

Connect with us



July 2018

SC STEM Hub Newsletter



William Penn University Professor and Hand2Mind Facilitator Breanne Garrett (pictured standing): "I think all of the kits are pretty easy to jump right in and use. They have great teacher materials and most items are reusable."

Hub Hosts STEM in ACTION Training

One of Iowa STEM's new Scale-Ups is Hand2Mind's *STEM in ACTION*. This program is a great option for PreK-5 educators



Dr. Sarah Derry, SC Regional Manager

Phone: 515-271-2403

Website: <https://scstemhub.drake.edu/>

Email: scstemhub@drake.edu

Calendar: Calendar of Events

Social Media: Connect via social media with the links above.

Hashtag: #STEMinYourWorld

Do you have a Scale-Up?

If you received a Scale-Up, you should have information on educator training opportunities, which are scheduled through October. Click **HERE** to see for the latest dates around the state.

If you have questions about Scale-Ups training sessions or implementation, please contact **Dr. Sarah Derry**.

looking for materials on life, earth and physical science. Educators across Iowa are training to use the materials.

The program is a good fit for after school, library time, extended learning, or classroom teachers because the lessons can be chunked and divided over time. "According to research," said Garrett, "students could do a lesson, wait up to two weeks, come back and remember the lesson. It's that engaging."

That's exactly the reason ISU Extension and Outreach was interested in the program. Three staff members attended the Drake University training. Denice Fischer, Jasper County's Program Coordinator, said her office plans to both use the kits and train other teachers to use them.

"Our 4-H program, Clover Kids, focuses on after school STEM," said Jasper County Youth Specialist Kim Kuester. "Every county is different, but we'll try to connect anyone who is interested in [learning more about] these kits." To inquire, please email kuester@iastate.edu.



Above: During STEM in ACTION PD, teachers use the kits as their students would then have the opportunity to "shop" and pick topics relevant to their needs.



According to Jolie Pelds (pictured above), SCI Director of Innovative STEM Teaching, traditional educational experiences focus on teaching to one right answer and measuring success on a standardized test. Yet, when 5,000 CEOs from five different countries were surveyed, 60 percent of them said creativity was the most important skill as a leader.

SCI Scale-Up Training's Special Ingredient: Creativity!

The Science Center of Iowa hosted a professional development for Making STEM Connections and Pint Size Science at the SWCC-Osceola Campus. Over 30 teachers participated, representing schools from southern and central Iowa. The Making STEM Connections training began with a

It Starts with a Great Book: Recommendations for Building Innovative Kids

Both of SCI's Scale-Up programs feature books in their kits. Each year, the list changes. Here are highlights from the 2018-19 kit contents:



Picture Books:

Grace Hopper: Queen of Computer Code
Rosie Revere, Engineer
What Do You Do with an Idea?
The Most Magnificent Thing

Educator/Parent Books:

The Art of Tinkering
Make: Easy 1+2+3 Projects
The Art of Creative Thinking
Make: Paper Inventions
Create with Code: Build Your Own Website

simple message: by just being creative and curious, you are already a doing STEM.

"We are all creative," said Jolie Pelds, SCI Director of Innovative STEM Teaching. "We're just creative in different ways."

Making STEM Connections uses the book *Launch: Using Design Thinking to Boost Creativity and Bring Out the Maker in Every Student* to highlight seven types of creativity: artist, astronaut, architect, engineer, hacker, geek and point guard. It's one more tool to help teachers bring out the best in each student.

The Science Center of Iowa is taking the maker concept beyond Scale-Up. There's a permanent maker area in their building and each year they host a Mini-Maker Faire. This year, the event is Monday, September 3, 2018. Visit their [website](#) for more info.

"We as humans have become more consumers and less producers," added Pelds. "This movement reflects a way to get back to making." And there is STEM in every aspect of that journey.

Coding Games in Scratch

Adventures in Coding

Launch

If you want to know Pelds' favorite book in the collection AND enter a drawing to win a Coding/STEM prize extravaganza, click to read the **Hub's latest book blog**.



Tip from SCI on First Day STEM:

Have students design a tag (above) that 1.) has your name, 2.) stands on its own, 3.) represents you. One teacher, named Fionn but sounds like Finn, created a fish visual to help with pronunciation.



Marisol Guerra created curriculum for a Spanish-immersion STEM workshop hosted by Dr. Tom Buckmiller at Drake University. Guerra pulled materials from several resources, including the Hub.

Innovative Teachers Key to Incorporating STEM Kits

We asked summer camp coordinator and teacher Marisol Guerra how she created STEM curriculum based on Hub kits. The number one ingredient: time.

Photo Highlights from Summer Events

The SC STEM Hub has a checkout library with hands-on kits for PreK-12. educators. Items can go out for loan for six weeks; technology goes out for one week. Kits contain instructions and materials.

If you're interested in the check out materials, please click below:

- Website
- Google List
- Google Check Out

Check out the photos below to see them in use.

Even though the kits include directions and most of the materials, it still takes time to look through materials, understand the STEM concepts featured and devise scaffolding and schedules appropriate for each audience.

"For someone who is doing this for the first time, my recommendation is to start looking at the kits one week before," advised Guerra. "It requires a lot of work, depending on how you want to implement it."

Jack and the Parachute

One of Guerra's and the kids' favorite kits was EiE's A Long Way Down: Designing Parachutes Kit.

"It was easy to implement. All materials are in the kit, and it is easy to find lesson plans on **Pinterest**, like Jack and the Bean Stock. Kids enjoy making and testing their parachutes and using different materials."

Mini-Makers Kit

Using materials from SCI's Making STEM Connections materials, the Hub put together a small, 1-tote version. "We enjoyed the Makedo and Strawbees," said Guerra. Kids loved the saws and building with cardboard. Strawbees are also great."

With both kits, students are unable to take home their creations, as the more expensive connectors must be returned to the kit. But Guerra came up with other connective ideas: tape, pipe cleaners, yarn, etc., so students could create their own designs and take them home.

Bubbles and More

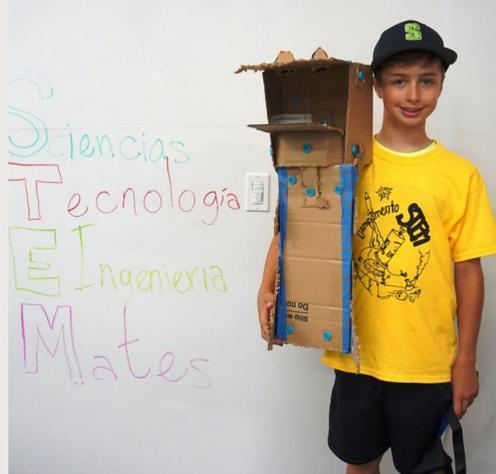
Guerra suggested the Foil Boats, AWIM Skimmer Challenge, EiE's Bubble Bonanza Kit, and Ramps and Pathways because all were easy to implement. "Kids loved the Bubbles. Sticky but fun."

Guerra found the Ramps and Pathways kit one of the easiest to use because everything is in the box. "This was the most fun and frustrating for the kids, but they had a great time building."

Use of Time

Guerra planned each three-hour day with the same schedule in mind. She had an activity ready as the students arrived. Each day she planned a STEM-related story, a PowerPoint with related vocabulary and pictures, a video/pictures of real-life application, hands-on activities, a quick snack and recess.

Her time was well-spent, as Guerra's students had a great time while learning important STEM concepts.



Spanish-immersion camp teacher, Ana Rodrigo, used MakeDo materials to build masterpieces, like the robot above.



For two Wednesday afternoons, the Hub hosted a math table at Drake neighborhood's farmer's market.



Teachers Ana Rodrigo and Carlos Estirado (both at right) are pictured with first session students.



Teachers Ana Rodrigo and Carlos Estirado were full of handshakes and high-fives during their week with the Spanish-immersion STEM camp.

Q&A: YMCA's Calie Wallace on Hub Resources

This summer, the Hub learned just how many hours program providers spend creating great experiences for kids. We hope sharing stories helps future endeavors. Here's advice from YMCA youth camp teacher/director Calie Wallace on how she found and created meaningful STEM content.

Q: What materials/kits were easiest to incorporate?

A: I truly enjoyed working on the EiE Hand Pollinators and the EiE Parachutes. The kids had a great time using the productive struggle technique to solve the best way to create a parachute and transport materials. The hand pollinator activity was very relatable and the campers were able to discuss why it was such an important lesson to learn.

Q: How did you find supplemental materials or put together your own kits from EiE notebooks?

A: When planning activities that did not include kits, I used a lot of online resources and books to help support my lessons. I also enjoyed adding on to the kits that were provided. I was able to find stories or activities that helped relate to each of the kit activities.

When working on the hand pollinators, we talked about pollution and how that is impacting the world around us. We created an "oil spill" activity where the campers were required to find ways to clean the oil off the animals and struggle to find the best way to do so. It helped the campers realize that they can make a difference on the Earth.

Q: How did you manage the time it took to create and implement STEM into your camp?

A: Creating a STEM camp or event takes a lot of planning and



Due September 12: STEM BEST

Back-to-school is just around the corner, making this the perfect time work on a STEM BEST proposal.

If you need ideas, the following regional recipients have invited questions:

ANKENY

Dr. Jill Urich
jill.urich@ankenyschools.org

NEWTON

Jodi Morgan Peters
morgan-petersj@newton.k12.ia.us

WAUKEE

Michelle Hill
mhill@waukeeschools.org

2018-19 Applications Due September 12

(Announcements on October 25.)

time, but is very rewarding.

- I spent around 9 hours planning the lessons ahead of camp beginning. When working on changing the lessons, I would go day by day and add missing items or take out things I felt that were not needed.
- When creating the activities for each week, I worked on fun and meaningful activities for campers of different ages and abilities.
- I created a detailed list with very descriptive directions and desired outcomes so that if I were not the one providing instruction, another counselor could easily follow along.
- I worked on incorporating technology as much as possible, even if not included in the initial lesson plan.

If you need further assistance, contact

Dr. Sarah Derry at the SC STEM Hub.

Want more STEM?

Calendar of Events

August 4 -- Blank Park Zoo/Polk Co. Creek Walk

August 18 -- Ramps & Pathways PD

August 19 -- STEM Day at the Iowa State Fair

September 3 -- SCI's Mini Maker Faire

September 12 -- STEM Best Applications Due

September 20 -- Making STEM Connections PD

September 20 -- Pint Size Science

October 22 -- DMACC/SC STEM Festival

October 25 -- STEM BEST Announcement

Click here for more events and details.

We need you!

To apply to serve on the SC STEM Regional Advisory Board, **visit our website**. Seats are filled based on a number of deciding factors that create a well-rounded organization. If you're interested, please contact **Dr. Sarah Derry**, SC STEM Hub Manager.



***The SC Advisory Board
welcomes three new
members:***

- Nadilia Gomez
- Allison Mohr
- Creighton Cox

***And we so appreciate all of
our dedicated members who
continue to serve:***

- Creighton Cox
- Breanne Garrett
- Nadilia Gomez
- Mauree Haage
- Jonathon Holmen
- Ronda McCarthy
- Allison Mohr
- Tyler Myerholtz
- Amber Pargmann
- Laura Williams

***Positions on the board are still
open. To apply, go to
<https://openup.iowa.gov/home>***



