THE MAKER MOVEMENT & STEAM EDUCATION
A Recipe for Early Childhood Success

Representing Hillcrest Elementary School

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- Baltimore County Public Schools
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#RA5SYMPOSIUM

Feeling inspired from today's great sessions? Check out #RA5Symposium for even more ideas and to add your own!

Presentation Goals:

- I can explain how to use making concepts to engage diverse learners and achieve meaningful P21 integration in every elementary classroom.
- I can make a plan for creating, supplying, and utilizing a makerspace in my school.
- I can explain how to integrate making into instructional activities to align with curriculum and content standards.
Maker Philosophy

- "...the Maker Movement overlaps with the natural inclinations of children and the power of learning by doing. By embracing the lessons of the Maker Movement, educators can revamp the best student-centered teaching practices to engage learners of all ages... We must reimagine school science and math not as a way to prepare students for the next academic challenge, or a future career, but as a place where students are inventors, scientists, and mathematicians today.

- "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.


The Hillcrest MakerLab

- Converted computer lab
- Tables for materials
- Tables on wheels for a movable workspace
- No chairs
- Shelves for materials / teacher only items
What's in Stock at the MakerLab?

Types of materials:

■ Structural
  - Cardboard
  - Paper
  - Plastic items
  - Styrofoam

■ Connectors
  - Tape (lots and lots of tape)
  - Glue
  - Cable ties

■ Decorations
  - Beads
  - Colored paper
  - Markers
  - Foam stickers
  - Pipe cleaners

• Re-Supplying the MakerLab

■ Parent donations
■ Grade level donation responsibilities
■ Innovation Team leadership
■ Facebook posts
Connecting to the Standards

P21 – Learner-Centered Environment

- Collaboration and communication
- Student choice in process and product
- Critical thinking and problem solving
- Adaptability and flexibility
- Opportunities to create and innovate
- Authentic real world contexts

Next Generation Science Standards

K-2-ETS1-1 Engineering Design

- Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-3 Engineering Design

- Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Early Childhood Making

Getting oriented with the MakerLab
Onomatopoeia, Mentoring, and Making!

Second graders and kindergarten making transportation that goes "boing" and "vroom".
Now It's Your Turn to Make!

- Design and build a mouse-proof greenhouse

1st Annual Hillcrest Maker Faire
Resources at Your Fingertips

- Go to padlet.com/mkoenig4/maker12_06_16

QUESTIONS?
Contact us!

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