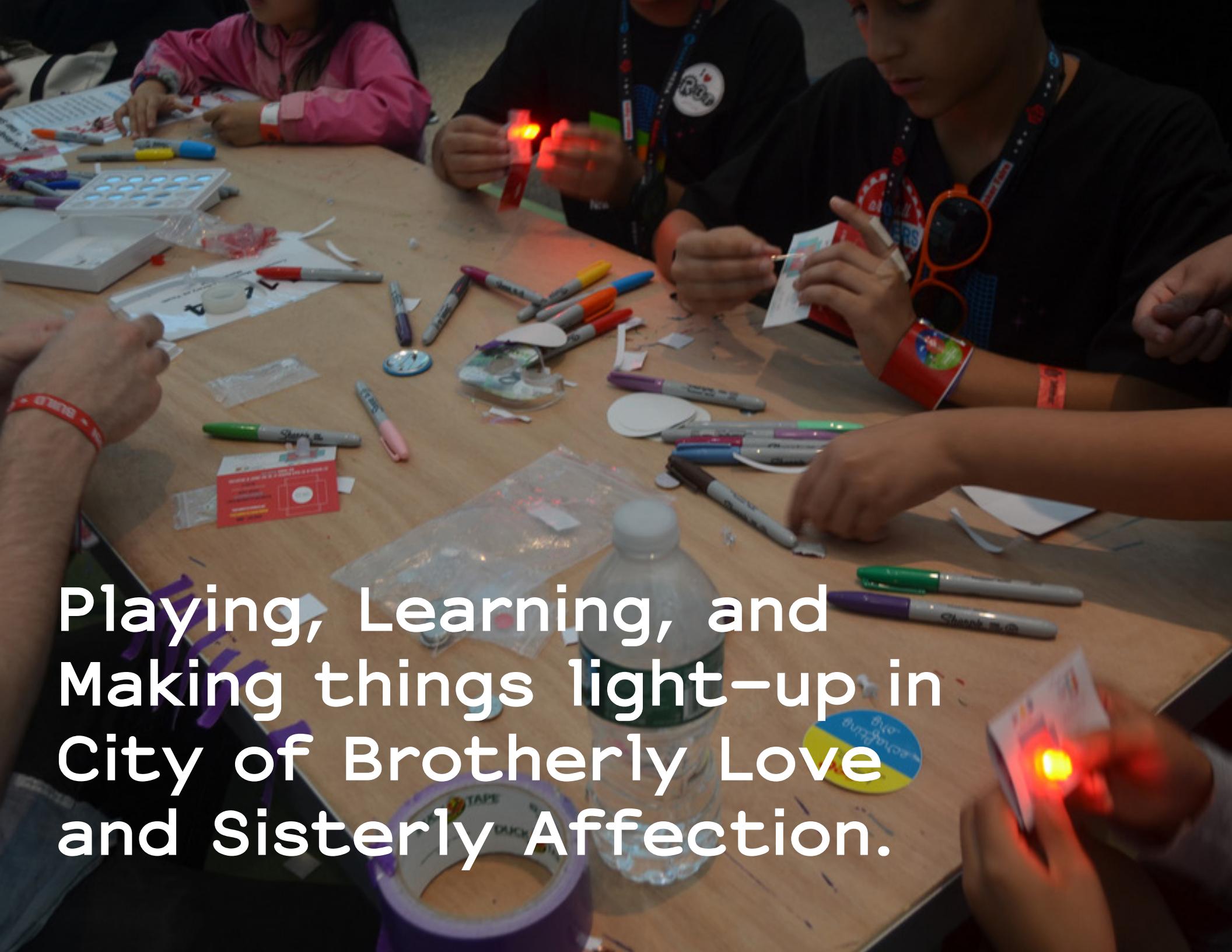


MakerJawn

IDES 431

bk

A group of children are gathered around a wooden table, focused on a craft activity. They are using various materials like paper, markers, and tape to create light-up projects. One child in the foreground is holding a small red LED light. The table is cluttered with supplies, including a box of Sharpie markers, a roll of duct tape, and several small electronic components. The scene is set indoors, with children wearing casual clothing and wristbands.

Playing, Learning, and  
Making things light-up in  
City of Brotherly Love  
and Sisterly Affection.

A young boy with dark skin and short hair is standing in a grassy yard. He is wearing a red t-shirt with a graphic design and blue jeans. His arms are raised in the air, and he is smiling broadly. The background consists of green grass with some small weeds and a concrete edge on the left side.

Playing



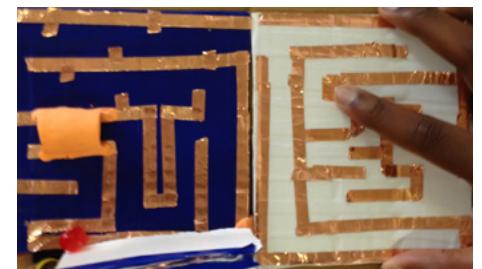
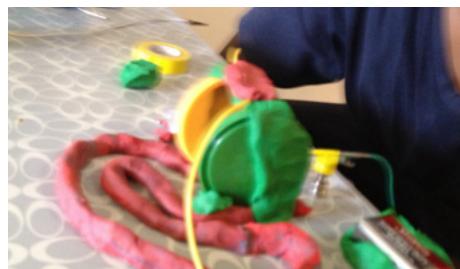
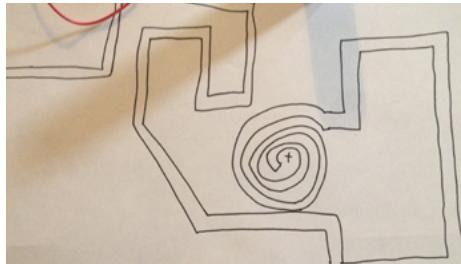
Learning

A close-up photograph of a young girl with dark skin and braided hair, wearing a purple and grey patterned dress. She is holding a glowing blue LED ring on her finger. Her hands are positioned over a purple surface with circular patterns, where several electronic components like resistors and a yellow LED are visible, connected by wires. In the background, a bicycle is leaning against a wall, and a black dog is lying on the floor. The scene is set in a workshop or maker space.

Making things  
Light-up







Encourage  
exploration  
and making  
of electronic  
interactives.



# Stakeholders



**K-Fai Steele**

Teen Programming  
Specialist



**Kenny G.**

Maker Mentor at  
Parkway Central



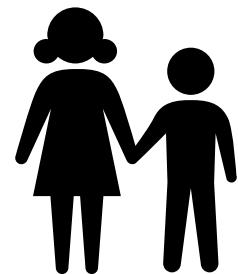
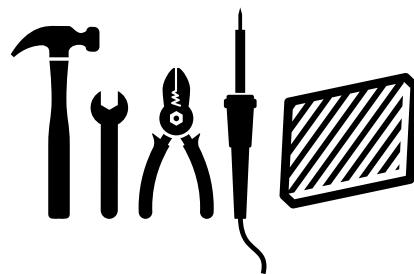
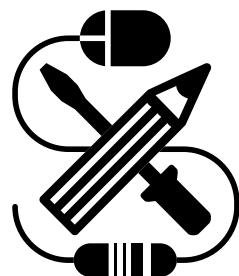
**Yasmin Kafai**

Penn GSE and  
ECrafting Circles  
Collaborator



**Ann Dougherty**

Children's Librarian  
at the Kensington  
Library Branch



Tinkerers

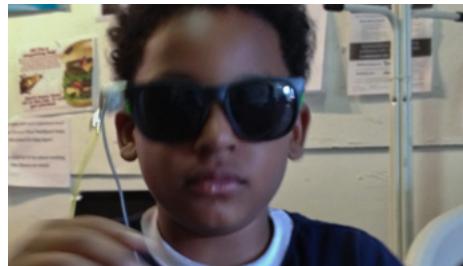




## Jacob

13 years old  
"The Boss"

Self-directed  
tinkerer who dives  
head first into  
making things.



## Mykal

9 Years old  
"the best student"

Needs constant  
verification, but  
will eventually work  
with the team.



## Donnie

10 years old  
"gamer"

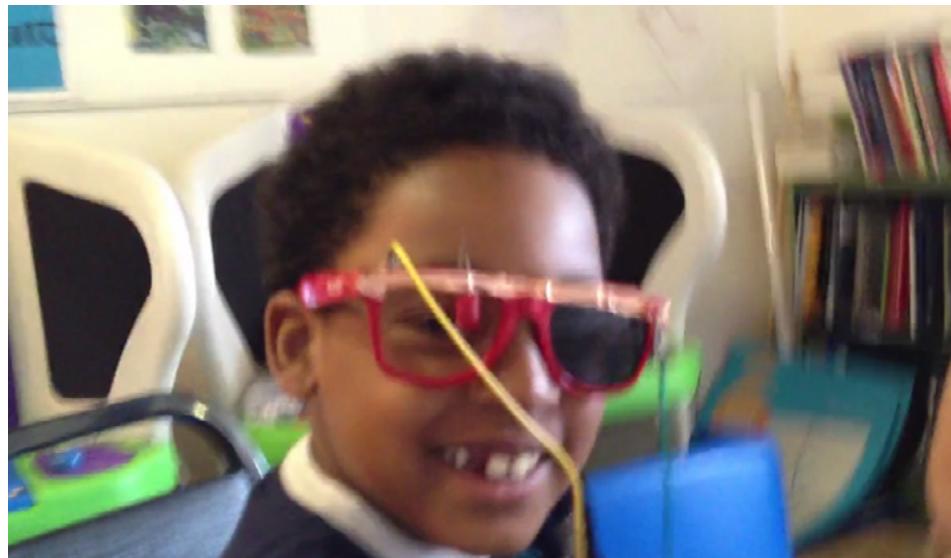
Only focused on  
technology with  
immediate relevance  
to his current  
platforms.



## Star

11 years old  
"maker"

Frequent drop  
in who enjoys  
playing around and  
seeing project  
possibilities.



## **Peer interview or Personal Video**

Methods used to extract the general sentiment of the learning experience. At the same time exposing effectiveness of making and allowing for “bragging”.



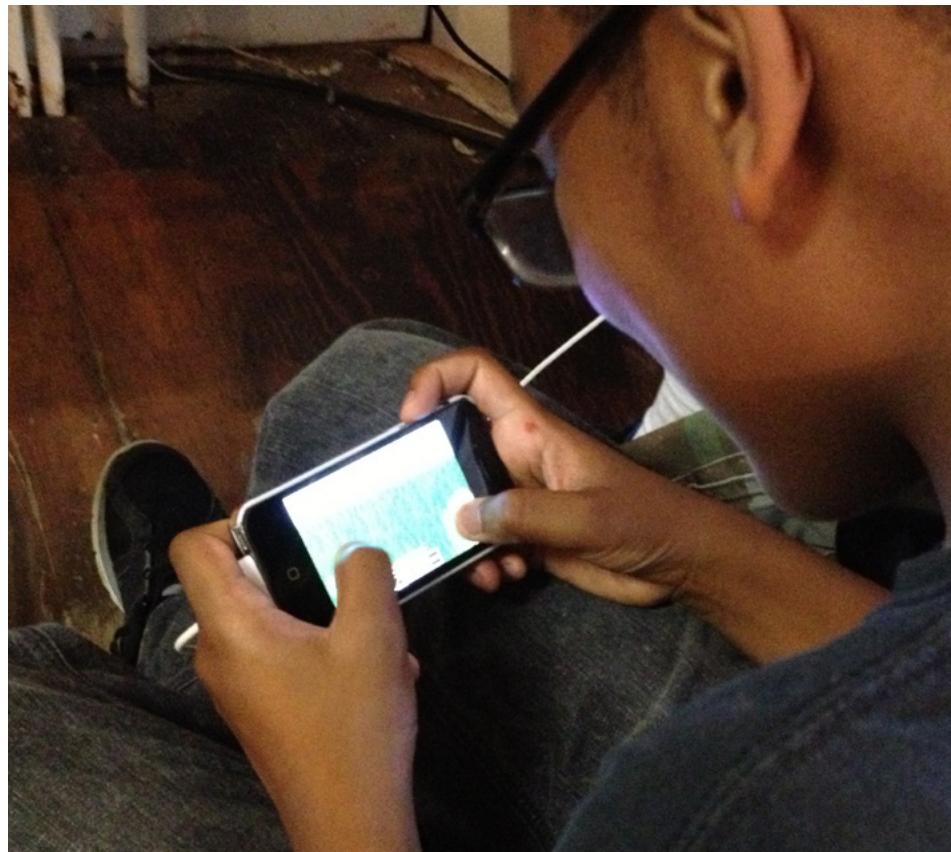
## The efficiency of bits vs. atoms

Digitally transferred data has less of an immediate overhead cost as stated in *Makers: The New Industrial Revolution*. This was easily verified at the Village as you could see *projects freely moving around* the room or shared to other locations via our blog.



## No restrictions

Finding myself as a guide to learning via Dewey's *Education and Experience*, I've taken a less overbearing model to letting kids explore. Within reason I no longer restrict anyone from *situations* and *interactions*, even if mildly unsafe or sure to be executed incorrectly.



## Play is essential

Within the context of a child's community, family, and self it encourages expression and connection as highlighted by *Growing up with Technology*. Remembering context is critical to acting appropriately to mischief as expounded upon in *Norwegian Wood*.

Precedent



## MESS Kits

"Single-serving experiments that allow kids to explore scientific concepts at their own pace." Checked out and updated frequently with simple chemistry, physics, and crafts projects.



<http://www.pensacolamesshall.org/>



## Challenges

[Sign In](#) | [Sign Up](#)



**Robot Obstacle Course**  
Can you make a robot navigate through the sharp turns, bridges, and lava?



**Music Amplifier**  
Build an amp for your mp3 player or phone!



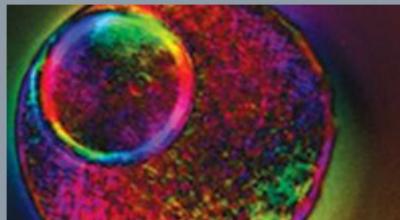
**Mobile App Designer**  
Customize an Android game with your own sounds, graphics, and effects and play it on a phone.



**LED Color Lights**  
In this challenge, combine and control light from three T-12 LEDs to create a rainbow of different colors.



**Party Lights**  
Build a light display that blinks and fades in a pattern.



**Just Bead It!**  
Create gel beads using the same cutting-edge techniques scientists use to move human cells.

## Fuse Studio

Online, drop-in model, inquiry based, STEAM(Science, Technology, Engineering, Arts, and Math) centric design-build challenges. Free to the public, sans physical project materials.

<https://www.fusestudio.net/challenges>

## Curriculum

A big part of our company's beliefs center around being open - so any materials we have we want to share. Below you'll find our curriculum broken out into three main categories: beginner, intermediate and advanced. These materials include presentations, handouts, code and more!

If you have any questions, please [contact us](#).

### Beginner

- [Intro to Arduino](#)
- [Intro to Basic Electronics](#)
- [Arduino Cheat Sheet](#)
- [ProtoSnap](#)
- [ProtoSnap Intro to Arduino](#)
- [Simon Modifications](#)
- [Getting Started with PicoBoard](#)
- [Squishy Circuits](#)
- [Giant Breadboard](#)
- [Giant Components](#)
- [Giant Soldering](#)
- [Resistance Board](#)



Nationally tested and utilized curriculum for scaffolding learning with regards to electronics, physical computing, and programming.

	31	7	14
Map comparison of online resources/curriculum.	Run curriculum by Kenny and K-Fai.	Make sketch kits, let them be explored.	Concept presentation.
Reconnect with MESS Hall, talk about new kits.	Talk to Ann about implementing check-out/cart	Observe kit or cart usage.	
Reevaluate summer blog and feedback on tools.	Condense "curriculum" into kit interactives.	Interview volunteers about what they see in its usage.	
Develop own curriculum based on summer learning.		Make report for proof of concept / needed actions.	

