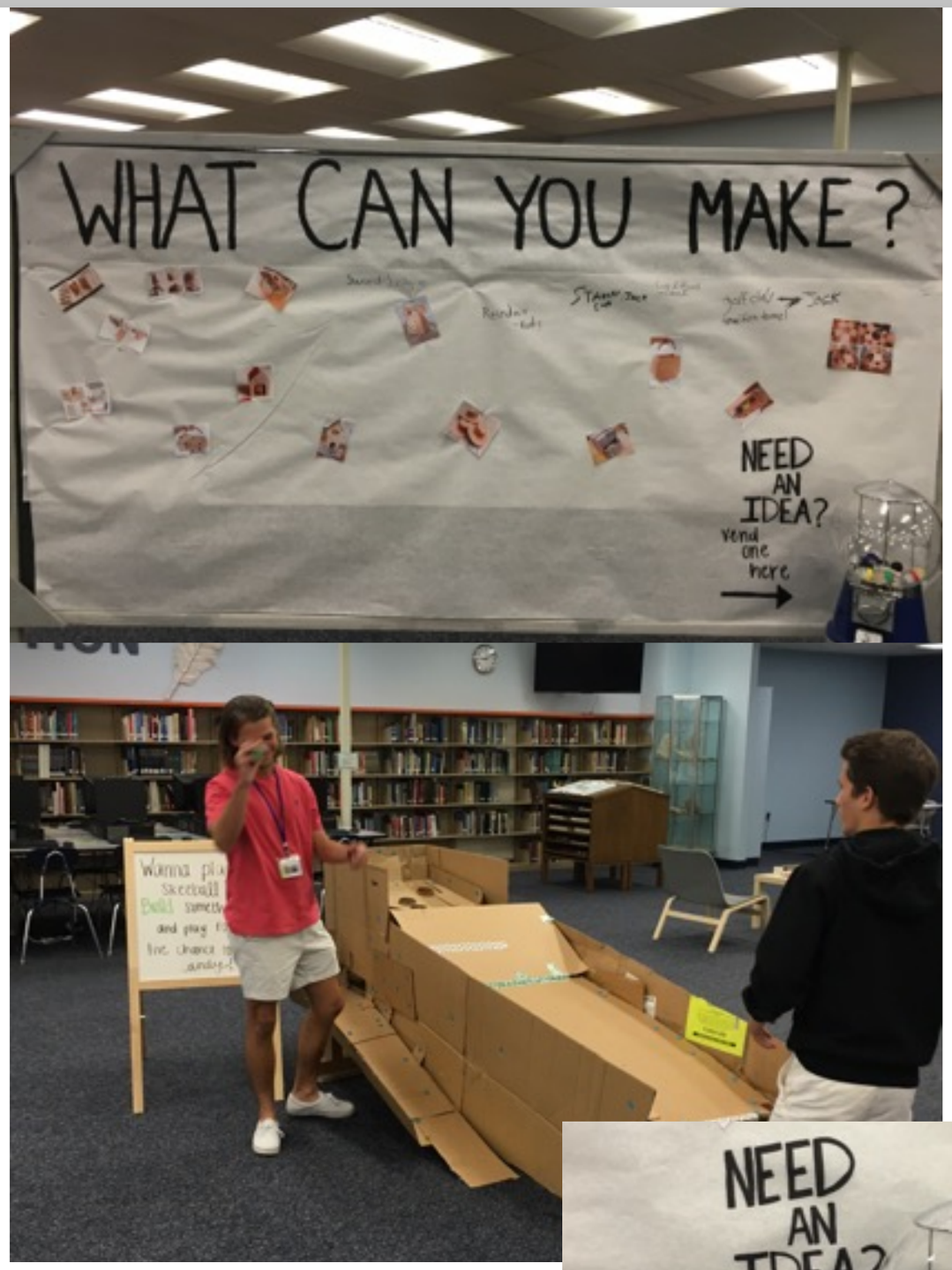
#toshare

#tolaugh

Global Cardboard Challenge

Week Long Event

- Sort materials by shape and texture
- Signs for projects in progress
- Signature board (What are you making?)
- Vend an idea
- Incentive (Skeeball game)
- Place to display projects
- Stock up on masking tape, cardboard cutters, make screws



Makedo

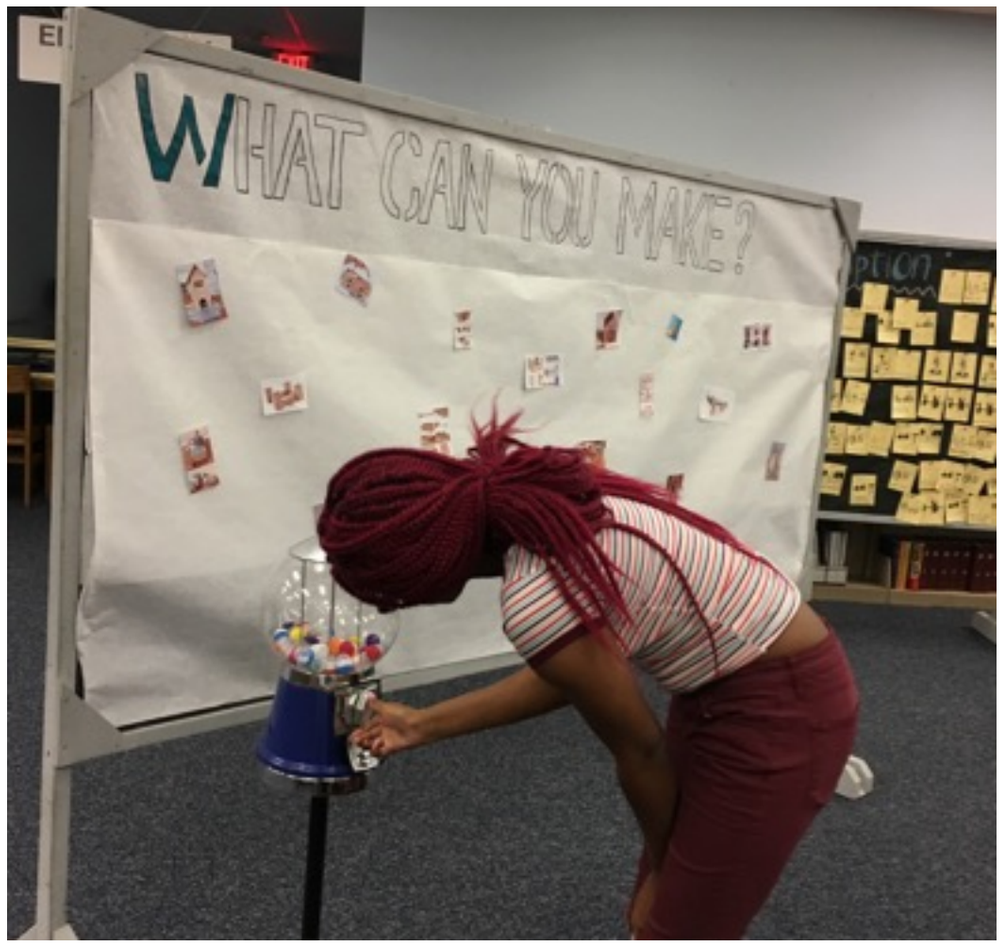
Canary Cardboard Cutter

WORX ZipSnip

Must Watch

Caine's Arcade

Global Cardboard Challenge



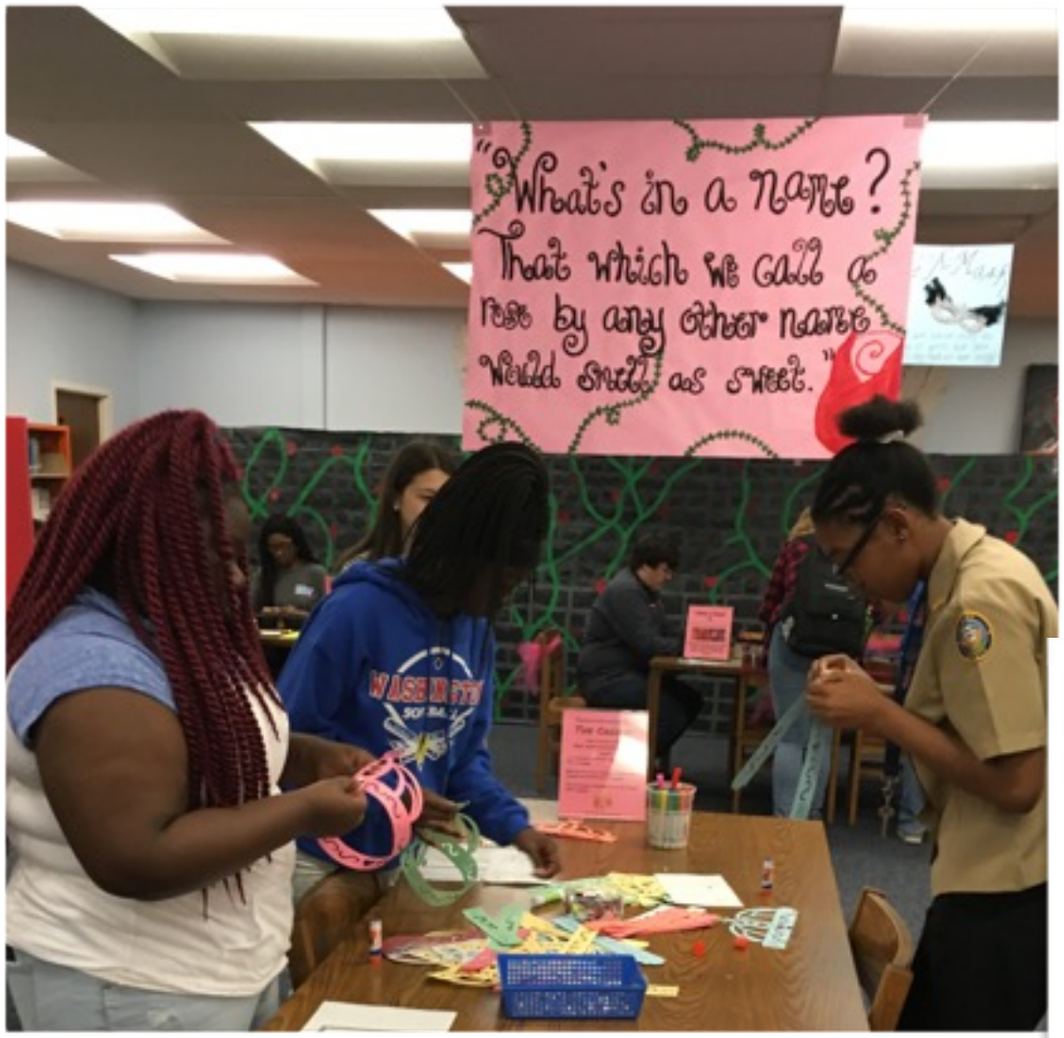
Global Cardboard Challenge

International Event Hour of Code

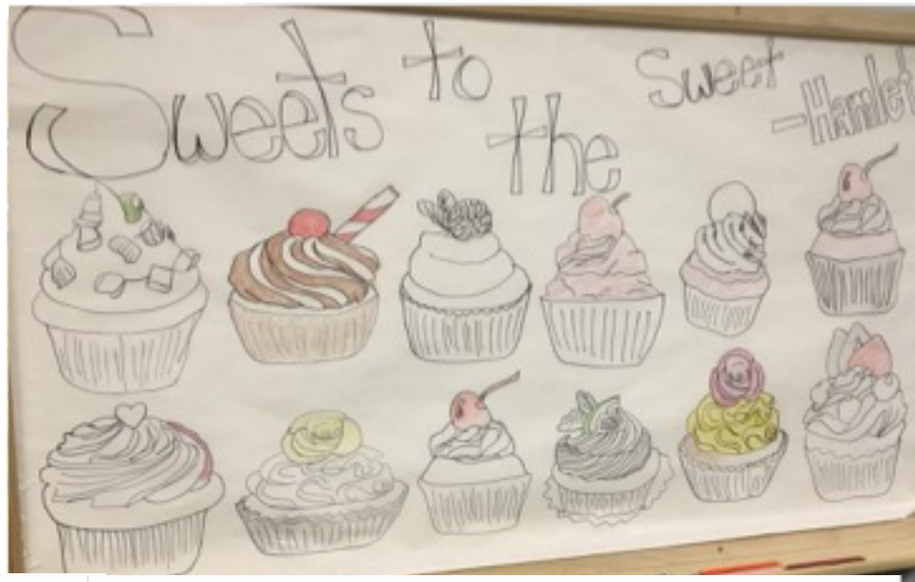
www.code.org

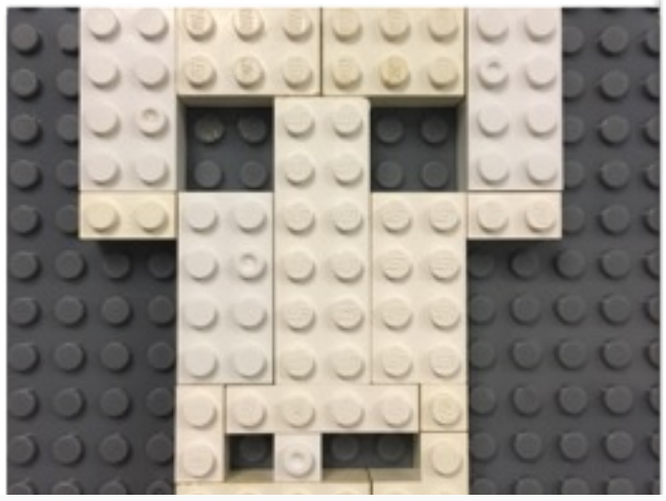
Coding for a Cookie

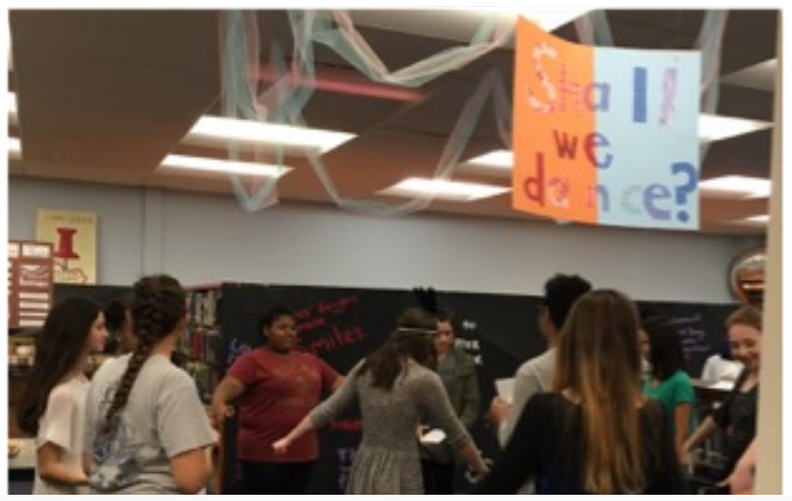
Coding for a Cookie


"What's in a name?
That which we call a
rose by any other name
would smell as sweet."

ONFICTION


Sweets to the Sweet
-Hamlet




Shall we dance?

Shake Fest

Details are on the blog below:

https://medium.com/@alishawilson

Shake Fest

Black Culture Fest

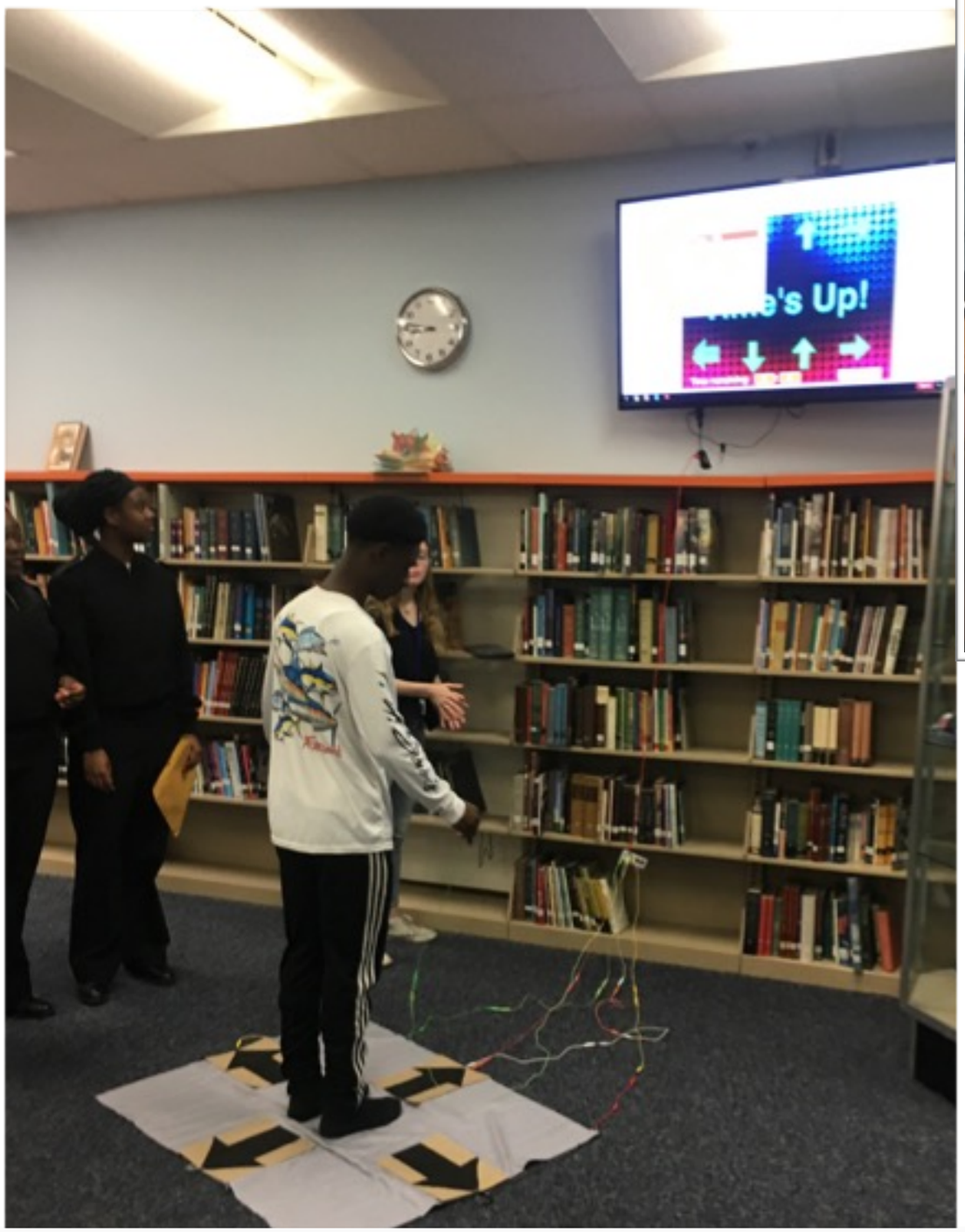
Kente Strips

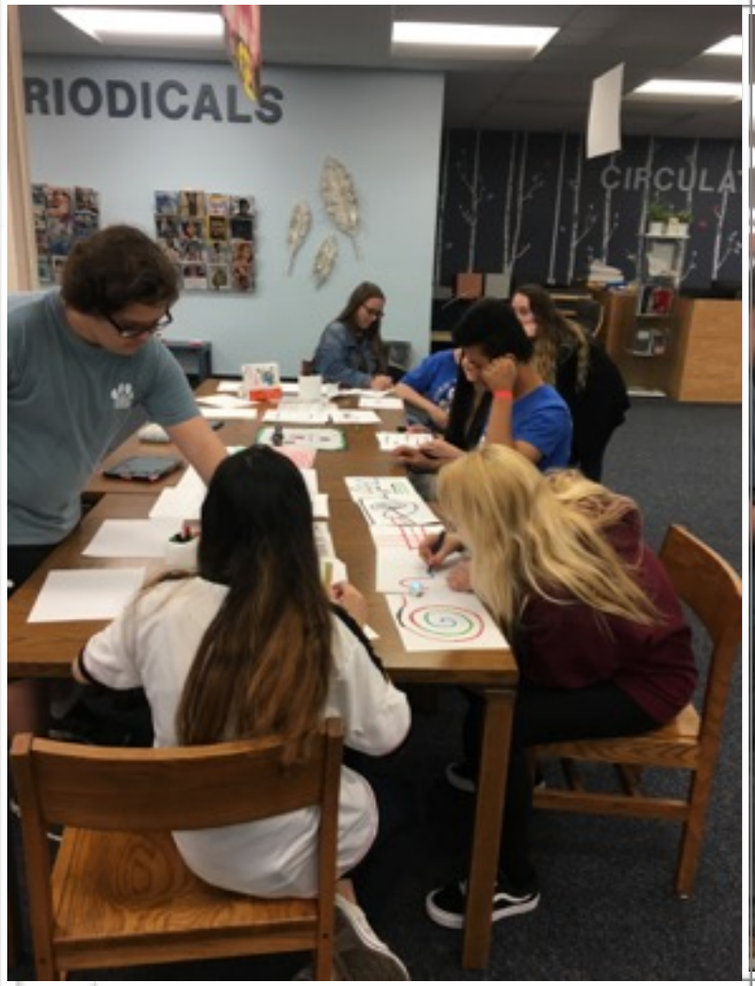
Headwrapping

Romare Bearden Collages

Library Showcase

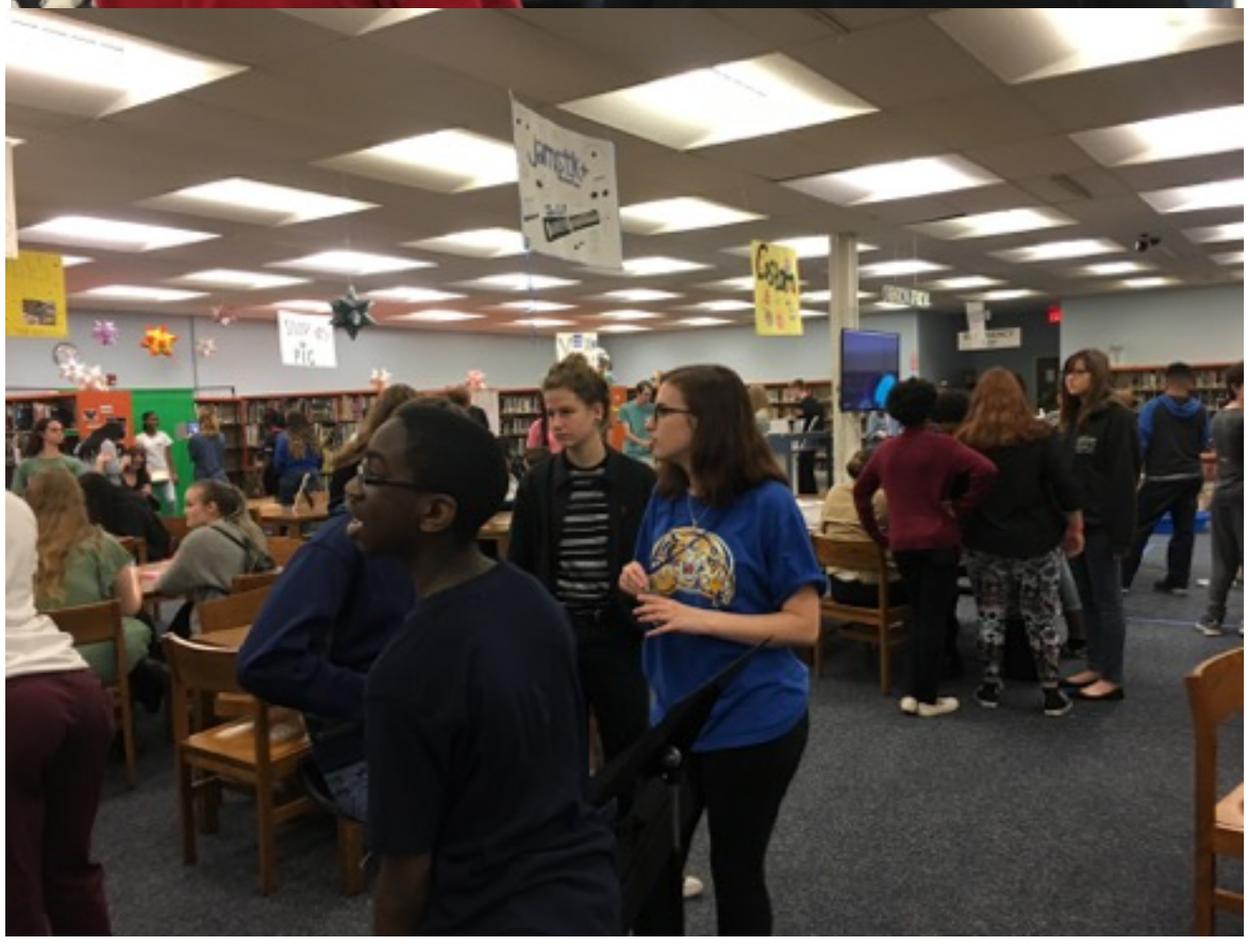
30+ Stations





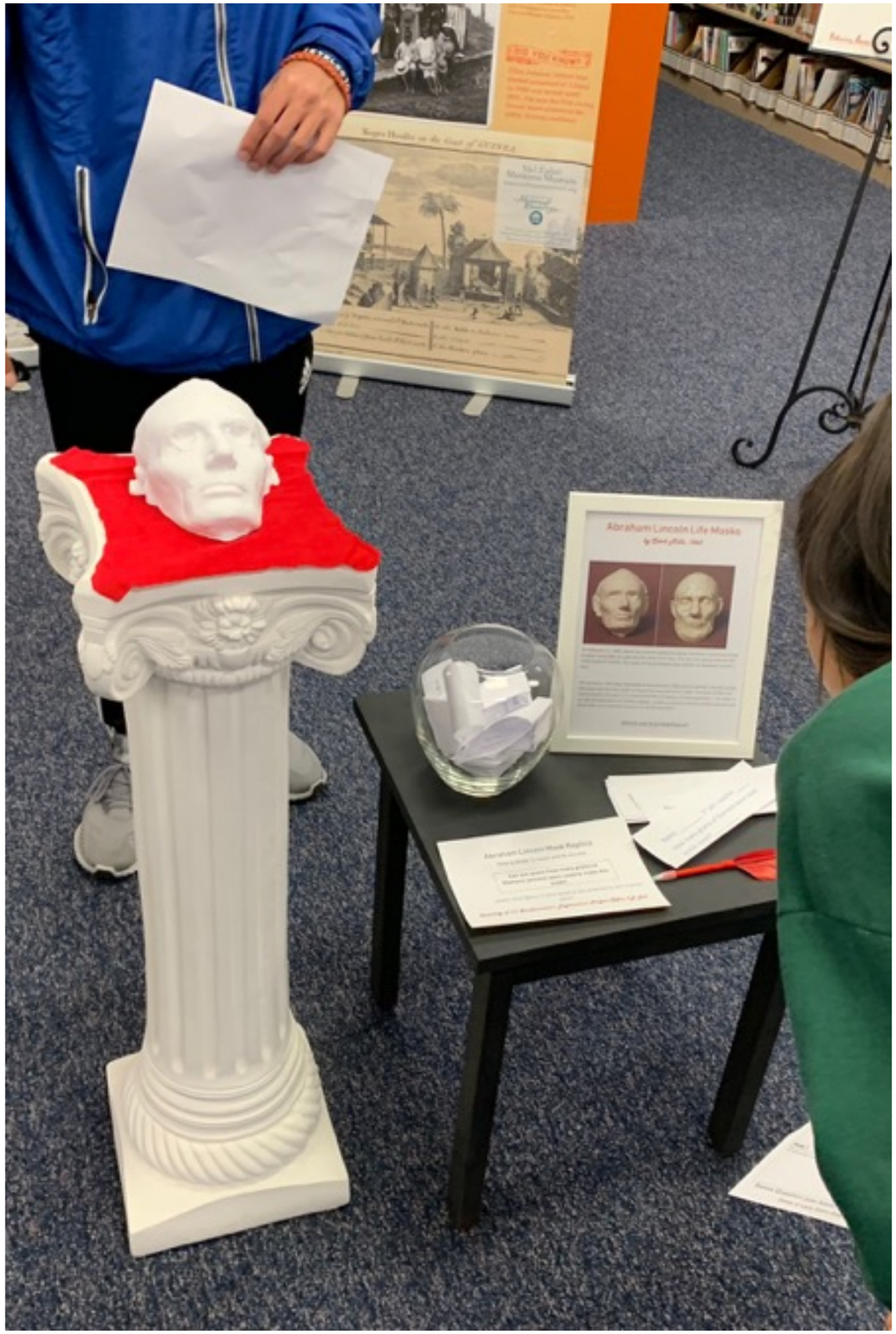
- Use and repurpose what you have.
- Put the students in charge.

Library Showcase



Civil War Pop-Up Museum

Panels on loan from Mel Fisher Maritime Museum



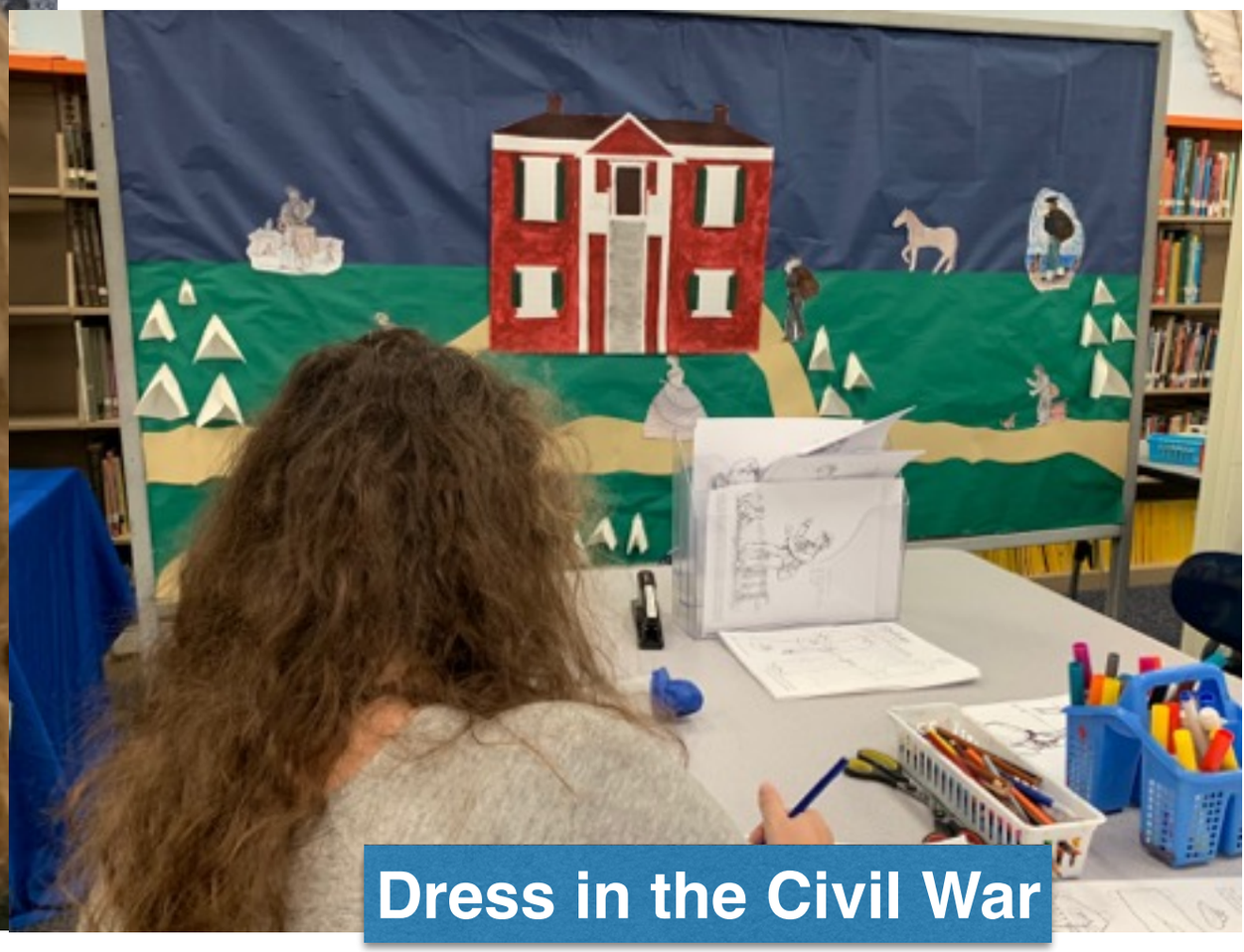
Free Smithsonian files for many artifacts

Civil War Silhouettes

Yarn Dolls

Invention Challenge

FLASHPOINT
Currency and Cotton


Dress in the Civil War

Hosting themed events and experiences…

Creates enthusiasm with students and teachers

Helps gain student and teacher buy-in

Promotes collaboration

Tips

Start with your comfort zone.

Don’t stay in your comfort zone.

Look for community resources for inspiration and guidance.

Self-guided activities are a great way to test the waters

Workshops and Master Classes

Use your kids' strengths!

Scrunchie Making
Crocheting
Rubix Cube

Legacy Project

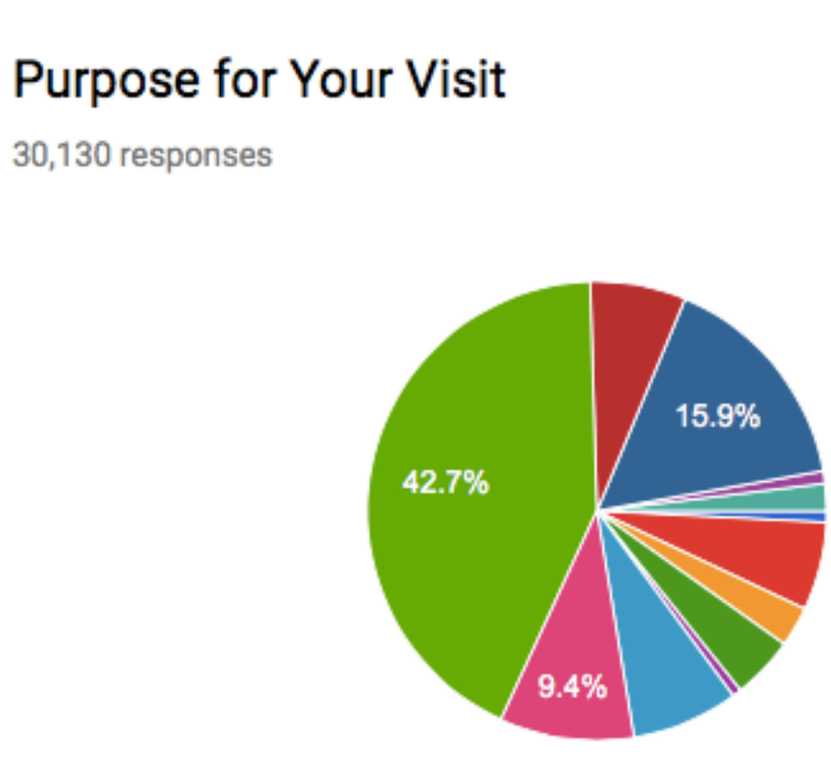
Legacy Letter—Writing Component
Legacy Necklace—Making Component

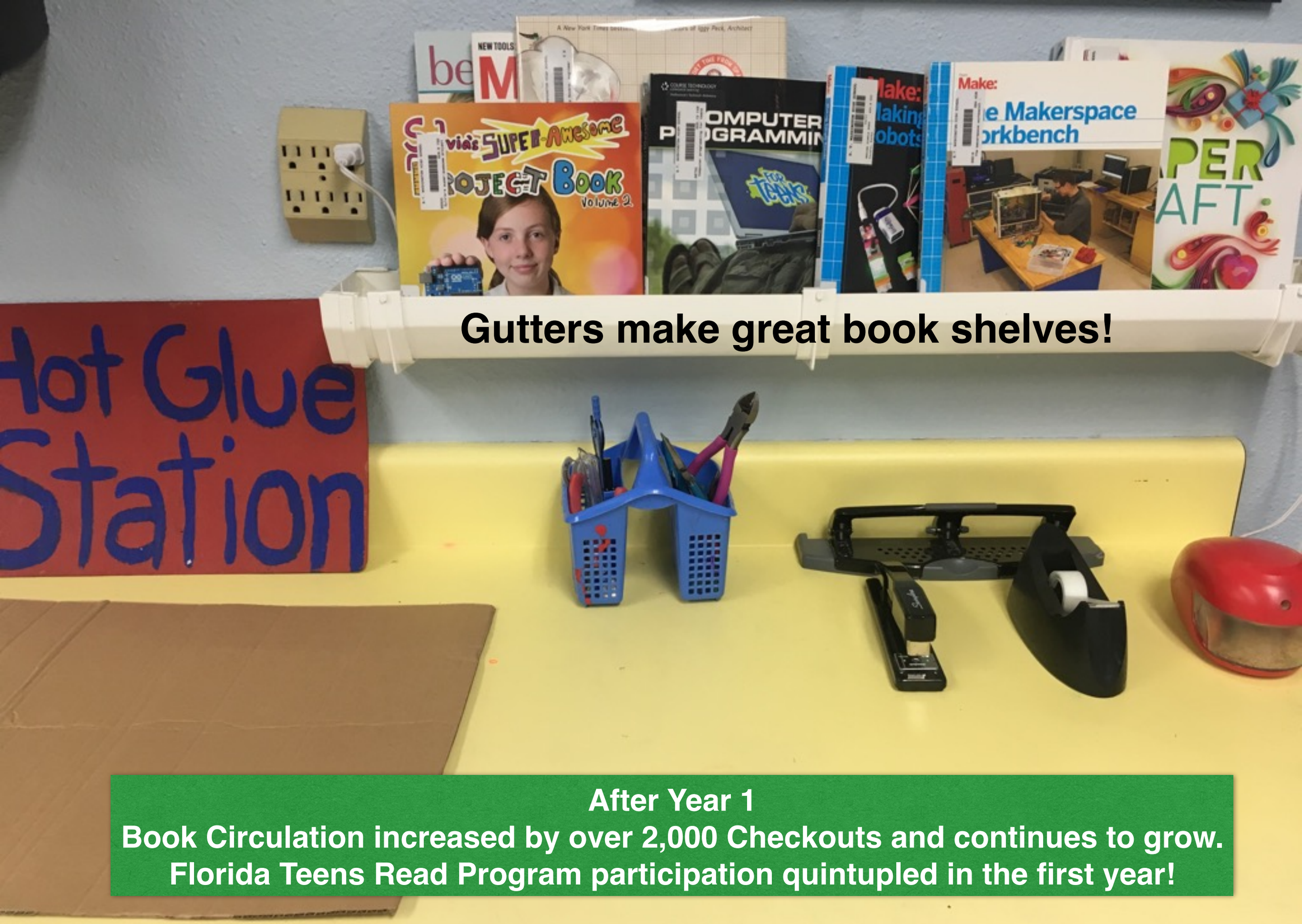
Legacy Necklace

Find out what your students want to learn and make it happen!

Google Form Results

42.7% Selected “Spark Lab/New Technology” as the purpose for their visit.





Gutters make great book shelves!

After Year 1
Book Circulation increased by over 2,000 Checkouts and continues to grow.
Florida Teens Read Program participation quintupled in the first year!

Alisha Wilson

Teacher-Librarian
Booker T. Washington High School Innovation Center (Title I School)
Pensacola, Florida

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