

# MAKING + LIBRARIES = STEM-TASTIC !





# Session Objectives

1. To introduce participants to a variety of activities which foster critical thinking and creativity and to present new tools, technologies, and materials that can be used in out-of-school programming.
  2. To share information and lessons learned from the Make It at the Library project.
  3. To inform participants about the importance of making for children of all ages.
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**MAKING?**

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**LIBRARIES?**

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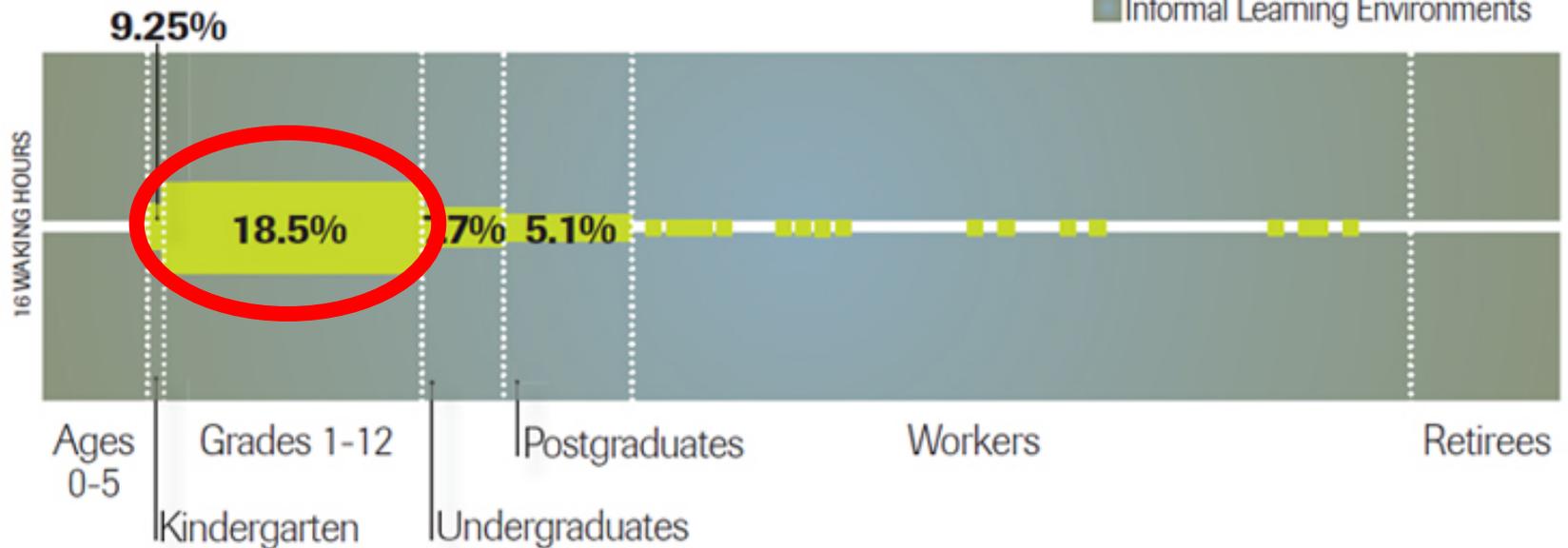


# OUT-OF-SCHOOL TIME MATTERS!

## LIFELONG LEARNING

A relatively small percentage of waking hours across the life span are spent in formal educational environments.

■ Formal Learning Environments  
■ Informal Learning Environments



# DEMAND IS HIGH

More youth than ever before—

# 10.2 million

—are in afterschool programs.

For every child  
in a program,

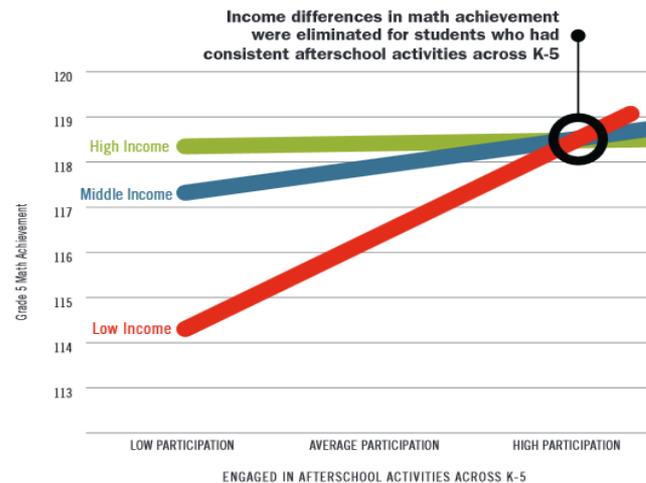
2 are waiting to get in.



NEW RESEARCH SHOWS

## Afterschool Is a Real Solution Linked to Closing the Gap

### Afterschool Participation Narrows the Math Achievement Gap<sup>1</sup>



New research demonstrates that more consistent time spent in afterschool activities during the elementary school years is linked to narrowing the gap in math achievement at grade 5.

#### What the data indicate:

- » When afterschool participation is highly consistent, there is no gap in low-income and high-income children's math achievement at grade 5
- » The more consistent the afterschool participation, the narrower the gap in math achievement
- » The more rarely students participate in afterschool activities, the wider the achievement gap

<sup>1</sup> Pierce, K. M., Auger, A. and Vandell, D. L. (April, 2013). *Narrowing the Achievement Gap: Consistency and Intensity of Structured Activities During Elementary School*. Unpublished paper presented at the Society for Research in Child Development Biennial Meeting, Seattle, WA.

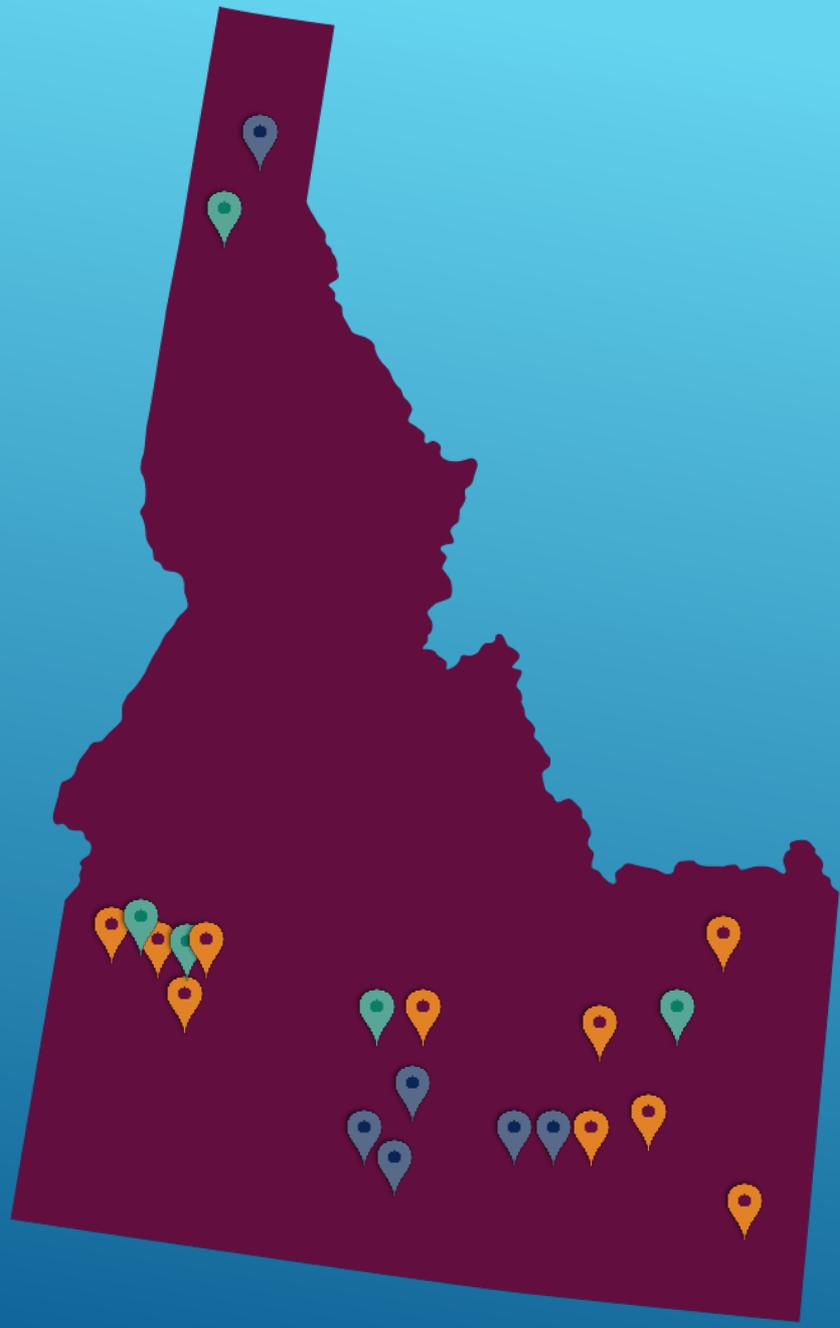


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Idaho  
Commission  
*for Libraries*



# LEARNING THROUGH DOING

CONSUMER → PRODUCER

NOVEL APPLICATIONS OF TECHNOLOGIES

OPEN SOURCE &  
FREELY SHARED

PEER-LED & SHARED LEARNING

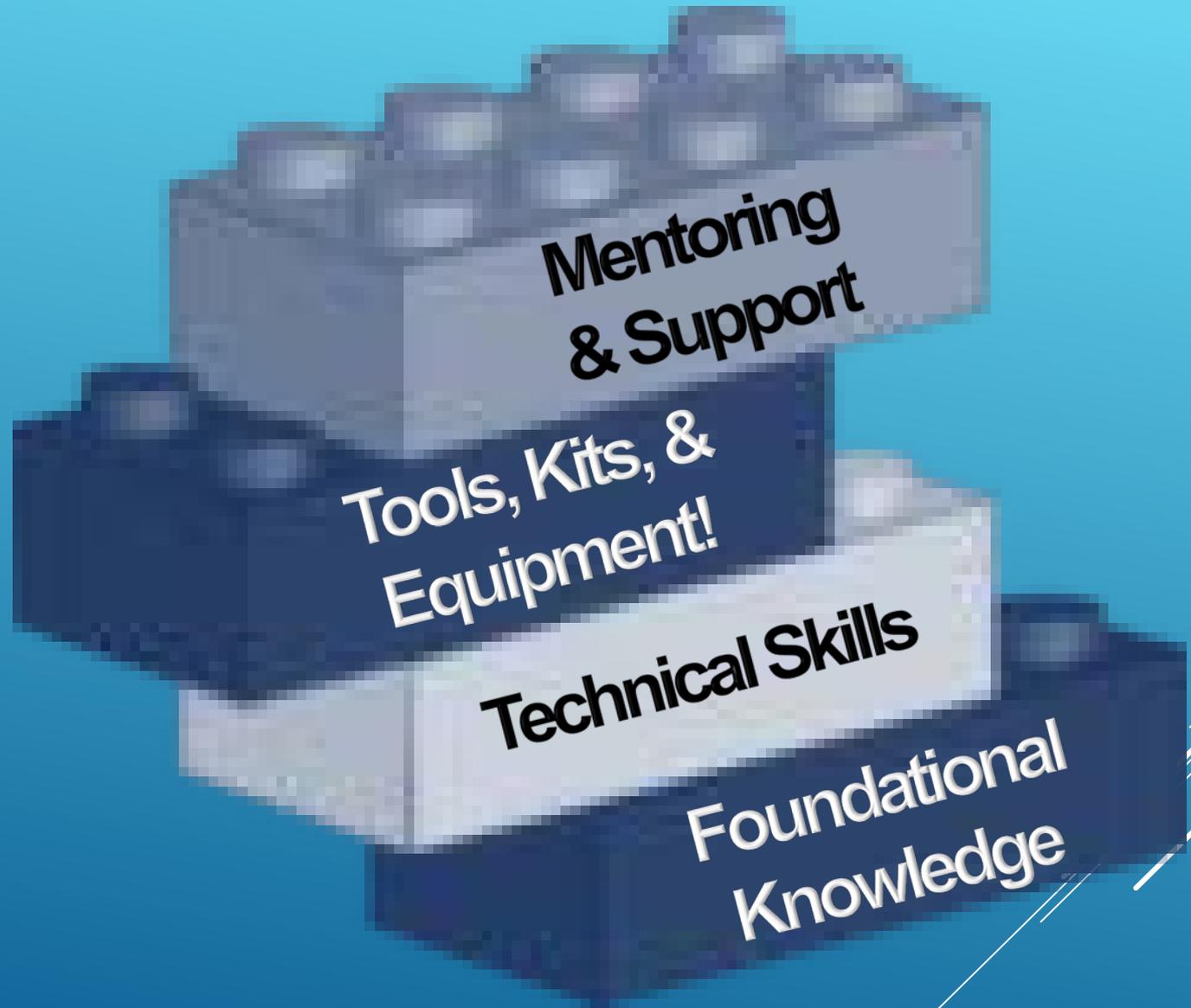




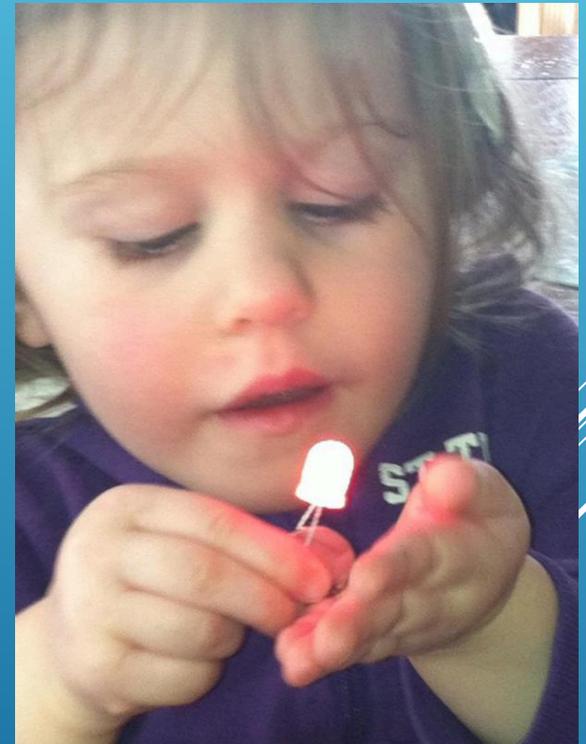
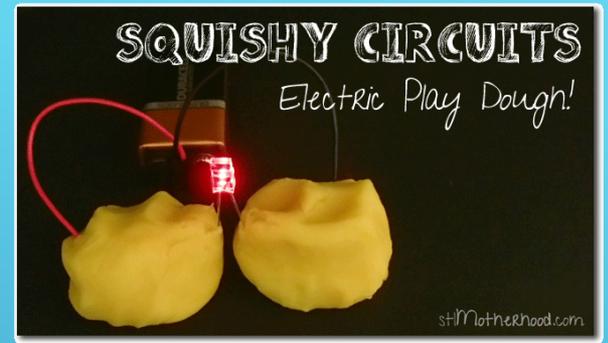
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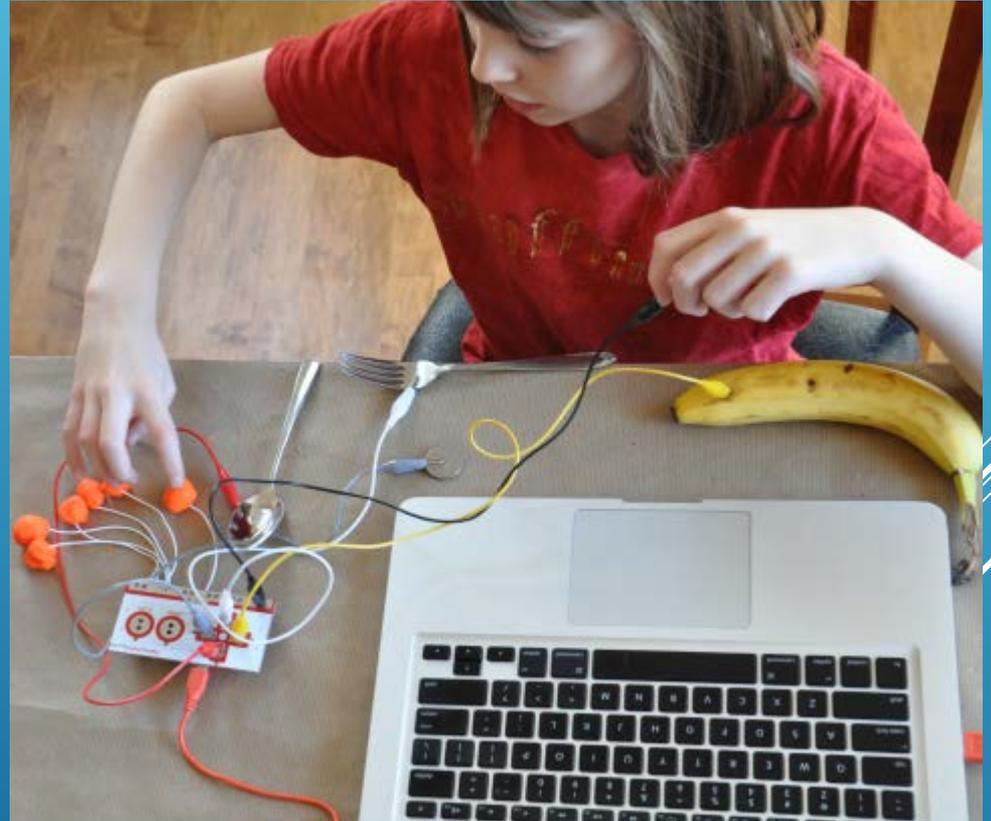
# SQUISHY CIRCUITS FUN



Teaching Basic Circuits

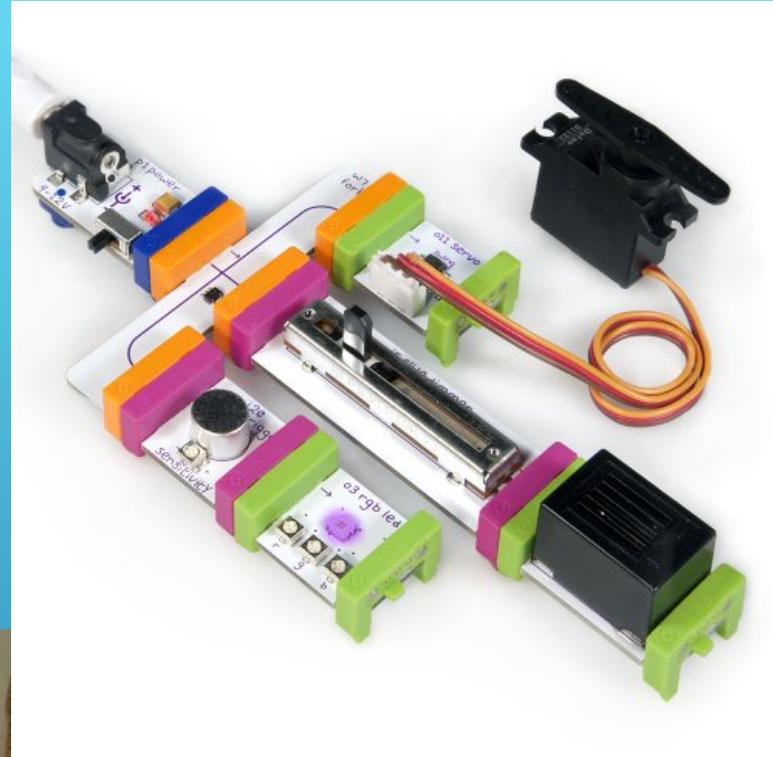
<http://courseweb.stthomas.edu/apthomas/SquishyCircuits/PDFs/Circuit%20Basics.pdf>

# MAKEY MAKEY MAYHEM





# CIRCUITS BLOCKS



# LITTLEBITS





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TOOLS!**

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2.0



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# 3D DESIGN & PRINTING



# WHAT HAVE WE LEARNED?

**Making activities engage all ages**

**It is easier than many staff thought!**

**Fosters collaboration among patrons**

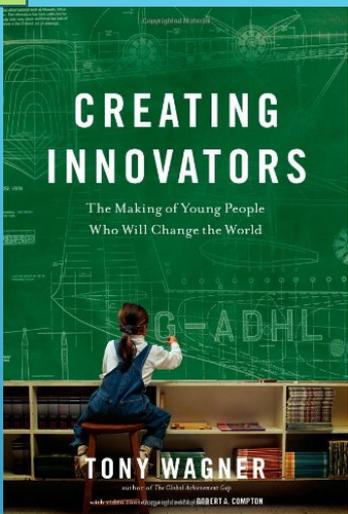
**IT'S FUN!**

**...(And when kids are having fun, they are most open to learning!)**

**Helps build new partnerships**

**Making can happen ANYWHERE!**

**Can be VERY cost effective!**

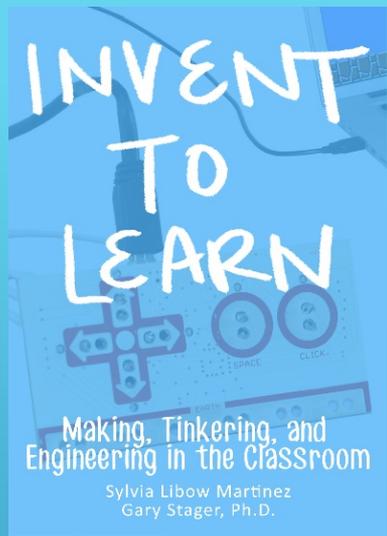


# RESOURCES

[Libraries.Idaho.gov/make-it-idaho](http://Libraries.Idaho.gov/make-it-idaho)

[bostonchildrensmuseum.org/sites/default/files/pdfs/STEMGuide.pdf](http://bostonchildrensmuseum.org/sites/default/files/pdfs/STEMGuide.pdf)

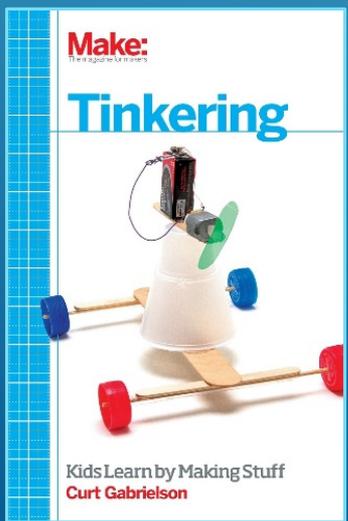
[pbs.org/wholechild/providers/play.html](http://pbs.org/wholechild/providers/play.html)



[ecrp.uiuc.edu/beyond/seed/katz.html](http://ecrp.uiuc.edu/beyond/seed/katz.html)

[makeymakey.com/guides/](http://makeymakey.com/guides/)

[makerkids.ca/](http://makerkids.ca/)



WHAT  
WILL  
YOU  
MAKE?

