INTEGRATING STEM INTO YOUR EARLY CHILDHOOD CLASSROOM

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HOUSE RULES

GOAL: BUILD THE TALLEST FREESTANDING STRUCTURE

- A single marshmallow must be at the top of the structure
- Use as much or as little of the kit, but paper bag is off limits
- Teams can break up the spaghetti, string or tape
- You have 18 minutes
- The tower must stand on its own
LESSONS LEARNED

- Kindergarteners do better than business students
- Prototyping matters
- The marshmallow is a metaphor for the hidden assumptions of a project

BROADEN OUR VIEW OF ECE STEM

ABOUT PAIGE & PAXTON

Paige & Paxton expose little learners to big concepts in Science, Technology, Engineering and Mathematics (STEM).

Paige & Paxton are a critical piece to the puzzle of fostering a future generation of creative leaders and problem solvers.
THE CRITICAL ROLE OF STEM IN ECE CLASSROOMS

WHAT’S AT STAKE?
- JOBS / STANDARD OF LIVING
- COMPANIES / CREATION OF WEALTH
- U.S. AS AN ECONOMIC SUPERPOWER / WORLD LEADER

BY THE END OF THIS SESSION
YOU WILL BE ABLE TO:
- Drive student STEM awareness and interest
- Integrate STEM into your existing units/curriculum
- Enhance STEM learning with experiential projects and programs

EARLY CHILDHOOD STEM:
FOCUS ON THE FOLLOWING STUDENT OUTCOMES
- CONTEXT & AWARENESS
- CROSS CUTTING
- CAREERS
PROVIDE CONTEXT & INCREASE STEM AWARENESS

**Approach**
Introduce and define each STEM field in a way that is fun and engaging and inspires students to want to know more.
Help students begin to see STEM as an integral part of their lives.

**Student Outcomes**
- Science = View science as how we find answers to our questions about the world
- Technology = Understand technology is creating new things and new ways of doing things
- Engineering = Understand engineering makes our lives run smoothly and safely
- Mathematics = Understand math is the universal language that we use all the time

CREATE A CROSS CUTTING CLASSROOM ENVIRONMENT

**Approach**
Intentionally create an environment that forces students to integrate & utilize everything that they are learning.

**Student Outcomes**
- Encourage natural problem solving in an intentional & organized way
- Project based learning
- Design thinking
- Observation based learning

CREATE A CROSS CUTTING CLASSROOM ENVIRONMENT

**Skillset**
- Counting
- Alphabet

**What We Typically Do Separately:**
- Simple addition & subtraction problems
- Practicing writing letters & words

**Instead, Combine the Activity:**
- Fill in letters of the alphabet & count how many letters they filled in
CREATE A CROSS CUTTING CLASSROOM ENVIRONMENT

SKILL SETS
- Pattern recognition
- Vocabulary

WHAT WE TYPICALLY DO SEPARATELY:
- Solve a jigsaw puzzle
- Construct words to associate vocabulary

INSTEAD, COMBINE THE ACTIVITY:
- Have letters associated with puzzle pieces, which by solving creates words to help a child construct their vocabulary

BROADEN CAREER HORIZONS

What do you want to be when you grow up?

Approach
Introduce non-traditional STEM careers in a way that students can envision themselves in those careers

Students End Here
- Science = Connect everyday science to future career opportunities
- Technology = Careers entail creating technology, not consuming it
- Engineering = Offers “something for everyone”
- Mathematics = Broader career opportunities than S.T.E.

RECAP
Key Takeaways

- Introduce STEM before they realize its “hard”
- Generate interest and excitement by exploring STEM fields through everyday topics
- Enhance with cross-cutting, hands-on projects and experiential learning
- Connect STEM to their world with meaningful conversations around work and careers
- Expand the pool

IT’S NOT ABOUT MORE TECHNOLOGY, TEACHERS OR TIME
IT’S ABOUT WHETHER A CHILD HAS A FOOT IN THE DOOR FROM THE BEGINNING

Connecting the Dots with DAP

- NAEYC: 10 Tips to Support Children’s Science Learning
- Reggio Emilia Approach: Community & Free Inquiry
- Project-Based Learning: Defined STEM
- Next Generation Science Standards: Cross Cutting Concepts
What's Next?

**Office Hours:** Have additional questions? Contact the speaker via email at kelley@honeybco.com

**Get Access:** Check out more online resources at PaigeandPaxton.com

**Tune in Later:** Sign up to receive updates about ECE STEM best practices, our products and resources