



June, 2021

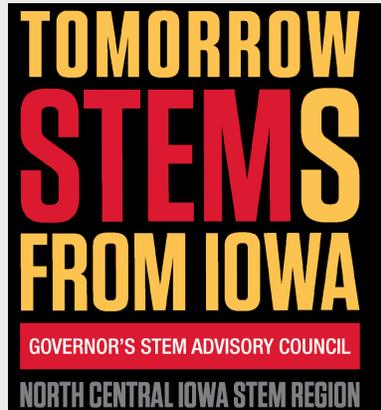
North Central STEM Region  
Monthly News

### In this Issue

Congratulations to the Scale-Up Awardees

Meet Mashup Mathematician, Abigail Burnet

Summertime STEM Resources



---

## Congratulations to the 2021-2022 STEM Scale-Up Recipients

Congratulations to North Central Iowa organizations that were awarded one of 12 STEM Scale-Up programs. Over 13,000 PreK-12 students will be impacted in the region by these programs in 2021-2022 and over 245 educators will attend program professional development!

The STEM Scale-Up Program offers curriculum covering topics such as robotics, physical computing, digital math, engineering design, biotechnology, career exploration and more. The menu of programs was created through the review of over 300 applications from programs that serve students from preschool to high school. The North Central STEM program awardees were selected by the NC STEM Regional Advisory Board. Selection criteria was based on need, student diversity, geographic location and distribution, and plans to sustain the program, among other factors. The list of awarded organizations and programs can be found [HERE](#).

Beginning in July, awarded educators will begin attending professional development with a majority of the sessions occurring in person. Thank you to all the program providers for their efforts to implement high-quality training for Iowa Educators! If you have questions around your award and your upcoming professional development, please reach out to the STEM Hub: [ncstem@iastate.edu](mailto:ncstem@iastate.edu).

---

# Pushing the Boundaries of Math

Abigail Burnet wants people to know that Math can be beautiful. To Burnet, who recently completed a post-baccalaureate program at Iowa State University, there is more to math than people realize.

“There is so much math out there to explore which has nothing to do with times tables or rationalizing denominators,” Burnet said, recognizing the negative emotions people may have about the subject.

She recently explored combining math and art as she completed a series of 13 mathematical sculptures. The project, titled "[Knot Diagrams in 3 Dimensions](#)," uses concepts from knot theory and art history to tell stories from Burnet's experience as a human and mathematician. Knot theory is from a branch of math called topology.



Burnet studied math at Washington College in Maryland, and was greatly influenced by her teachers and peers who were excited about the subject.

“My undergraduate thesis advisor, Dr. Poulsen, was incredibly kind, patient, and encouraging at every step of my path,” Burnet said. “He taught me that making mistakes and asking for help are not only ok, but in fact are the best parts of learning something new.”

Sharing her passion for math is important for Burnet and she enjoys the opportunity to teach young learners that Math can be exciting. Burnet contributed an educational video to the Virtual Family Math Mashup summer series, helping nearly 300 families start exploring the math field of topology.

“The videos are full of cool math and fun that everyone can enjoy, even if you don't normally like math!” Burnett said.

Burnet's next step is to pursue a master's degree from New Mexico State University Department of Mathematical Sciences.

“My goal is to learn as much math as I can, and to continue finding ways to make math more accessible, inclusive, and fun,” Burnet said.

Burnet encourages young learners to ask questions, be curious, and not be afraid to be wrong. “Look for the resources available to you through your school and then use them; there is no shame in finding a tutor, dropping in during office hours, or forming a study group,” Burnett said.

---

## Summertime STEM Resources

Encourage children to explore the world around them with the North Central [STEM Bingo Challenge Board](#).

The [STEM Council's Teachable Moment](#) website has a collection of STEM lessons and activities for

students, parents and educators to use at home.

The [Virtual Family Math Mashup](#) has kicked off! Explore Math this summer with fun activities created by ISU Math students.

## STEM BINGO Challenge

Plant a seed either indoor or outside. Build a map of your neighborhood out of LEGOs bricks.	Plant a seed either indoor or outside. Choose 4 sprouts, measure its daily growth and graph. Make sure to water the seed and place near sunlight.	Guess the weight of several objects. Weigh them to see how close you were. Select new objects and see if your estimates improve.	Copy a favorite recipe and double the measurements. Optional: make the recipe!	Paint a picture: use only red, yellow, blue and white paint to create all the different colors you want to use.
Make a rain gauge: place a clear jar in a safe place outside. Record daily rainfall for 30 days. Graph your results.	Build something made of household materials that will keep a hard-boiled egg from breaking when you drop it from the height of a chair or stool.	Go outside and search for insects. Draw them or take a picture. How are the insects the same and different?	Make your own puzzle: Create a colorful picture, cut into four of squares or triangles and try to put it back together.	Draw three different quadrilaterals. Draw two different parallelograms.
Using a grocery receipt add up the cost of all the fruits and vegetables.	Create a list of items you may be able to find outdoors. How far as a scavenger hunt to find them all!	<b>FREE</b>	Guess the length of three objects: then measure them and see how close your answer is. Select new objects and see if your estimates improve.	Collect some items to sort 10 LEGOs bricks, candies, buttons, etc.). Sort them by color, type or size. Count the number in each category and create a bar graph.
Measure your shadow outside in the same spot several times in a day. How did the length, shape, and direction change?	Using small marshmallows or gumdrops and toothpicks, build the tallest tower possible. Measure its height.	Experiment with freezing different mixtures of water and salt. What do you notice about the amount of salt and the time it takes to freeze?	Create a marble run or maze using materials around the home: cardboard tubes, paper, ramps, containers, tape, etc.	Find a comfortable place to sit outside. For 15 minutes, listen and write down all the sounds you hear. Sketch pictures if you prefer!
Collect some leaves and place them under a sheet of white paper and rub a crayon or pencil over the leaf beneath the paper. What shapes do you see? What parts do you see?	Build a boat out of foil and use two heavy pennies or small coins it can hold before it sinks.	Can you Find These State Symbols of Iowa: Eastern Goldfinch, Blue Jay, Wild Rose (Flower)?	Measure the dimensions of a room and calculate the perimeter and area.	Using cardboard, newspaper and tape, build a chair you can sit on.

## Thank You for Your Service

With the end of the 2021-2022 fiscal year, the North Central STEM Region wants to thank Advisory Board Members who are stepping down:

Jerry Chizek  
 Kristle Curtis  
 Camille Sloan Schroeder  
 Nancy Woods  
 Michael Young

## Are You a School Board Member?

Are you interested in providing STEM opportunities to Iowa's young people? Consider applying for a position on the North Central STEM Advisory Board.

Apply Today!

## Calendar of Events

**August 17**

NC STEM Region Advisory Board Meeting 12-1:30 PM

**August 22**

STEM Day at the Iowa State Fair

**September 26**

Transforming Education for the Workforce Summit

## Contact Us

NC Regional Manager:

Dr. Kelly Bergman

Phone:

515-203-7247

E-mail:

kbergman@iastate.edu

Website:

## 2020-2021 NC STEM Advisory Board

Jerry Chizek, Manson  
 Kristle Curtis, Mason City  
 Lindsey Falk, St. Ansgar  
 Ashley Flatebo, Garner  
 Sara Nelson, Ames  
 Michael Pedersen, Marshalltown  
 Kathy Rogotzke, Mason City  
 Sarah Rosenblum, Marshalltown  
 Kay Schmalen, Clear Lake  
 Camille Sloan Schroeder, Boone  
 Matthew Stephan, Fort Dodge  
 Kerry Weig, Nevada  
 Nancy Woods, Boone  
 Michael Young, Ames  
 David Zrostlik, Garner

ncstemhub.iastate.edu

**Address:**

Iowa State University  
1259 Stange Rd  
Ames, IA 50011-1002

Connect with us

