

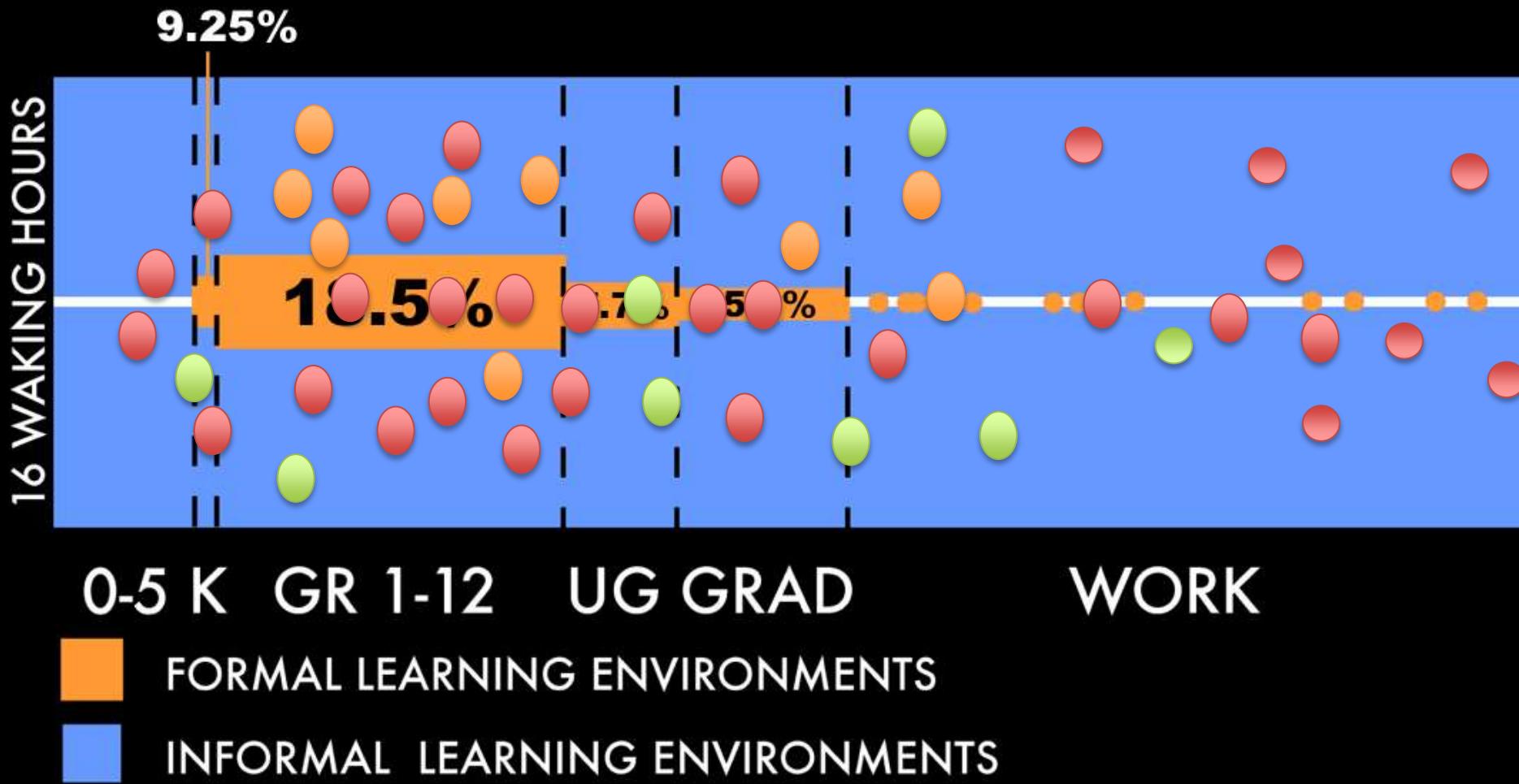
Designing for Activation: Building STEM Learning Pathways for Pittsburgh's Youth

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University of Pittsburgh

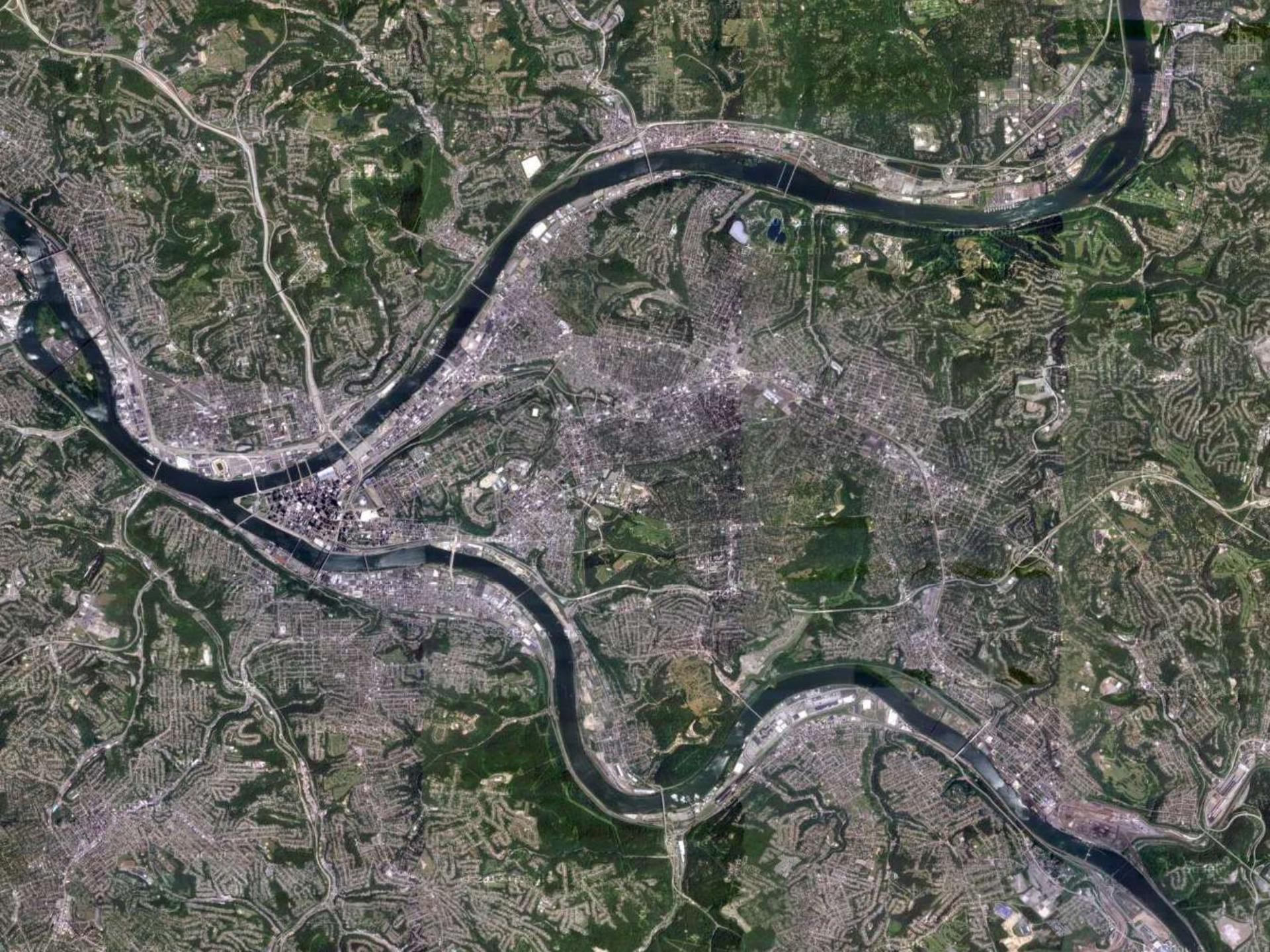
Funded by the Grable Foundation

LIFELONG AND LIFEWIDE LEARNING



Dear Committee...

- Revisit and renovate how we **understand** ecosystems. Many potentially conflicting uses in the last two days. Yes, it's all connected, all the time. What else?
- How do we **measure** the health of ecosystems?
- How do we **intervene** at the ecosystem level?
- How do we **invest** in healthy ecosystems? Levers in education are often top-down and we like them scalable. It's not just money. Do ecosystems afford and constraint bigger plays in out of school STEM learning?



LEARNING

ACTIVATION LAB

<http://activationlab.org>

UNIVERSITY OF PITTSBURGH

LRDC

Learning Research &
Development Center



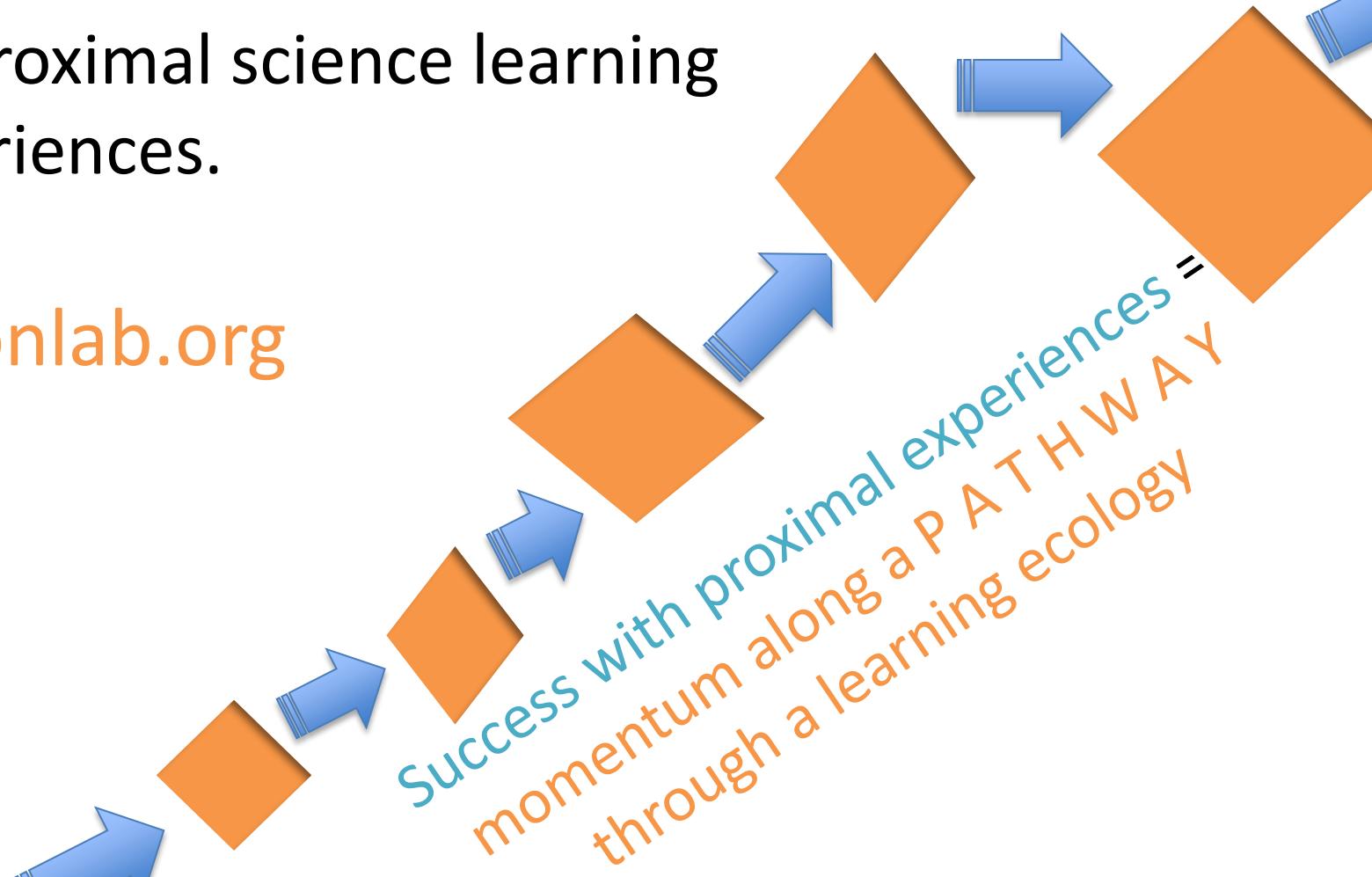
THE LAWRENCE
HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY



Science learning activation is

1. a composition of *dispositions, skills and knowledge*
2. that enables success
3. in proximal science learning experiences.

activationlab.org



Using Activation to Build Pathways



1. Shared aspiration for the city's youth
2. A R+P infrastructure for gardening in the ecology – tuning the goals of experiences and identifying and strengthening pathways
3. Bottom up approach
4. The potential for regional assessment linked to program and location specific goals



Designing at the ecological level: Act Lab Design Fellows

1. Dual citizens of research and practice
2. Focusing on the next step in the pathway
3. Collecting and using data for decision making
4. Pollinators



assemble
 a community space for arts + technology

TEENS AS TEACHERS **SCRATCH**

Join Caroline, our resident Scratch expert and teen teacher, for **FREE** drop-in Scratch classes on select **Mondays** from 4:15-5:15 pm at Assemble. Learn the power of this easy to learn visual programming language developed by the MIT Media Lab. Let your imagination soar as you utilize critical thinking skills to create games, cards, and cool interactive programs! Please see our website, assemblepgh.org, or contact teens@assemblepgh.org for more information. Bring your own laptop or borrow one of ours. No programming experience necessary. Upcoming session dates: 3/31, 4/14, 4/28, 5/12



assemble
 a community space for arts + technology

5125 Penn Avenue
 Pittsburgh, PA 15224



The Pamphlet Problem



- Thirteen school partnerships serving over 300 students
- Four educational programs: Habitat Explorers (grades 1-2), Park Stewards (grades 4-5), Mission Ground Truth (grades 7-8), High School Urban Eco Stewards (grades 9-12)
- New Environmental Center





Educators who are aware of pathways



RiverQuest



- Semi-structured interviews to understand students served, program content, and recruitment methods
- Transcriptions/thematic analysis
- Mapping composition and structure of the regional environmental ed network.

Collaborative
program
integrating
science, **art**,
& **writing**

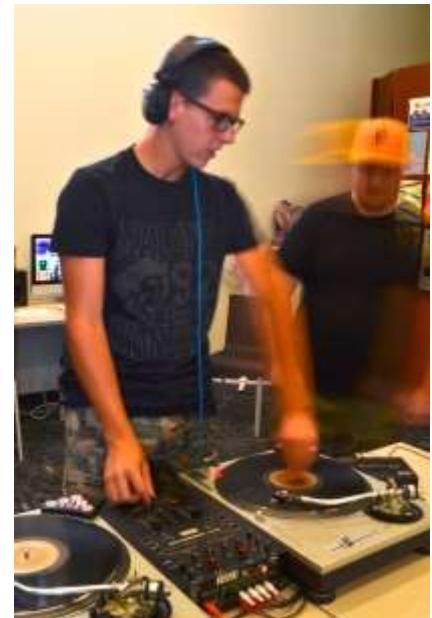


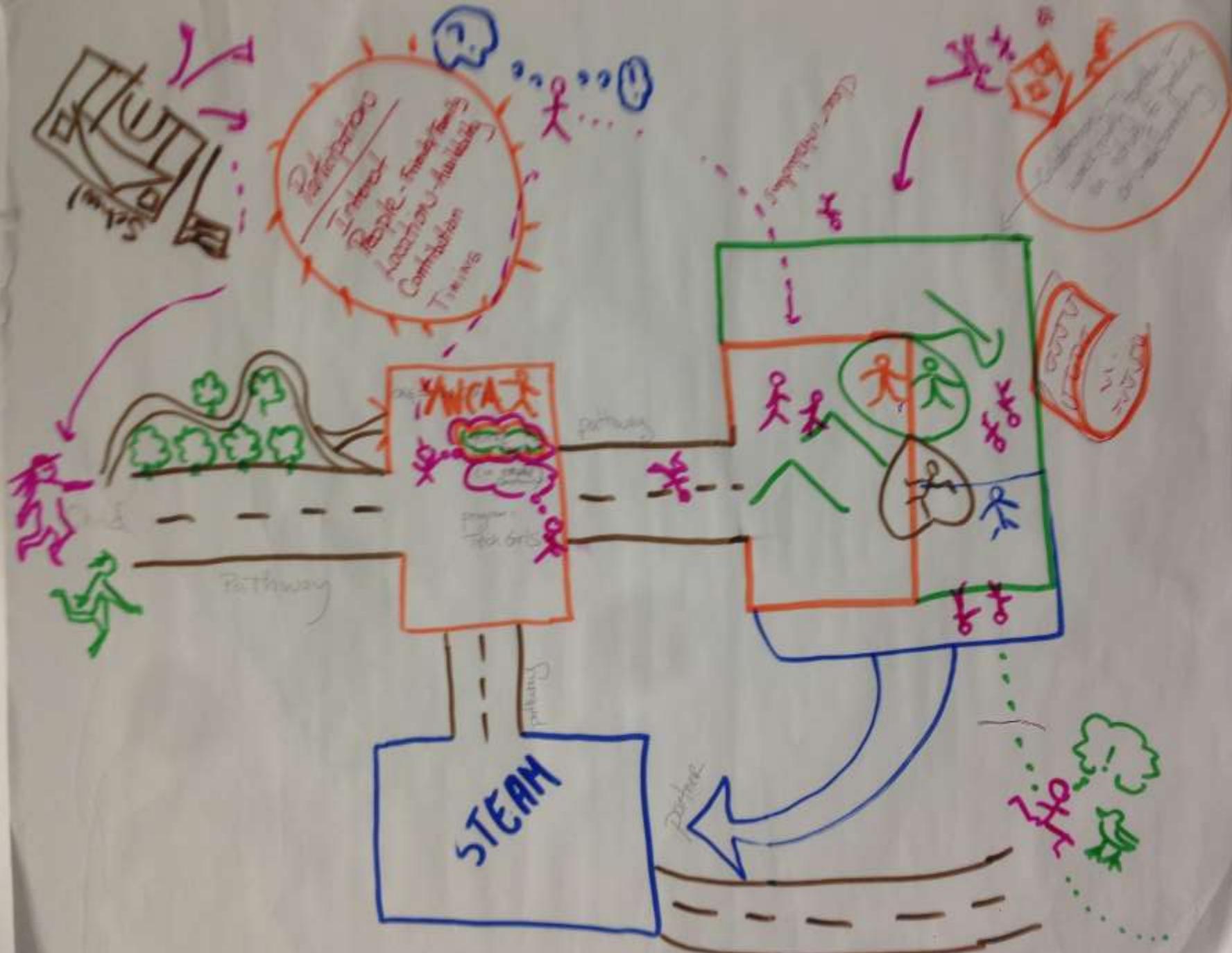
ROLL: Revealing Our Local Landscape

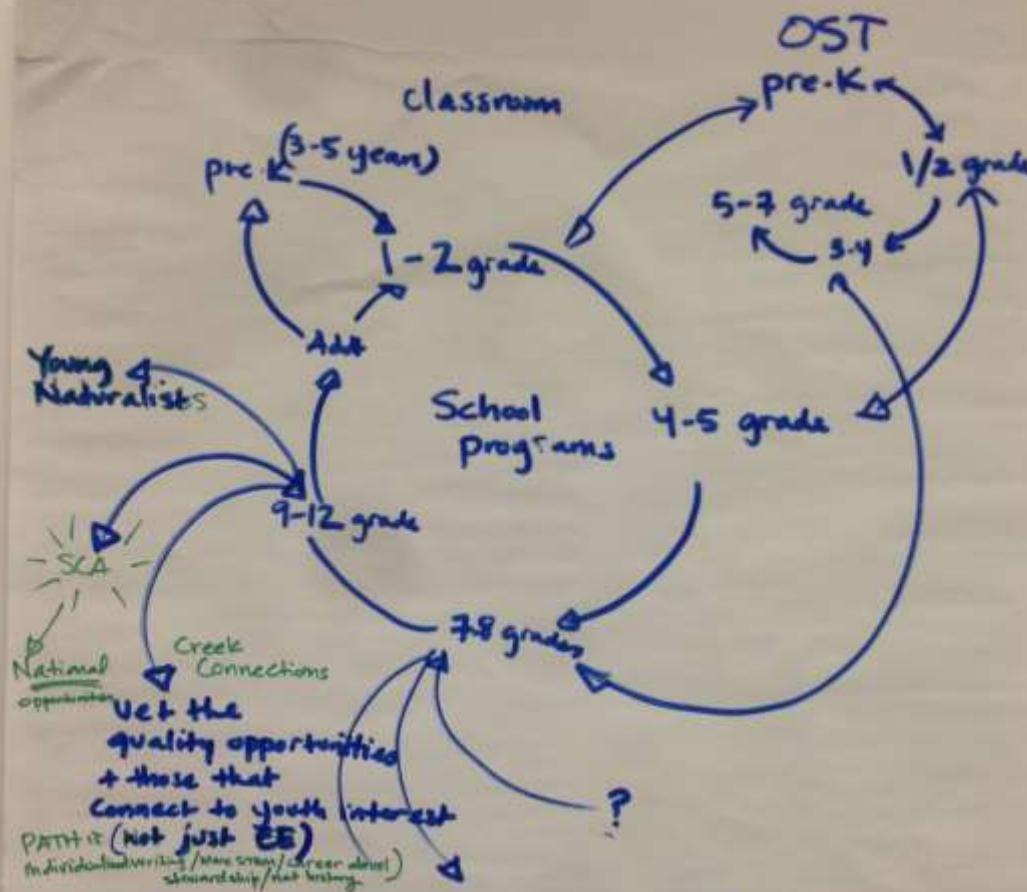
Targeted towards
creating
pathways for
local
underserved
teen girls



THE LABS







? Best communication methods?

Needs to be very strategic + labor intensive

OUTSIDE guidance Counselor - train mentors

KIDS need help w/ applications, into
teachers are too stretched

What is our true niche?
How do we trust partners enough to let go of some things + let partners be real partners?

On going look at what makes new approach successful?
Need a HUB for each content area - Need adaptive management

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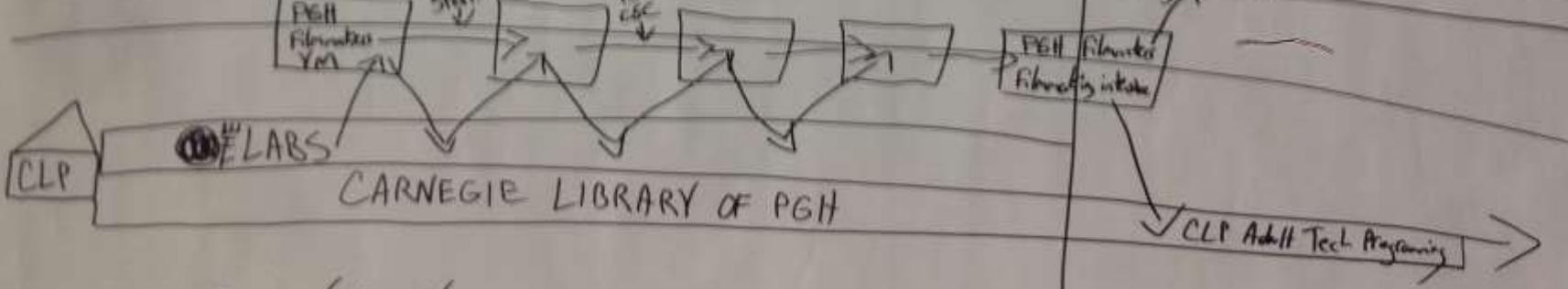
CLABS Carnegie Library of PGH

\$\$\$???

Robotics ↑



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Film/AV



The thing about pathways is...

1. There aren't hundreds, but there's more than five
2. Parents, children, educators need tools to navigate
3. Beginning, middle, advanced
4. On ramps everywhere
5. It's hard for organizations. Closed vs. open pathways?