

Early Years Conference October 2014 Building Young Makers - Resources

The Maker Movement/Culture --A Primer

The **maker culture** is a contemporary culture or subculture representing a technology-based extension of DIY culture. Typical interests enjoyed by the maker culture include engineering-oriented pursuits such as electronics, robotics, 3-D printing, and the use of CNC tools, as well as more traditional activities as such metalworking, woodworking, and traditional arts and crafts. The subculture stresses new and unique applications of technologies, and encourages invention and prototyping. There is a strong focus on using and learning practical skills and applying them creatively.



http://en.wikipedia.org/wiki/Maker_culture.

Background on the Maker Movement (and why you should care about making with young children)

Fred Rogers Center Blog

<http://www.fredrogerscenter.org/blog/back-to-school-with-the-maker-movement/>

Excerpt:

Play, Fred Rogers said, “is often talked about as if it were a relief from serious learning. But for children play is serious learning. Play is really the work of childhood.”

Through her play, my daughter learned to experiment, explore new materials with her hands, and developed new fine motor skills. But she also had to learn to work next to her friends, express herself, and negotiate conflict.

“As the children work together or side by side,” [wrote NAEYC’s Angie Dorrell](#), “they learn to understand someone else’s viewpoint. The children also have the opportunity to express themselves and become confident in sharing their ideas with others.”

Research shows that play builds social-emotional competence in many domains: language skills, social skills, empathy, imagination, self-control, persistence, and higher-order thinking. And many advocates argue that our focus on early learning and academic achievement has been at the expense of valuable play-based programs, particularly in kindergarten. The maker movement may be a way of bringing play back into the picture.

When kids play and make things,” [responded Steve Davee with the Maker Education Initiative](#), “when they are put in charge of what they build and make, wonderful things happen: personalities, relationships and abilities are forged. I never get tired of seeing it.

The Teachers' Innovation Project

<http://www.fredrogerscenter.org/blog/the-teachers-innovation-project/>

Excerpt:

In Melissa Butler's kindergarten classroom at [Pittsburgh Allegheny](#), an elementary school on the city's north side, 5-year-olds are learning about simple circuits and electricity.

The children examine the circuit parts, take them apart carefully, and notice each component. They sketch the technology from different angles. They discuss what they see with their teachers and their friends.

This classroom is part of a unique partnership called the Children's Innovation Project, which will be expanding this school year to become the Teachers' Innovation Project—a partnership between the Fred Rogers Center, [Carnegie Mellon University](#), [Carlow University](#), [Clarion University](#), [Pittsburgh Public Schools](#), and the [Sprout Fund](#).

"As opposed to children just using technology to explore, we want them to be producers of technology," [Butler said](#), "and create their own circuits and take apart toys and re-appropriate their components for new expression."

The project was started by Butler and Jeremy Boyle, an assistant professor of art at Clarion University. In 2010, when Boyle was a resident artist with Carnegie Mellon's [CREATE Lab](#), he developed simple circuit blocks for use in K–3 classrooms as an effort to explore meaningful technology education with young children.

We're interested in persistence, and struggle over time. We're interested in ideas around collaboration and conceptual thinking.

Butler and Boyle wanted to understand how technology could be a vehicle for innovative pedagogy. They wondered what kind of learning the exploration of technology, as raw material, could facilitate in a classroom.

Youth maker movement: creating, risk and reward--What makes the maker movement important to youth development?

http://msue.anr.msu.edu/news/youth_maker_movement_creating_risk_and_reward

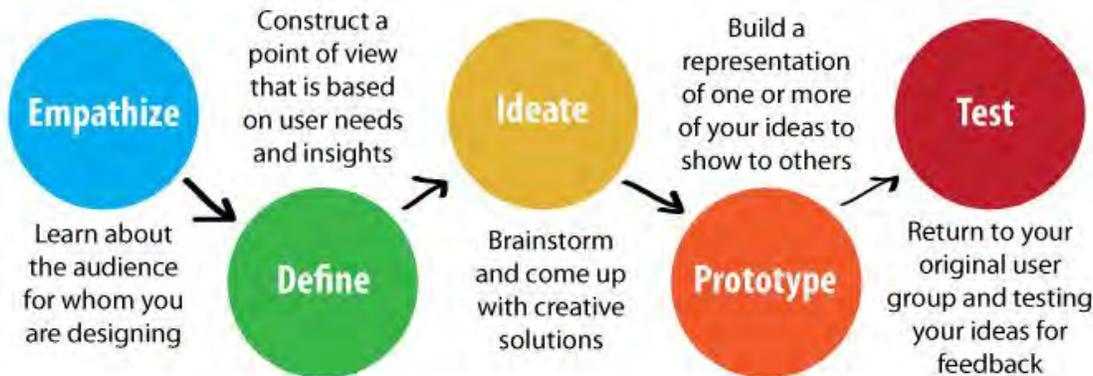
Excerpt:

According to [Michigan State University Extension](#), youth are getting involved and for good reason: there are clear benefits to youth development:

- [Experiential learning](#)—By creating stuff, whether physical objects, computer programs or ideas, youth "learn by doing" and often create something multiple times, learning from each iteration.
- Healthy risk-taking—When making, something mistakes are bound to happen with things going wrong. These "making laboratories" allow youth to create errors safely and feel accomplished when the third try at a project hits it out of the park.
- Science, technology, engineering and mathematic (STEM) topics—Youth might make a robot, a video or a quilt. The open space, peer input and adult guidance available in the maker environments help lead to more in-depth conversations about the science and technology involved. Exploring these topics early allows for interest to build towards careers in STEM fields.

- [Design-based thinking](#)—Aspects like working on hands-on projects, sharing open space with peers and tweaking a product until it is just right are conducive to thinking skills that dominate creative fields and are becoming important overall in fast paced, ever changing job markets.
- Entrepreneurship—Maker spaces give youth that critical place to create from which can lead to products, micro-businesses and tons of associated life lessons from becoming a youth entrepreneur.

Design Thinking and the Critical Role Failure Plays in Innovation



From the dschool at Stanford: <http://dschool.stanford.edu/dgift/>

Design thinking is a methodology that imbues the full spectrum of innovation activities with a human-centered design ethos. Innovation is powered by a thorough understanding, through direct observation, of what people want and need in their lives and what they like or dislike about the way particular products are made, packaged, marketed, sold, and supported.

Maker Movement Reinvents Education

<http://www.newsweek.com/2014/09/19/maker-movement-reinvents-education-268739.html>

Excerpt:

In his most recent book, *Creating Innovators: The Making of Young People Who Will Change the World*, Wagner profiles some of America’s great innovators and observes a pattern in their youths: A childhood of creative play led to their development of deep-seated interests and curiosities, and these passions fueled their intrinsic motivation to set and achieve career and life goals. Another trend Wagner found was that the adults in these innovators’ young lives nurtured their imaginations and taught them to persevere and learn from failure. ***“What we’re learning about innovation,” says Wagner, “is the importance of failing early and failing often...failing forward, failing fast and cheap. The whole idea of trial and error is something that is antithetical to our formal systems of education.... In fact, we penalize failure.... So there’s a complete contradiction between the world of schooling and the world of innovation.”***

How the Maker Movement is Transforming Education

<http://www.weareteachers.com/hot-topics/special-reports/how-the-maker-movement-is-transforming-education>

Excerpt:

“Hard Fun” and the Process of Design

The tools and ethos of the Maker revolution offer insight and hope for schools. The breadth of options and the “can-do” attitude espoused by the movement is exactly what students need, especially girls who tend to opt out of science and math in middle and high school.

However, hands-on Making is not just a good idea for young women. **All students need challenge and “hard fun” that inspires them to dig deeper and construct big ideas. Making science hands-on and interesting is not pandering to young sensibilities; it honors the learning drive and spirit that is all too often crushed by endless worksheets and vocabulary drills. Making is a way of bringing engineering to young learners.** Such concrete experiences provide a meaningful context for understanding the abstract science and math concepts traditionally taught by schools while expanding the world of knowledge now accessible to students for the first time.

Activities, Project Ideas, Products, and More!

Idaho Commission for Libraries – Fun with Math & Science webpage

<http://libraries.idaho.gov/doc/fun-math-science-family-workshops>

Make Magazine

<http://makezine.com/kids/>

DIY Maker Club

Created by a Lower School Technology Coordinator for PreK-2nd Grade students.

<http://mpowerstech.edublogs.org/diy-maker-clubs/>

<http://margaret-powers.com/tag/maker-movement/>

We Are Teachers

Includes Project Ideas for Maker Classrooms

<http://www.weareteachers.com/hot-topics/special-reports/how-the-maker-movement-is-transforming-education>

<http://www.weareteachers.com/hot-topics/special-reports/how-the-maker-movement-is-transforming-education/8-elements-of-a-good-maker-project/>

Sylvia’s Super Awesome Maker Show--Videos and more all created by a 13-year old maker!

<http://sylviashow.com/http://sylviashow.com/episodes/s2/e7/mini/squishycircuits>

(A great episode on Squishy Circuits)

LEGO Education <http://education.lego.com/en-us/>

Search by age, grade, and more for great products and projects.



Makedo – Tools for Creative Play

<http://mymakedo.com/>



STEM's newest darling: Robotics

<http://www.bostonglobe.com/magazine/2014/10/02/stem-newest-darling-robotics/FrQEOiiLNbWXL5GI6UE8WP/story.html>



Young Programmers Working with Bee-Bots -- <http://www.bee-bot.us/>

Bee Bots – A video introduction -- <https://www.youtube.com/watch?v=52ZuenJIFyE>

Get some great ideas from these wonderful organizations:

Fayetteville Free Library—Little Makers

- <http://fflib.org/make/little-makers>
- <http://scprato.com/tag/little-makers/>
- <http://scprato.com/2013/11/08/electricity-and-circuits/>

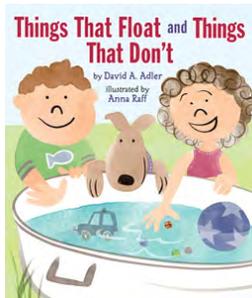
New York Hall of Science – Little Makers

- <http://nysci.org/little-makers/>
- <http://nysci.org/event/little-makers-ball-run-fun-2/>

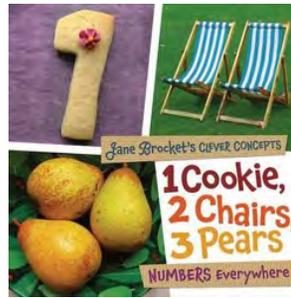
Make Anything – Resources for projects <http://www.projectmakeanything.org/resources.html>

Non-Fiction STEM Booklist

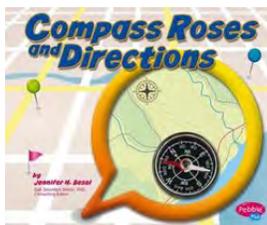
Pre-K – Kindergarten



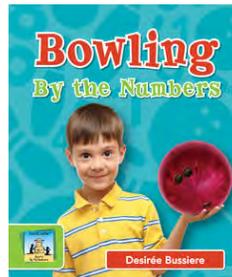
Adler, David. Illustrated by Raff, Anna (2013) *Things That Float And Things That Don't*. Holiday House.



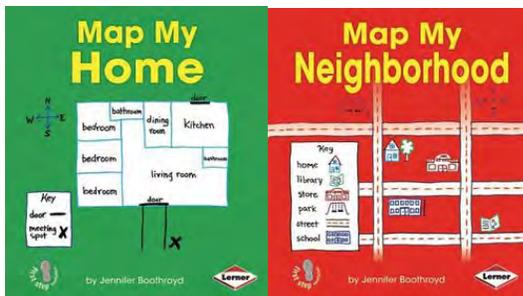
Brocket, Jane (2014) *1 cookie, 2 chairs, 3 pears: Numbers Everywhere*. Millbrook Press



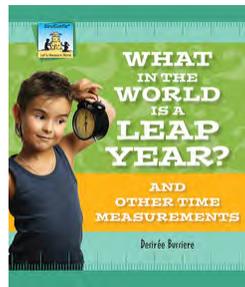
Besel, Jennifer. (2014) *Compass Roses and Directions*. Capstone * Others in the Maps series.



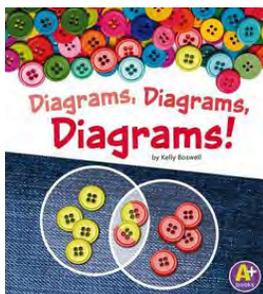
Bussiere, Desiree (2014). *Bowling By the Numbers*. ABDO Publishing Company.



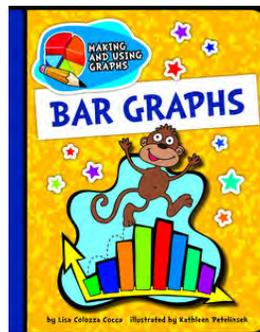
Boothroyd, Jennifer. (2014) *Map My Home*. Lerner Publications. & others in the First Step Nonfiction: Map It Out series.



Bussiere, Desiree. (2013) *What In the World Is A Leap Year? ABDO Publishing Company*



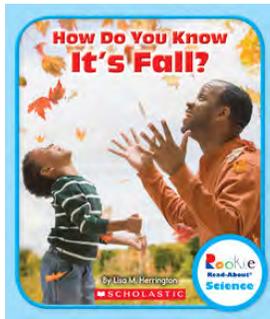
Boswell, Kelly. (2014) *Diagrams, Diagrams, Diagrams*. Capstone.



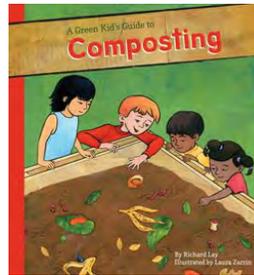
Cocca, Lisa Colozza. (2013) *Bar Graphs*. Cherry Lake Publishing

Non-Fiction STEM Booklist

Pre-K – Kindergarten



Herrington, Lisa. (2014) *How Do You Know It's Fall?* Children's Pres



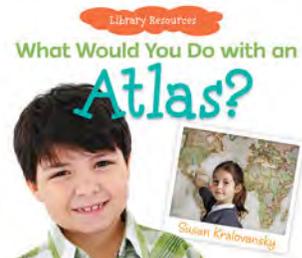
Lay, Richard. (2013) *Green Kid's Guide To Composting*. Magic Wagon. & Others in the series Green Kid's Guide to Gardening



Kerley, Barbara (2013) *The World is Waiting For You*. National Geographic Society



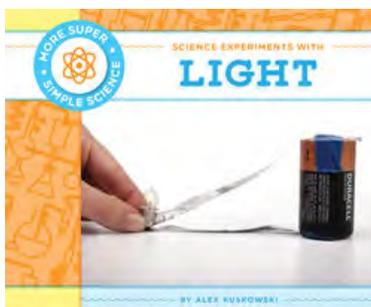
Lawrence, Ellen (2013) *Water*. Bearport Publishing



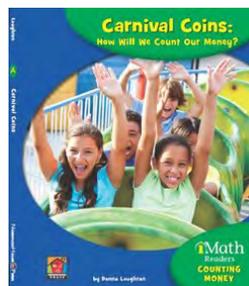
Kravlovansky, Susan. (2013) *What Would You Do With An Atlas*. ABDO Publishing Company



Levine, Sara (2014) *Bone by Bone: Comparing Animal Skeletons* Millbrook Press



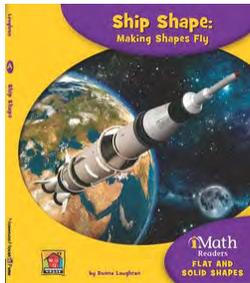
Kuskowski, Alex. (2014) *Science Experiments With Light*. ABDO Publishing Company.



Loughran, Donna (2013) *Carnival Coins: How Will We Count Our Money*. Norwood House Press

Non-Fiction STEM Booklist

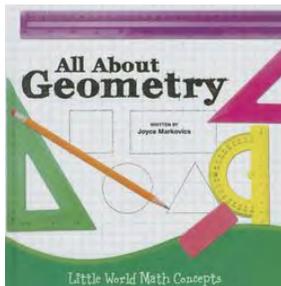
Pre-K – Kindergarten



Loughran, Donna (2013) *Ship Shape: Making Shapes Fly*. Norwood House Press.



Perritano, John (2013) *Pools to Ponds: Area, Perimeter, and Capacity*. Norwood House Press.



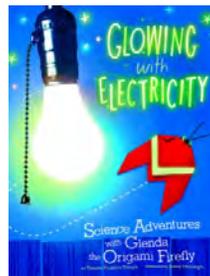
Markovics, Joyce. (2014) *All About Geometry*. Rourke Publishing.



Perritano, John (2013) *Toy Store Summer: Finding Area*. Norwood House Press



Meister, Cari. (2014) *Doctors*. Bullfrog Book



Troupe, Thomas Kingsley. (2014) *Glowing With Electricity*. Picture Window Books.



Ownings, Lisa. (2014) *Do Your Research*. Lerner Publications.



Waxman, Laura Hamilton (2013) *Cones*. Magic Wagon. & *Cylinders* and others in the series *Everyday 3-D Shapes*.



Resources for 2014 Tools and Materials

Reports, Articles and Information regarding STEM for Young Children:

<http://www.naeyc.org/blogs/%252Fputting-position-statement-early-childhood-science-work-preschool-classrooms>

<http://students.egfi-k12.org/category/k-12-outreach-programs/grades-k-5-outreach-programs/page/3/>

<http://naturalstart.org/feature-stories/engaging-children-stem-education-early>

<http://successfulstemeducation.org/resources/nurturing-stem-skills-young-learners-prek%E2%80%933>

<http://www.wikihow.com/Impart-STEM-Education-to-Your-Children>

<http://www.bostonchildrensmuseum.org/sites/default/files/pdfs/STEMGuide.pdf>

Squishy Circuits

Explore electricity with play dough, LEDs, and other simple materials.



<http://squishycircuitsstore.com/kits.html>

<http://makezine.com/projects/squishy-circuits/>

<http://tinkering.exploratorium.edu/squishy-circuits>

<http://courseweb.stthomas.edu/apthomas/SquishyCircuits/> - Awesome videos from the Playful Learning Lab at the U of St. Thomas School of Engineering.

<http://sylviashow.com/episodes/s2/e7/mini/squishycircuits> - Sylvia's Super Awesome Maker Show



<http://www.instructables.com/id/How-to-make-conductive-play-dough/> - Instructables – How to Make

http://www.sciencebuddies.org/science-fair-projects/project_ideas/Elec_p073.shtml - Multiple Projects

<http://shiftingphases.com/2012/04/15/k-12-engineering-squishy-circuits-tips-and-tricks/> - K-12 Engineering

<https://www.facebook.com/SquishyCircuits> - Facebook Page for Squishy Circuits Community

Kids K'NEX Kit



<http://www.knex.com/for-parents/building-together/> - Parent activities

<http://www.knexusergroup.org.uk/acatalog/knex-primary-schools.html> - Users group with ideas and guides

<http://www.pinterest.com/kassitea331/knex-lego-ideas/> - Pinterest board for K'NEX and LEGOS

<http://www.instructables.com/id/Incredible-KNEX/> - more advanced project ideas for basic K'NEX

<http://www.knexusergroup.org.uk/acatalog/kid-knex-models.html> - models for kids to build

<http://www.urlesque.com/2010/08/20/knex-creations/> - ideas to spark imagination! Way crazy

<http://www.engineersweek.ie/wp-content/uploads/2012/02/How-to-run-KNEX-Challenges.pdf> - how to run a KNEX challenge – from 2014 Engineers Week.

<http://www.knex.com/shop/358/Early-Childhood/> - where you can find more



Balances/Scales

http://www.preschoolexpress.com/discovery_station07/measuring_fun_mar07.shtml - a site with many different activities on measuring/weighting

<http://www.education.com/activity/preschool/measurement/> - Preschool Measurement Activities



<http://www.teachpreschool.org/2011/04/exploring-weight-and-size-with-scales-in-preschool/> - Promoting Excellence in ECE

<http://www.pinterest.com/akwhatley/preschool-science-ideas/> - Preschool Science Ideas on Pinterest

<http://www.preschoolrainbow.org/activity-plan.htm> - Preschool Activities for Small Groups

<http://www.teachpreschoolscience.com/weightsandbalances.html> - Teach Science - Science Discovery

<http://www.parentingscience.com/preschool-science-activities.html> - Various science activities for preschool

<http://kidsactivitiesblog.com/17228/science-for-kids-hanger-balance> - how to make a balance with kids

Magnifying Glasses

<http://www.thestay-at-home-momsurvivalguide.com/p/preschool-activities.html> - stay at home mom survival guide

<http://www.pbs.org/parents/sid/activities/magnification-observation/> - Sid the Science Guy activities

http://www.kellyskindergarten.com/science/science_center_activities.htm - Science Center Activities

<http://babbledabledo.com/20-science-projects-for-preschoolers/> - Babble Dabble Do – 20 science projects for kids

<http://livelovelaughkindergarten.blogspot.com/2012/07/i-spy-differentiated-instruction-and.html> using I spy coupled with a magnifying glass equals fun

<http://www.ready-set-read.com/2013/11/science-activities-for-kids-magnifying.html> - Read Set Read – Science Activities

<http://www.teachpreschoolscience.com/magnify.html> idea for preschooler activity with magnifiers



Viewscopes

<http://www.education.com/activity/preschool/science/> -
education .com –Science activities

<http://playfullearning.net/young-scientists-using-a-microscope/>
- Playful Learning

<http://www.pinterest.com/binspiredmama/simple-science-experiments-and-activities-for-kids/> - Pinterest –Simple
Science Experiments

<http://www.everythingpreschool.com/themes/winter/science.htm> - Preschool Winter
Science

<http://www.sciencekids.co.nz/experiments/microscopiccreatures.html> - Science Kids

<http://www.perfectlypreschool.com/Preschool-Lesson-Plans/Snowmen/> - Perfectly
Preschool

<http://www.thescientificmom.com/2013/12/youve-got-new-microscope.html> - Information
on microscopes and projects.

<http://www.teachpreschool.org/2011/04/exploring-seeds-in-preschool/> - Teach
Preschool



Turn and Learn Gears



<http://preschooler.thebump.com/preschool-activities-gears-levers-wheels-6749.html> - background and
ideas

http://www.ehow.com/info_10024749_preschool-activities-machines-motion.html - Preschool
Activities for Machines in Motion

<http://fun-a-day.com/preschool-art-projects-painting-gears/> - Preschool Art Projects

<http://www.bostonchildrensmuseum.org/sites/default/files/pdfs/STEMGuide.pdf> - Boston
Children’s Museum: “STEM Sprouts” Teaching Guide

<http://teachingmama.org/quiet-time-box-ideas/> - 75 Quiet Time Box Ideas for
Preschoolers – like stealth programs!

Measuring Cups



<http://www.pinterest.com/marybethcol/preschool-math-measuring/> - Pinterest Math/Measuring

<http://www.prekinders.com/science-page/> - Prekinders Science Pages

<http://www.brainpop.com/educators/community/lesson-plan/measuring-liquids-lesson-plan-cups-pints-quarts-and-gallons/> - BrainPop Educators

<http://everydaylife.globalpost.com/fun-activities-kids-measuring-capacity-13503.html> - Measuring Capacity

<http://www.learnwithplayathome.com/2013/03/measuring-activity-with-plastic-bottle.html> - Learn with Play at Home

<http://www.mathsisfun.com/activity/discover-capacity.html> - Math is Fun

<http://depts.washington.edu/pku/PDFs2/measure.pdf> - Learning to measure with nutrition education

<http://www.brainpop.com/educators/community/lesson-plan/measuring-liquids-lesson-plan-cups-pints-quarts-and-gallons/> - measuring liquids

Straws and Connectors



<http://www.strawsandconnectors.com/instruc.php> - Blueprints/instructions of designs easy, intermediate, hard.

<http://babbleddabledo.com/stem-kids-straw-geodesic-dome/> if you can't afford straws and connectors make your own!

<http://artfulparent.com/2013/01/my-kids-favorite-building-set-using-straws.html> Build a playhouse and other cool designs

<http://www.domerama.com/fabricating/making-geodesic-models/make-a-geodesic-model-dome-from-straws/> Make a dome with your little engineer A.K.A geodesic model

http://www.youtube.com/watch?v=3_sx-PNXy0E straw and connectors demonstration

<http://joanepizzutoatgedsbonca.blogspot.com/2011/10/building-with-straws-and-connectors.html> blog that features ideas of what to do with connectors

http://www.ed.gov.nl.ca/edu/k12/curriculum/guides/completely_kinder/6.%20section%202%20classroom%20design%20and%20routines%20final.pdf benefits of children designing with physical materials.





Other Tip Sheets

- Fun at Home with Preschoolers: Getting Ready to Read!
 - [English](#)
 - [Spanish](#)
 - [Polish](#)
 - [Chinese](#)
 - [Korean](#)
- Fun at Home with Preschoolers: Play with Light & Shadow
 - [English](#)
 - [Spanish](#)
 - [Polish](#)

Other Tip Sheets

- Time for Preschoolers: Duration
 - [English](#)
 - [Spanish](#)
 - [Polish](#)

More Ideas for Making with Young Children

Websites to visit:

www.Youngmakers.org

<http://www.pinterest.com/pragmaticmom/fun-stuff-for-kids/>

<http://www.redtedart.com/>

<http://www.thecraftycrow.net/>

<http://www.livebinders.com/play/play?id=179785>

And here are 7 of the Top Picks lists of apps, websites, and games to help your young makers thrive:

1) [Best Tech Creation Tools](#)

Students love to make their own creations — no matter what the topic. These terrific tools give them the right tools to narrate, animate, and dictate. Experiment with different formats to address a variety of subjects and topics.

2) [Websites and Apps for Making Videos and Animation](#)

Teachers know that video making is a tried and true way to get kids engaged in building, demonstrating, and sharing knowledge. These apps and sites have user-friendly tools and features that make it fun to get kids' productions edited and polished.

3) [Mind Mapping and Brainstorming Apps and Websites](#)

These picks give teachers and students ways — both alone or in groups — to generate



and organize ideas that refine and reinvent the traditional graphic organizer. These tools are particularly good for students who have challenges organizing their thoughts.

4) [STEAM Apps, Games, and Websites](#)

When their forces combine, science, technology, engineering, art, and mathematics (STEAM) are a super group of essential subjects that lead to long-lasting learning. Mix and match these picks to help students cultivate design sense and inventiveness.

5) [Game Making Tools for Schools](#)

By making games, students can show what they know. Game development is fun and challenging, energizing classrooms and getting students thinking in new, exciting ways. These picks are great options for entry-level creators and they ease kids into building.

6) [Great Apps, Games, and Sites for Music and Composing](#)

Students can listen to music, make it, or both as they experiment with rhythm, pitch, and lyrics. Watch them turn tunes from major to minor, hear songs arranged for a range of instruments, and make themed playlists.

7) [Top Tools for Remix](#)

Remix – or combining different media to make or say something new – is an essential 21st century skill. It gets kids making things, thinking in new ways, and digging into the essence of meaning. These picks run the gamut and get kids tinkering.

Building Young Makers



Erica Compton, Idaho Commission for Libraries
erica.compton@libraries.idaho.gov

Desired Outcomes:

1. To inform participants about the importance of 'making' with young children.
2. To introduce participants to a variety of making activities with new tools and materials.
3. To discuss ways to implement making in early learning settings.



What's Your Experience?

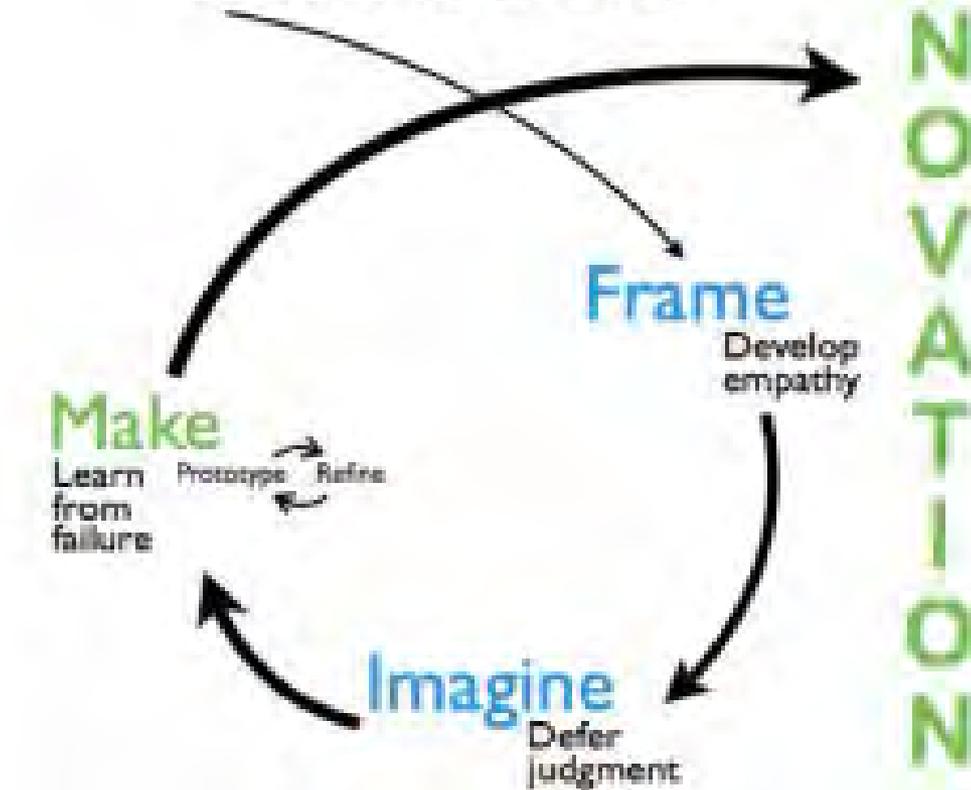


What is making and why is it important?



Design Thinking

The DESIGN THINKING PROCESS



Design Thinking...

deepdesignthinking.com/why-deepdt-as-a-design-thinking-process

i.Design Lab



- ▣ Ask Questions
- ▣ Observe
- ▣ Immerse Yourself



- ▣ Collect Feelings
- ▣ Gain Insight
- ▣ Point of View
- ▣ Define



- ▣ How Might We...
- ▣ Ideate
- ▣ Prototype



- ▣ Show, Don't Tell
- ▣ Receive Feedback
- ▣ Iterate
- ▣ Storytelling

What does making look like?



The Making Environment



It might be messy...

...and a bit noisier...

...but it sure is fun!



Possibility Walls!



MaKey MaKey Mayhem

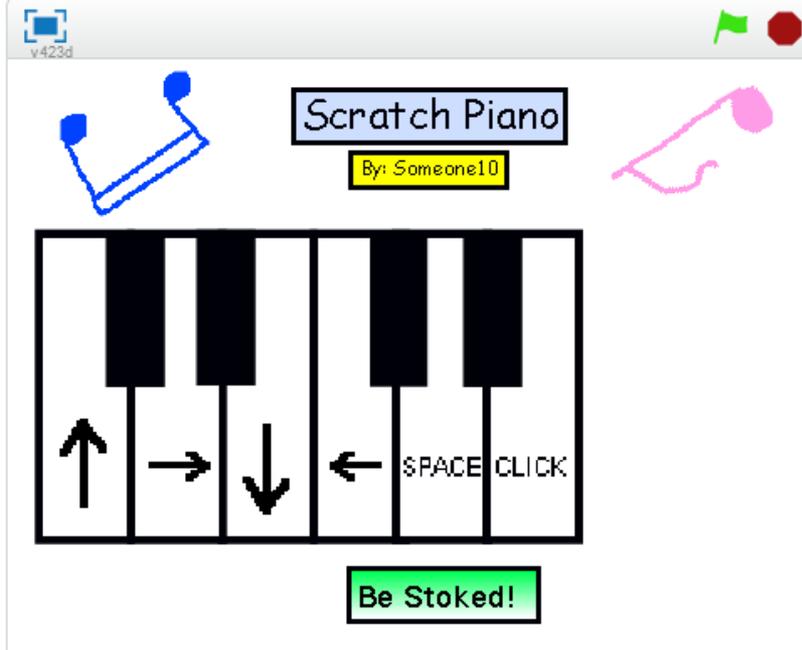


Whack-a-Mole with Potatoes

<http://bluntbody.com/whack-a-potato/>

MaKey MaKey Piano-2

remixed by ericr



Squishy Circuits Fun



Teaching Basic Circuits

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

Catapults!!



<http://www.pinterest.com/explore/catapult-craft/>



<http://kidsactivitiesblog.com/28664/building-a-catapult>



Snap Circuits & Little Bits!



Robotics



Circuit Stickers...

Crafting with Electricity



<http://chibitronics.com>



Roominate

A building toy for girls...



<http://www.roominatetoy.com/>

More Stations...



Let's Play!



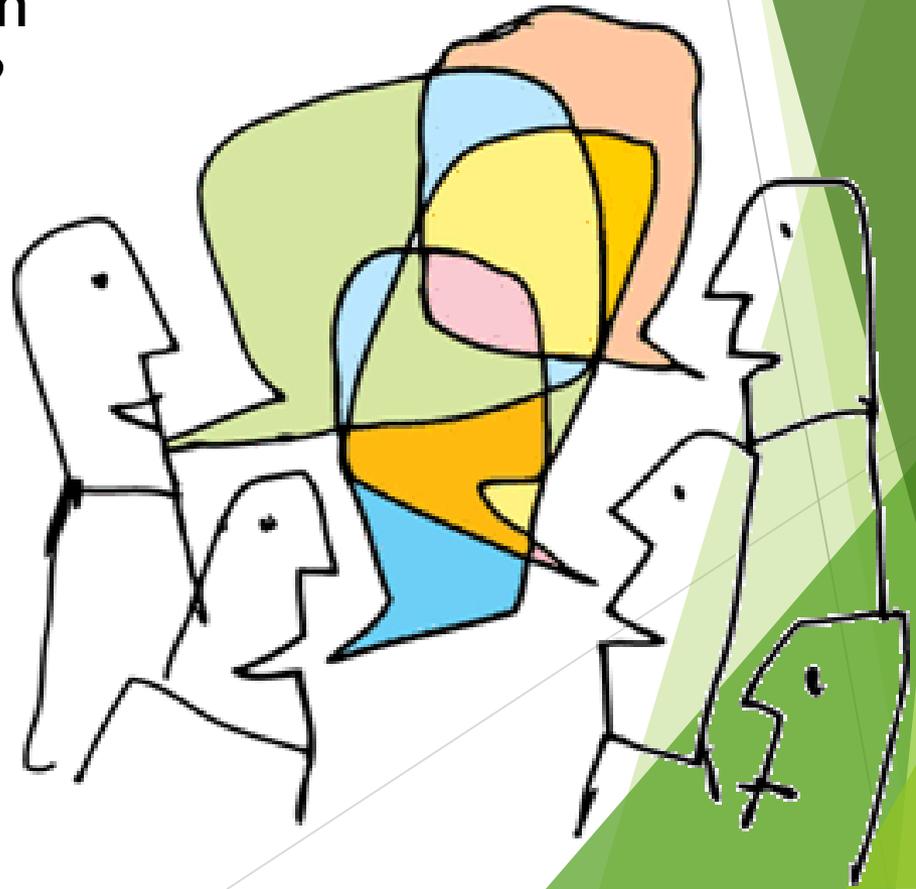
Discussion Time

What did you think?

How do you see this working in your classroom or learning environment?

Any concerns about making with young children?

Any Questions?



Integrating Making into the Classroom



weareteachers.com/blogs/stem

sdpk.stvrain.k12.co.us/stem.html

weareteachers.com/hot-topics/special-reports/stem-for-elementary-school

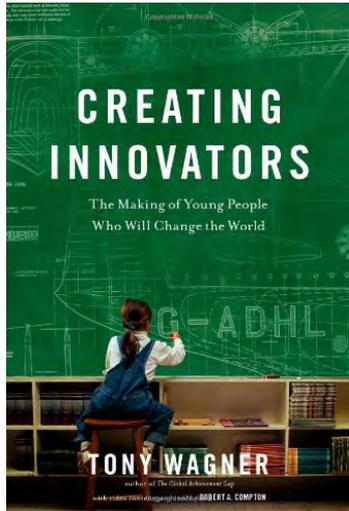


Global Cardboard Challenge

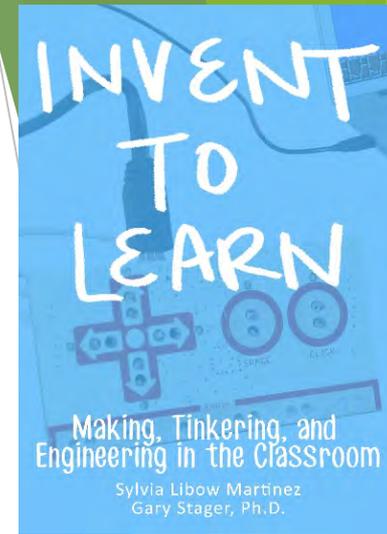
<http://cainesarcade.com>



Resources



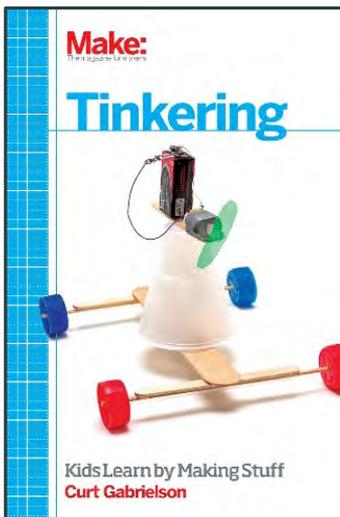
<http://www.bostonchildrensmuseum.org/sites/default/files/pdfs/STEMGuide.pdf>



<http://www.pbs.org/wholechild/providers/play.html>

Maker Education Initiative

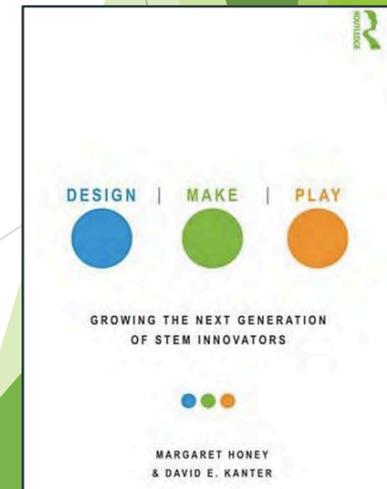
EVERY CHILD A MAKER



<http://ecrp.uiuc.edu/beyond/seed/katz.html>

<http://makeymakey.com/guides/>

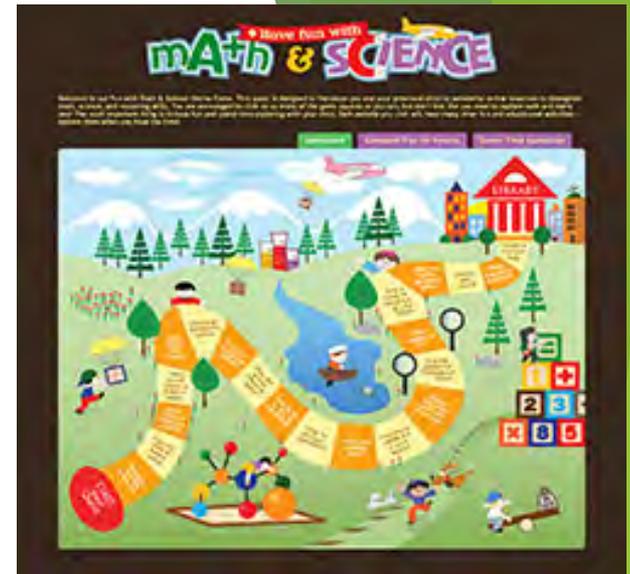
<http://www.makerkids.ca/>



Online Resources



Virtual Storytimes!

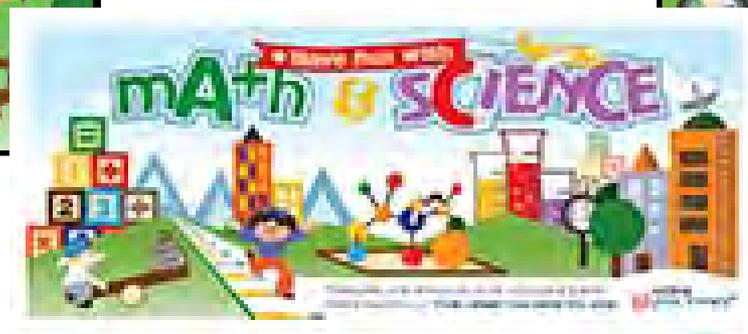


**Online
Gameboard!**



**Online
Books!**

Other Resources Available



If you only remember a few things...

You are a designer.

Become more intentional about your design process.

Be confident in your creative abilities.

Be strategic about what needs attention first.

Listen to your stakeholders and be inspired to design for them.

It's your opportunity, and your responsibility, to have an impact on the lives of your students and be part of changing and growing the system.

Stepping out of your zone of comfort = learning.

Get unstuck.

Break your routine.

Use the world outside your classroom to invigorate your work.

Analogous inspiration is your best friend.

Leave your classroom.

Collaborate with others.

Embrace your beginner's mind.

Approach problems as a novice even if you already know a lot about them.

Let yourself learn.

Be willing to experiment.

Be ok with not having the "right" answer. Trust that you'll find one.

Problems are just opportunities for design in disguise.

Have an abundance mentality.

Be optimistic.

Believe the future will be better.

Start with, "What if?" instead of "What's wrong?"



**WHAT
WILL
YOU
MAKE?**

