You Can STEAM!

Katie Nedwick, she/her/hers Library Assistant - Youth Department Cedar Falls Public Library





Plan

- Introduction
- What is STEAM?
- Doubts
- Programs
- Resources
- Questions and Contact Information



Hi, I'm Katie!









What is STEAM?

- S Science
- T Technology
- E Engineering
- A Arts
- M Math

Alternatives:

STREAM: R = Research

STEAM: A = Architecture



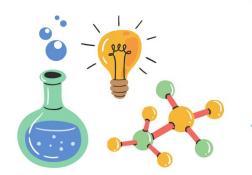
Doubt

What if I don't know the answer to something a kid asks me?



Tip #1

You don't have to know all the answers!



Program Idea

Worm Farmer for a Day

Worm Factory 360
Worm Composting Bin









Helpful Tools:

- Moisture Meter
- PH Meter
- Thermometer
- Kid Sized Gloves
- Hand Rake





Worm Farmers:
The Squirm Firm

Uncle Jim's Worm Farm

Make your own worm farm with a tote

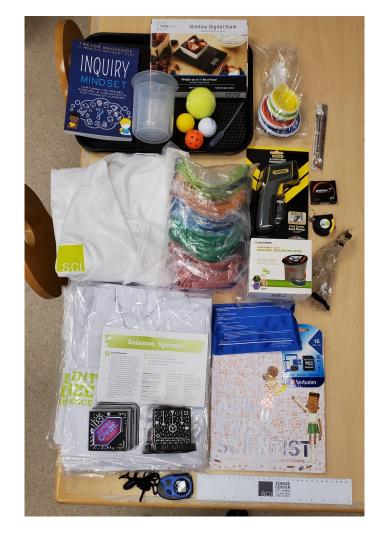


Resource

Scale-Up Award by the Iowa Governor's STEM Advisory Council.

Applications are open until Feb. 28.

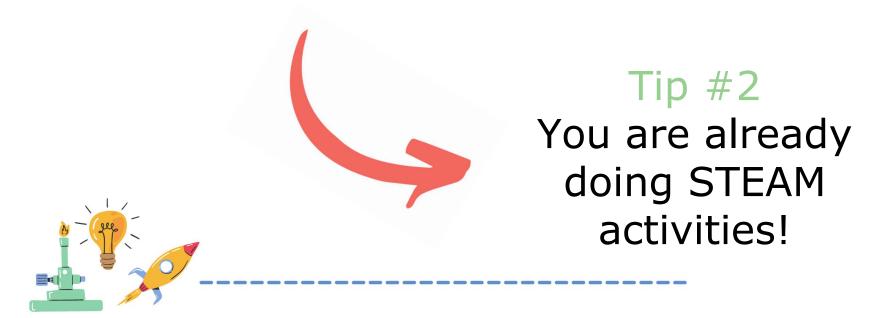
- Computational Thinking in Action with Micro:bit (Grades 3-12)
- Daily Math Fluency (Grades K-8)
- Ioponics (Grades PreK-12)
- Iowa Leadership in Engineering Design (Grades K-12)
- Project GUTS (Grades 6-9)
- Ready, Set, Drone (Grades 4-8)
- Robot Investigations with Finch Robot (Grades 4-12)
- Storytime STEM-packs (Grades (PreK-2)
- Tiny Techies (Grades PreK-2)
- WaterWorks (Grades PreK-2)





Doubt

I just can't do STEAM stuff.



Program Idea

STEAM Storytime



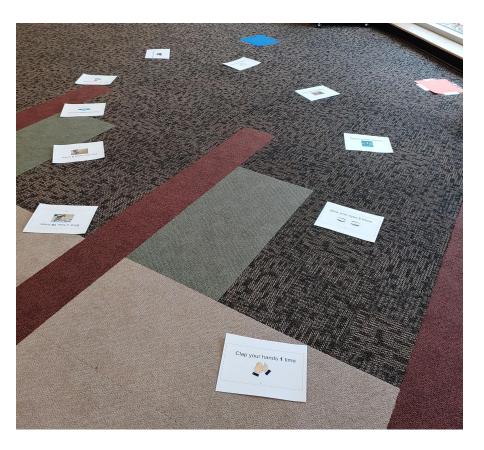
The Roots of STEM
Success and Educator
Resources by Bay Area
Discovery Museum

Aspects of my STEAM Storytime

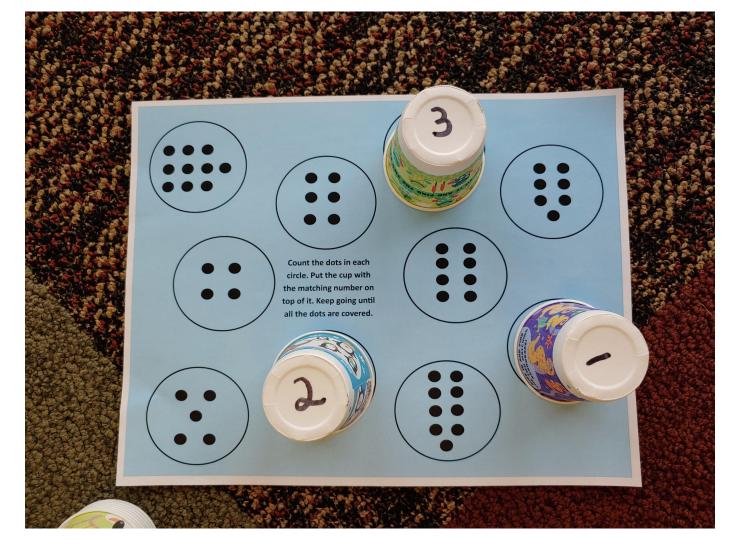
- Try to include a simple nonfiction book.
- Do four centers, each with a different activity (one can be an related art activity, but it doesn't have to be.
- Currently giving them a take home activity, ex: marshmallows & toothpicks or paper tangrams.

Topics I Have Done

Science	Technology	Engineering	Math
Water	Robots	Building	Numbers
Animals (Bats & Dinosaurs)	Patterns		Measurement
Body			Shapes



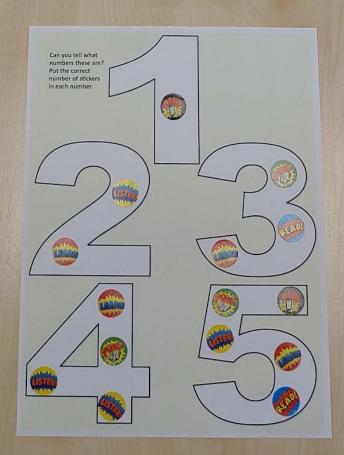












Resources

Pinterest:

- Search for topic STEAM (or STEM) grade
 Ex: Water STEAM PreK
- Cedar Falls Public Library
- <u>Little Bins for Little Hands</u>
- The STEM Laboratory
- Busy Toddler



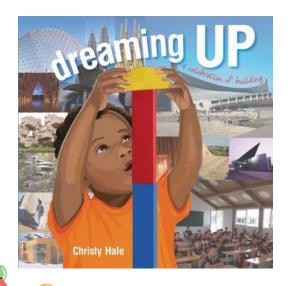
Resources

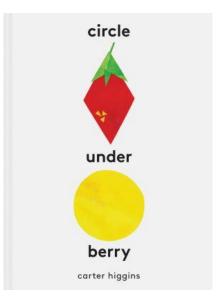
- Internet:
 - Search for STEAM (or STEM) Storytime
 - Preschool STEAM
 - The Show Me Librarian
 - Storytime Katie
 - STEM in Libraries

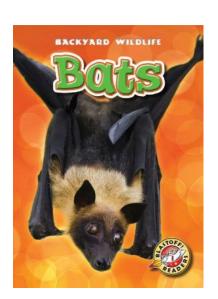


Resources

Don't forget about books!







Doubt It's too hard.



Tip #3

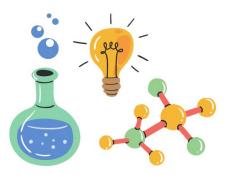
In a library youth department, STEAM can be very simple.



Program Idea

Fairy Tale Engineering

- Three Little Pigs Build a house that can withstand the wolf's huffing & puffing (a fan).
- Three Billy Goats Gruff Building a bridge that can hold the troll and/or a goat (puppets).



THE ENGINEER DESIGN PROCESS

4

6. Improve

The last thing engineers do is improve their structure. If they find anything wrong during the testing step, the improve step is where they fix it.



5. Test

In this step, engineers will test their structure. They need to make sure their design solves the problem.



1. Ask

The first step in the process is ask - what problem are we trying to solve?

4. Building

Step four is to build.
The Engineers take the
materials they choose
and actually build the
structure.



2. Brainstorm

Next, engineers take time to brainstorm answers to their question. To brainstorm means to come up with many different solutions that might work.

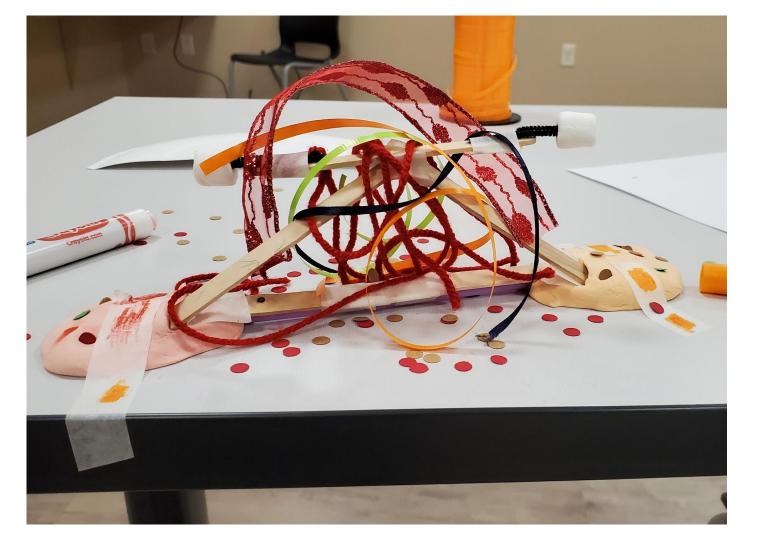


3. Design

In this step they will take their best ideas from their brainstorming and make a design, also called a plan.













Resource

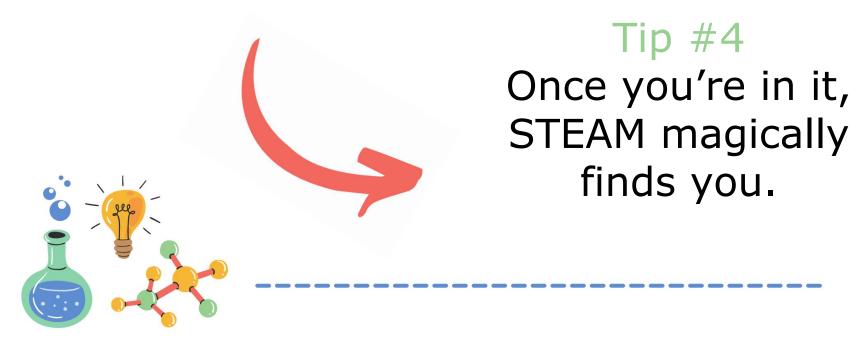
Storytime STEM-Packs





Doubt

What if I can't think of any ideas for programming?



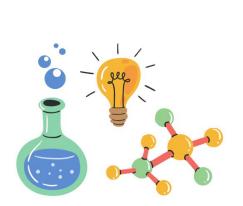
Program Idea

STEAM Grab N' Go Kits

 Included: instructions, materials to do activity, booklist, additional related materials (coloring sheets, informational sheets, glowsticks, etc.)

Grab 'N Go Ideas:

- NASA's UV Color Changing Kid
- NASA's Cloud Teller





Found a Cloud in a Jar experiment on Steve Spangler Science and am turning this into an in-person program.

Resource

IEEE Science Kits for Public Libraries

Apply Beginning of Nov. - Middle of Jan.

For libraries in the states of: Iowa, Michigan, North Dakota, Minnesota, Wisconsin, and portions of Illinois, Indiana, Ohio, Nebraska and South Dakota.





Katie Nedwick knedwick@cedarfallslibrary.org
Instagram & Twitter: Librarian_Katt librariankatblog.wordpress.com