



December, 2020

North Central STEM Region

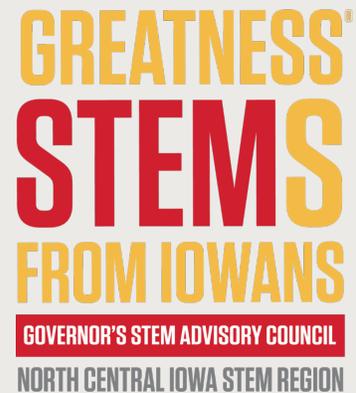
Monthly News

In this Issue

STEM Activity Kits in North Central Iowa

Scale-Up Menu Released Jan. 5

Getting Started in Robotics



Just in Time for the Holidays! STEM Activity Kits to 350 Families Across the Region

While the North Central Iowa STEM Hub is not able to hold STEM Festivals this year, we are still dedicated to providing hands-on STEM learning to children and families. Leading up to the holiday break, we have provided STEM Activity Kits to 350 families in North Central Iowa. The goal of the kits is to inspire learning and discovery with activities for youth that can be done at home. As children are spending more time at home due to COVID-19, the activities provide children with the opportunity to innovate and practice problem-solving skills – screen-free! The NC STEM Hub partnered with Iowa Central Career Connections, Fort Dodge Community School District, and the City of Fort Dodge to provide kits to 200 families in the Fort Dodge Community. We also partnered with Marshall County Extension to distribute 150 Kits at the Salvation Army of Marshalltown.

Scale-Up Program Applications Open January 11, 2021

The goal of the Iowa STEM Scale-Up Program is to bring top, high-quality STEM education opportunities to Iowa students. This year saw a record-breaking number of proposals to the program – over 100 proposals from STEM developers across Iowa, the United States and the world. The selected programs to be offered through the Iowa STEM Scale-Up Program go through a rigorous review process. The selected programs will be announced on January 5, 2021. Keep watch in this newsletter for more information.

Summer Opportunity: STEM Teacher Externship Program

It is not too soon to begin planning for a STEM Externship in the summer of 2021. The STEM Externship Program provides educators with the opportunity to see and use the latest real-world applications of STEM content in a local



Ready to Lead a Robotics Team? Veteran Robotics Coach, Ed Birkey, Shares Lessons



“All kids can be good at something. A challenge is for you, the teacher, to bring that out in them,” says Ed Birkey who has been coaching teams for nine seasons. Mr. Birkey is an Industrial Technology teacher at Fort Dodge High School where he teaches engineering-related courses along with robotics and manufacturing. This year he is coaching three teams including two FIRST[®] Tech Challenge (FTL) teams and one VEX team. His teams have advanced to the Iowa State FTL Championship four times and have been recognized as finalists in State Awards three of those years.

First Steps: Financial Support and Training

Mr. Birkey first got involved in coaching when he was asked by the school principal to be a robotics team mentor. “The only thing holding me back was the cost of starting a team and/or the lack of knowledge of what programs like VEX and FTL have to offer,” says Mr. Birkey. He recommends getting started through an Iowa STEM Scale-Up Award if available. He has been awarded funding for FIRST LEGO League, FTL and VEX that helped seed new teams. The awards provide professional development to help get coaches started.

Challenges

“One thing you will always find out if you get into robotics is that there are always challenges,” says Mr. Birkey. He recommends getting the school administration on board so that there is support around travel and time away from school including substitution pay and travel expenses. Another challenge is building the needed technical skills in your students. Teams need a balance of programmers and builders, and teams need a happy medium in these skills.

Recruitment

For the Fort Dodge robotics teams, the team members are the ambassadors that promote the program and recruit new students. The teams visit elementary and middle

business or industry and to gain real-world career information that can be shared with students. The STEM Externship program is a six-week opportunity for educators to work side-by-side with knowledgeable and skilled industry employees who help bring the classroom curriculum to life. Teachers earn a stipend of up to \$5,000 (including two paid professional development days), as well as three graduate credits through the University of Northern Iowa’s Continuing Education program.

Learn More
Here

At-Home STEM Resources

The STEM Bingo Challenge Board contains simple activities designed to inspire kids!

Download your copy here:

[STEM Bingo Challenge](#)

The STEM Council has partnered with the Iowa Department of Education, AEA Learning Online, Iowa PBS and the Iowa Reading Research Center to develop a curated list of resources for students, parents and educators.

[Teachable Moment](#)

Iowa State Fair STEM activities and demonstrations that can be done at home:

[Watch Demonstrations](#)

[Activity Guide](#)

2020-2021 NC STEM Advisory Board

Jerry Chizek, Manson
Lindsey Falk, St. Ansgar
Ashley Flatebo, Garner
Sara Nelson, Ames
Michael Pedersen, Marshalltown
Kristle Percy, Mason City
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

schools, multiple community events and even take part in the local parade. They also host robot camps where kids and families can experience robotics and observe a diverse group of students taking part in the teams.

Teamwork and Competition

One year, the FTL team had difficulty working together and did not have the patience in developing the skills needed to be successful. When they arrived at a competition, their robot did not move! "It was embarrassing for the kids to stand there in front of people and watch their robot do nothing all day," says Mr. Birkey. It was a difficult lesson but it led them to rethink the skills they needed to develop as a team. Later that year, they qualified for the state championship. "These students went back to a basic pushbot that just drove and then modified it. When they qualified for the state competition, they didn't have a great robot but it was dependable," says Mr. Birkey. "All failures can lead to successes."



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Upcoming Events and Deadlines

January 5

STEM Scale-Up Menu Announced

January 22

NC STEM Region Advisory Board
Meeting 12-2 PM

January 11

STEM Scale-Up Application Opens

Connect with us

