

ORANGE COUNTY EARLY CHILDHOOD STEM SYMPOSIUM

Come Tinker with Us!



Sponsored by:

Boeing, Children's Home Society of California, The Children's Center at Cal Tech, Children & Families Commission of Orange County, OC STEM Initiative, Orange County Business Council, Orange County Department of Education, and THINK Together



Welcome

Linda Christopher, Ed.D

Executive Director, OC STEM



Thank You Sponsors:

- ❖ The Boeing Company
- ❖ Children's Home Society of California
- ❖ The Children's Center at Cal Tech
- ❖ Children & Families Commission of Orange County
- ❖ OC STEM Initiative
- ❖ Orange County Business Council
- ❖ Orange County Department of Education
- ❖ THINK Together



Thank You Planning Committee:

- ❖ **Tiffany Alva – Think Together**
- ❖ **Jean Barbre – Orange Co. Dept. of Ed.**
- ❖ **Lisa Burke – Children and Families Commission**
- ❖ **Linda Christopher – OC STEM**
- ❖ **Renalynn Funtanilla – OC STEM**
- ❖ **Cinda Muckenthaler – Children and Families Commission**
- ❖ **Kelly Pijl – Children and Families Commission**
- ❖ **Debbie Troehler – Orange County Dept. of Ed.**



EC STEM Conference Recap

Tiffany Alva

Director, THINK Together Early Childhood Education

Susan Wood

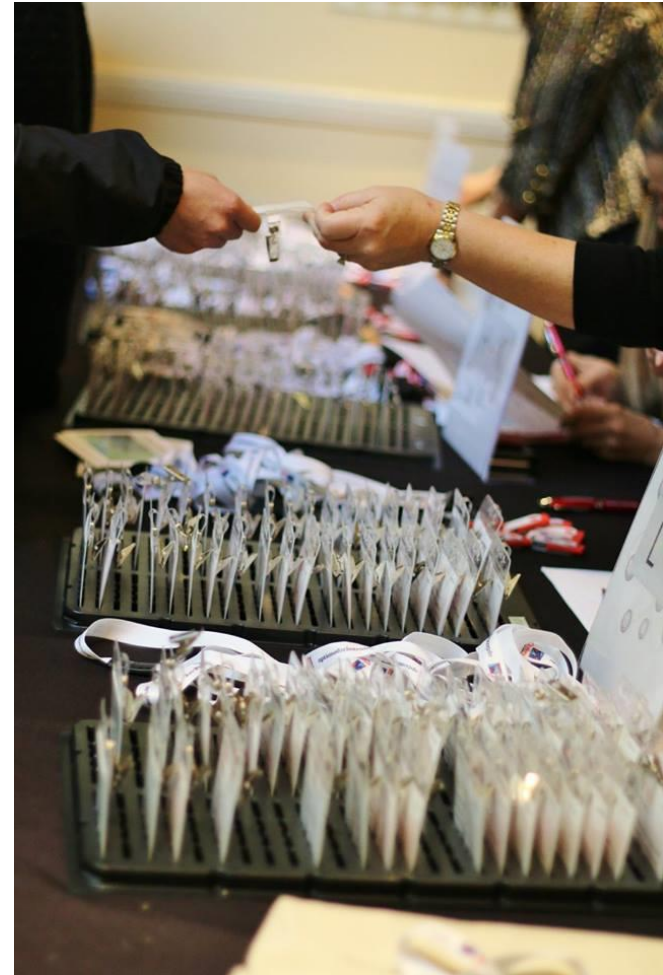
Executive Director, The Children's Center at Caltech

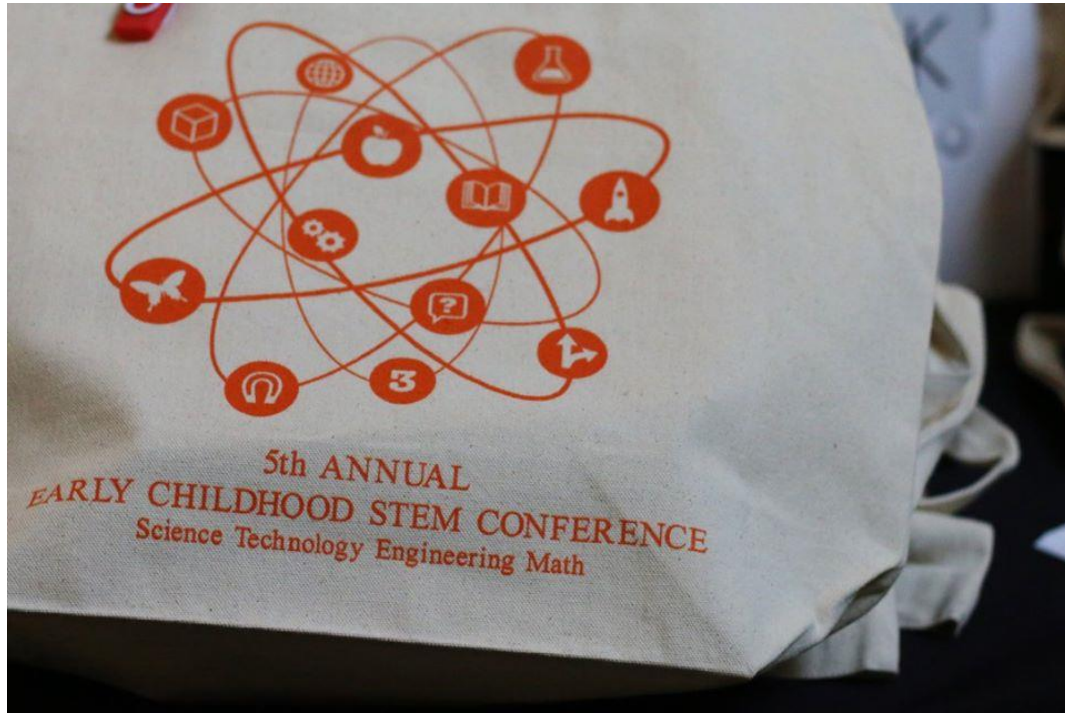
Pasadena



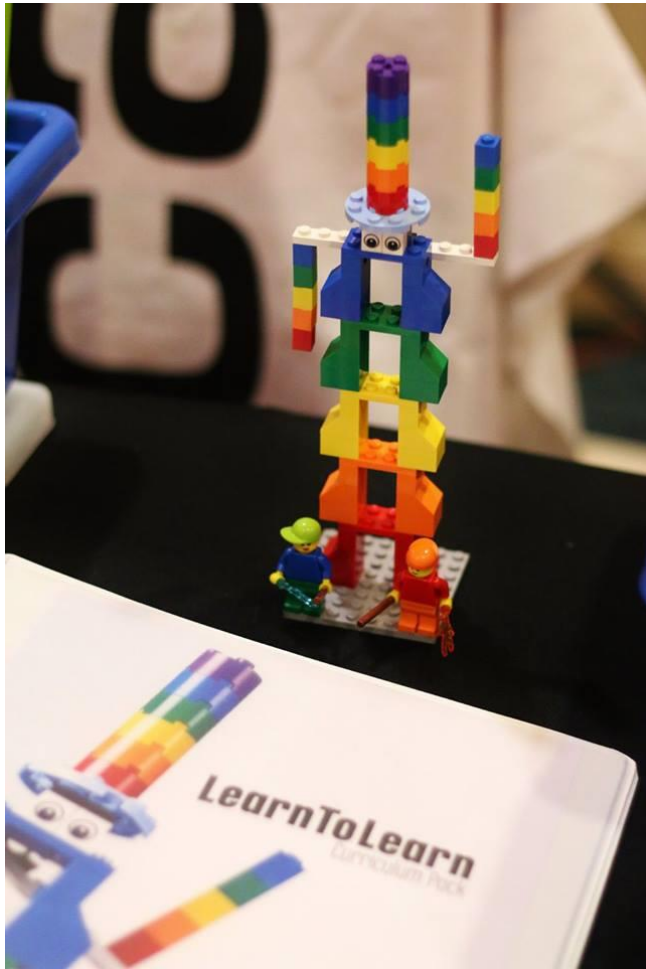
EARLY CHILDHOOD
STEM CONFERENCE

Science Technology Engineering Math













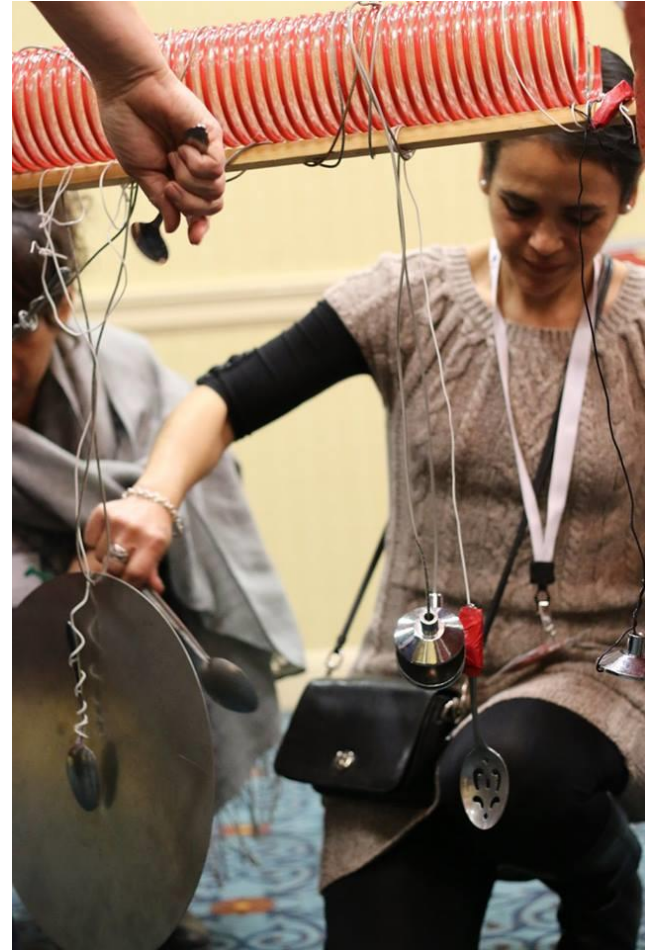






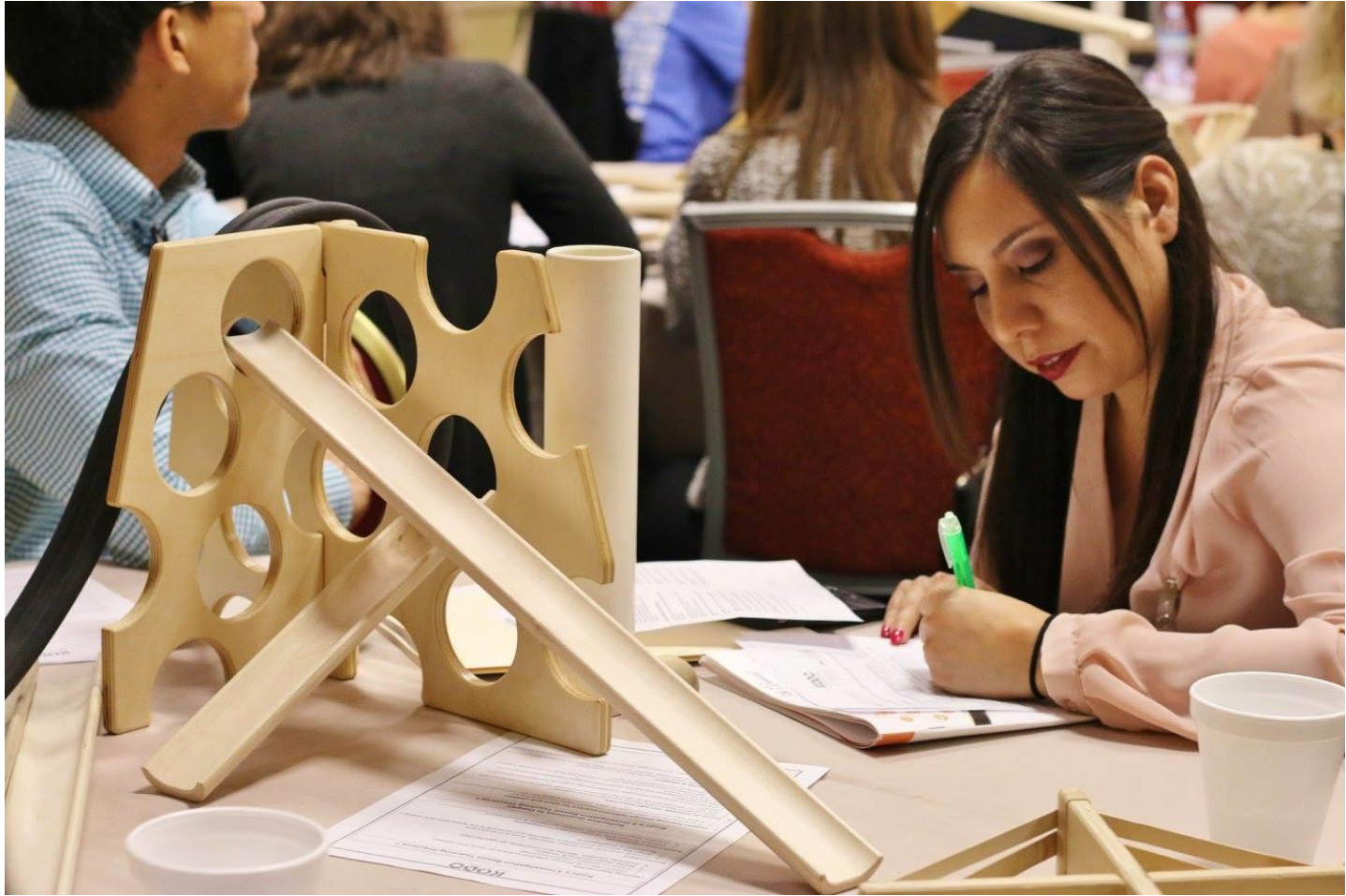




















**JOIN US AT THE
2017
EC STEM CONFERENCE
FEBRUARY 2ND – FEBRUARY 4TH
IN
PASADENA**



Introduction of keynote speaker

Gerald Solomon

Executive Director, Samueli Foundation



Keynote Speaker

Greg Washington Ph.D

Dean, The Henry Samueli School of Engineering
University of California, Irvine



Q&A
with
Dean
Washington



Panel Presentation & Discussion

Jamie Annunzio-Myers, PBS So Cal

Tom Chiaromonte, Ph.D, Fullerton Community College

Susan Wood, The Children's Center at Caltech

Nellie Pedraza, Anaheim City School District

Amiee Goulding, Blind Children's Learning Center

Jean Barbre Ed.D, Orange County Department of Education

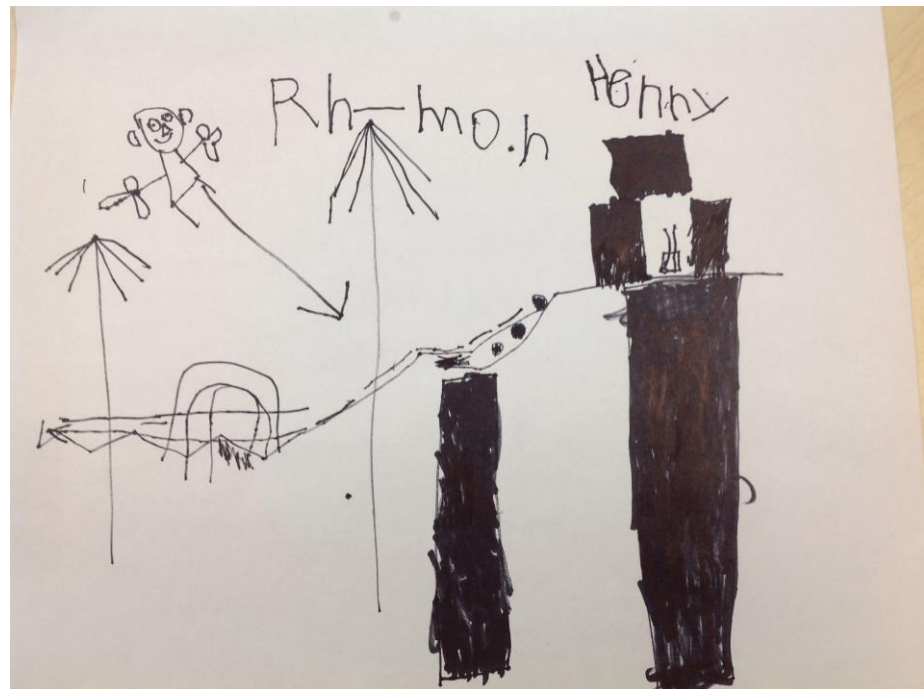


Child Development Laboratory School



Civil Engineering







Pumpkin Project





Fullerton College

Child Development Laboratory School

<http://childdev.fullcoll.edu/>



Susan Wood

The Children's Center at Caltech

Providing STEM Related continuity from birth to five

- Create intentional environments, opportunities, activities, and experiences for children.
- Supporting the children’s critical thinking by allowing them to reflect, question, explore, experiment, engage, and wonder.
- “Set the stage” by providing developmentally appropriate materials.
- Provide opportunities for parents to be apart of the process (experiments, home and school connections, fieldtrips).
- Display curriculum documentation through photos, illustrations, and descriptions.



Encouraging staff participation

- Provide ongoing professional growth opportunities (conferences, workshops, trainings, education).
- In-house trainings : curriculum, documentation, and other areas of support.
- Monthly staff development days.
- Weekly classroom meetings and administrative meetings.
- Allow staff to experiment, research, select/order materials and be apart of the planning process.
- Having a STEM Curriculum Coordinator to support staff.
- As an administrator:
 - Create budgets.
 - Oversight by the Director for continuity of delivery.







Anaheim City School District





Anaheim City School District

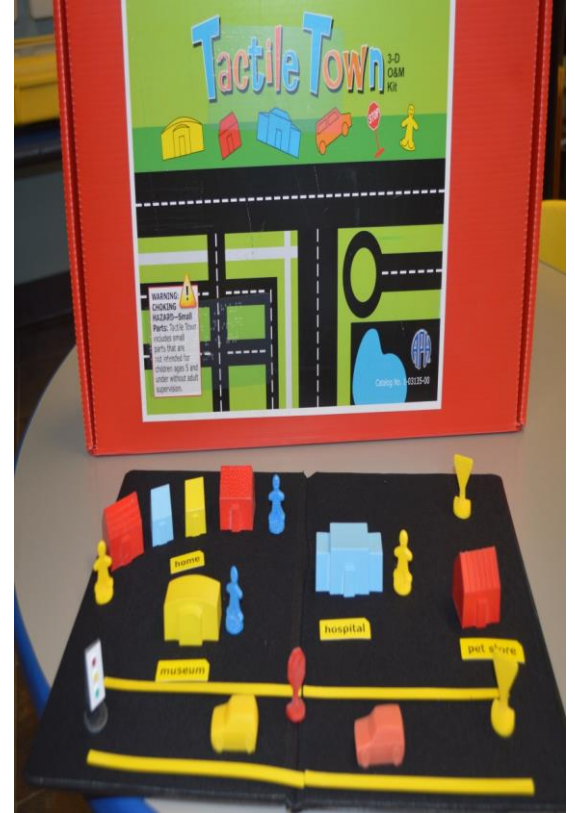


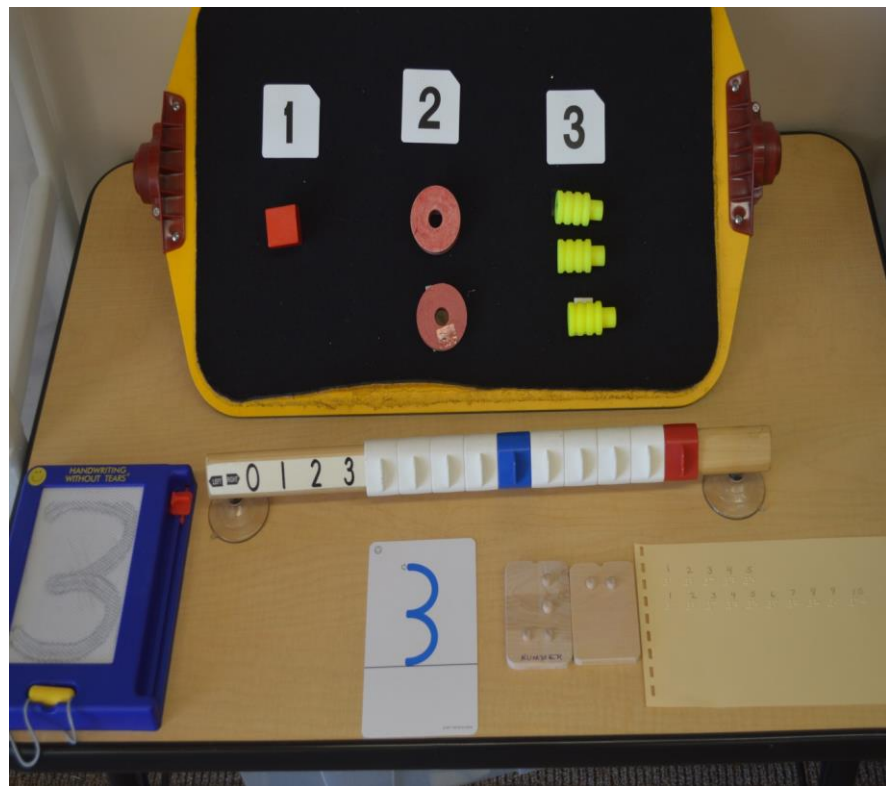


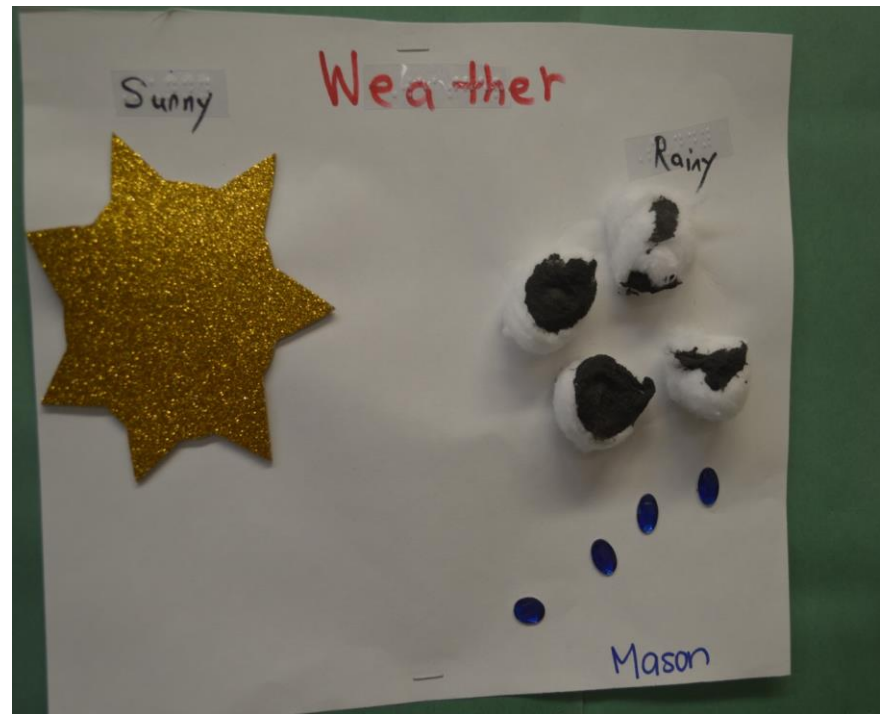
Anaheim City School District













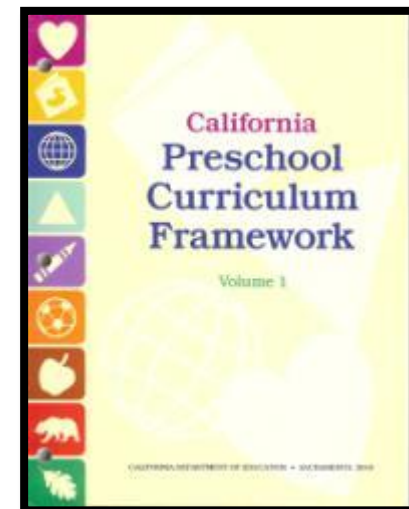
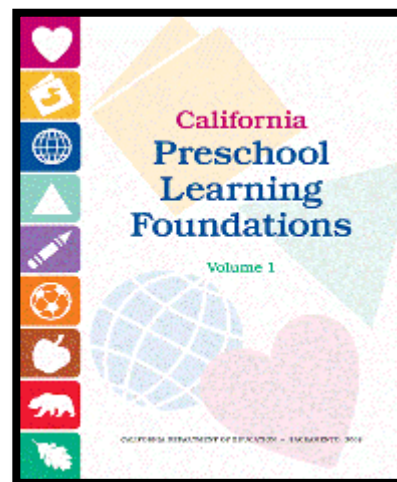
Jean Barbre Ed.D

Orange County Department of Education



California Preschool Foundations and Curriculum Framework

- **Volume 1**
 - Social-Emotional Development
 - Language and Literacy
 - English-Language Development
 - Mathematics
- **Volume 2**
 - Visual and Performing Arts
 - Physical Development
 - Health
- **Volume 3**
 - History-Social Science
 - Science





- Volume 1: Mathematics
 - Number Sense
 - Algebra and Functions (Classification and Patterning)
 - Measurement
 - Geometry
 - Mathematical Reasoning
- Volume 3: Science
 - Scientific Inquiry
 - Physical Science
 - Life Science
 - Earth Science





**Play
Is
Central**





Learning Is Integrated





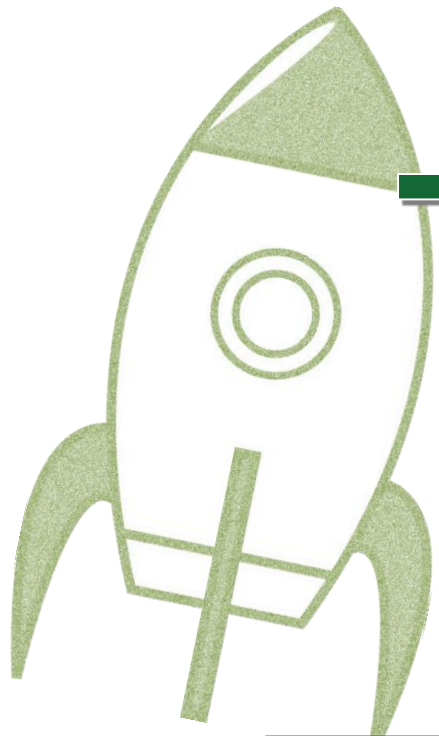
Lunch Buffet



Introduction: The Art of Tinkering

Sandy Barry, Commissioner

Children and Families Commission
of Orange County



The Art of Tinkering

Nino Polizzi

Rocket Scientist/ STEM Educator



Integrating STEM

across the curriculum

Jean Barbre Ed.D

Orange County Department of Education



Hands-On STEM Literacy Activity

- 1) Before reading the book, list the predictions of the STEM concepts you might find in the book.
- 2) After reading the book identify the STEM concepts and vocabulary you found.
- 3) What additional STEM concepts and vocabulary can you add?
- 4) How would you extend the learning and integrate the curriculum?



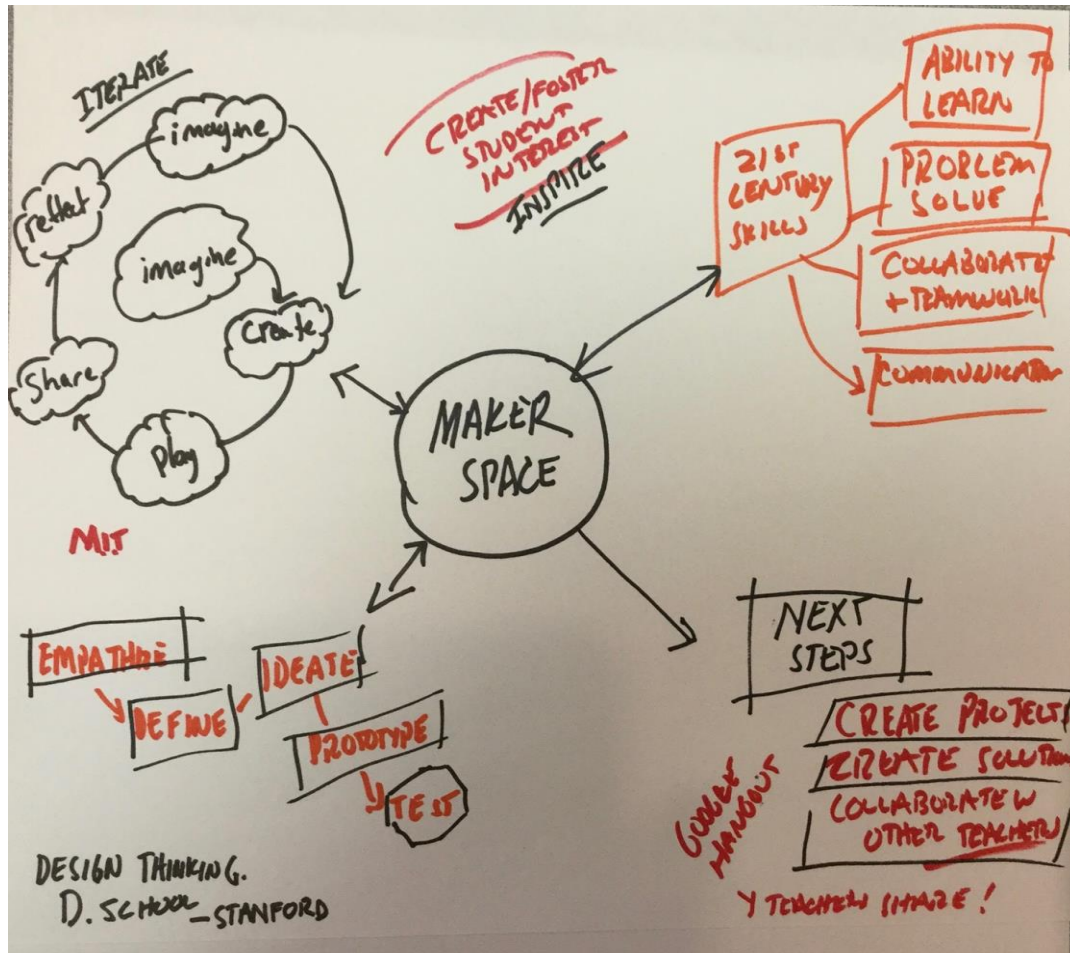


**Come Tinker
With Us!**



Tinkering in Education

James Gapp, Engineer, STEM Instructor
Katie Leshinsky-Anderson, Teacher





Elementary Design Principles

Creative Learning Spiral



more details here: <http://web.media.mit.edu/~mres/papers/CC2007-handout.pdf>

by Mitch Resnick



OneSlide.org



Tinkering at Harbor Day School – The Space..



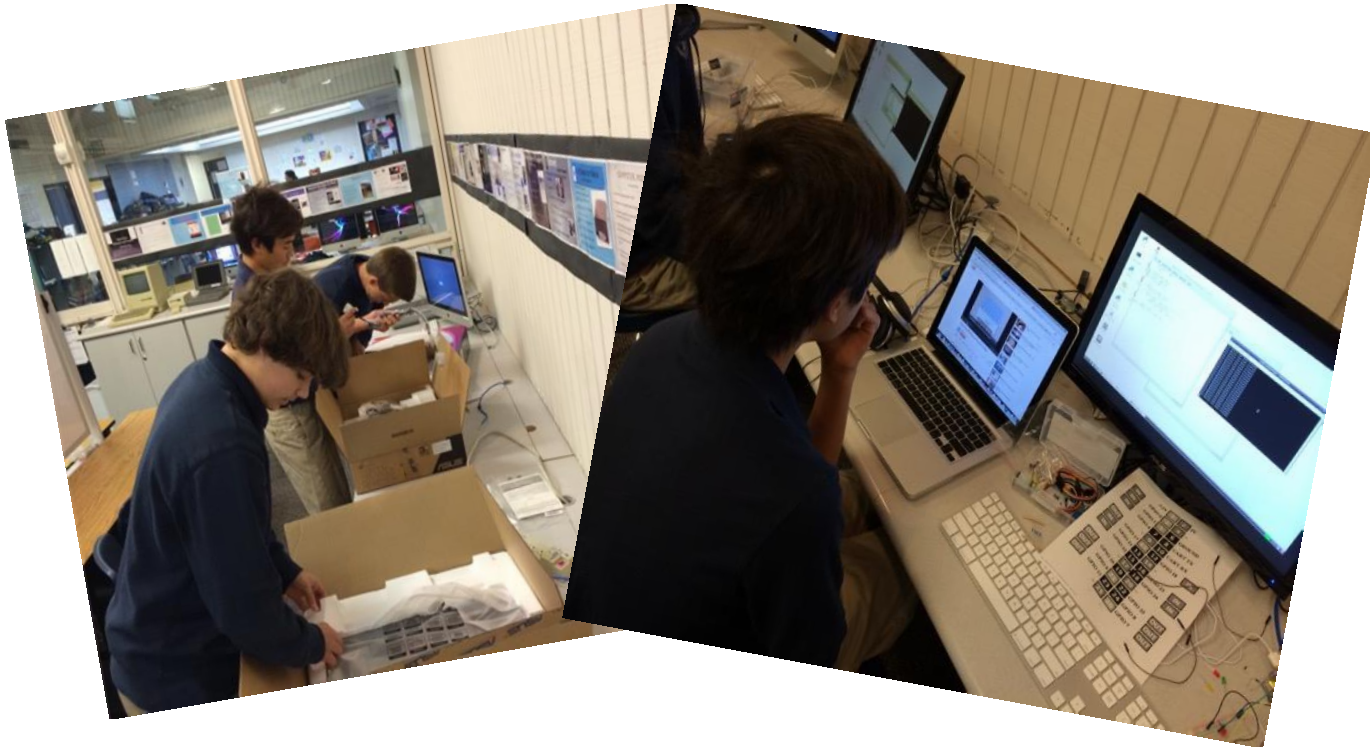


Tinkering at Harbor Day School – The Space..





Tinkering at Harbor Day School – The Inspiration





Student Driven Tinkering – The Drone Project





Other MakerSpaces at Harbor Day School



The Library Space

The Woodshop





Harbor Day School First Maker Faire 2015





Maker Faire – Getting the Community Involved





Tinkering at Cold Spring School...





Tinkering at Cold Spring – The Start



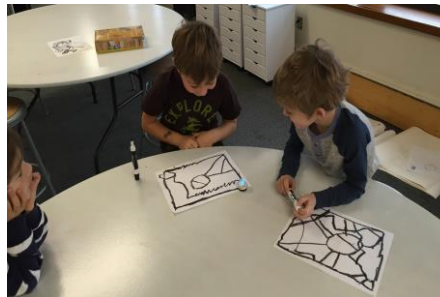


Tinkering at Cold Spring- The Differences



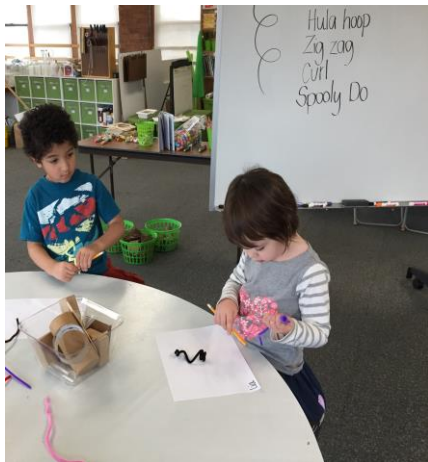


Cold Spring School – The Design Process





The Design Process in Multiple Grade Levels





Things I Have Learned Along the Way

- **Don't be afraid to mess up- kids are watching you!**
- **If you get stuck, tap the kids creativity or Pinterest**
- **Take advantage of free stuff!**
- **Let the kids get comfy, sit, stand, lay on the ground.... as long as it is safe!**
- **Don't be afraid to ask your colleagues for help**
- **Have fun!**



Call to Action!

Tamika Lang, Senior Manager for Global
Corporate Citizenship, The Boeing Company



Book Giveaways

Take a number out of the envelope on the table, if your number is called take a book home with you today!



**Winning
Numbers:**

2, 3, 5, 8



The Original Tinkerer



Video Clip 1



What does it take to be a Tinkerer?

Tinkerbell started out as the reluctant Tinkerer...
But we all can be tinkerers!

You only have to:

- Be curious
- Be a little reckless
- Find your inner determination
- Find lost things, and make new things with them
- Don't be afraid to invent
- Use a little Pixie Dust every now and then!

Video Clip 2



Time to Tinker!

Location:

Ballroom South B- Pictures with Tinker Bell
Foyer- Tinker Tables



Thank You