



**2015 STEM Summit
North Central STEM Hub Breakout Session Notes**

- 1. State of the Region Report Presentation**
- 2. Speed Networking**
- 3. Large Group Discussion (notes/transcript below)**

Question: I'd love to hear how the people who are involved in the scale-ups—how they think it's going in their school or informal setting—if it's making a difference.

Caleb: I find the scale-ups to be very beneficial in terms of—my background is not in science or STEM fields or so forth—having that base knowledge and prescribed curriculum to implement is really. We've done a lot of different ones—the EIE kits are great for us—partnering with libraries and building partnerships with our community.

Shelly: I think the biggest impact the scale-ups have had is exciting the kids to apply concepts of what we're learning in the classroom. I've done AWIM, we're hoping to do PLTW, we've done a lot of stuff with kid wind—the ones that have been partnerships have encouraged students to go into other fields and they're actually working with these businesses who they actually sought out to get actual information, we called them our expert of the day. The first year, I ran it how they suggested. We have now modified it and run it as a problem based learning. Kids will all have the same kit but we put an over-arching problem up on the board that they have to solve. One group is working with a group in Honduras. It has gone from being a teacher led classroom to one where I'm learning right along with them.

Students have to seek out different experts in the field, come together as a group and research with that partner and come up with ideas and then do a mini-pitch before they begin building. Every group comes up with a different solution and design. The students get so energized by it.

Question: How well can you use the ideas that you are given in that scale-up if you don't get the results from the previous year and how much do you keep using that idea that you gained in the scale-up?

Caleb: I think that's where collaborations and partnerships come into play. We are able to show them what we can do—we bring the program to the library and ask how they can help us next year. We then ask the other community partners what they are able to help with. After they see how excited the kids get, they *have* to do the partnership—they can't say no.

Question: Are there any elements of these scale-ups that you can do without consumables and without funding?

Caleb: Once you get the basic idea of the curriculum behind it, then you can sort of run it out of your home and I think that's where Paul can help us by having that curriculum available. I'm renting already because we're using it up so quickly.

Woman: If you're going to do a hands-on, problem base sort of work, you're going to have consumables. All the scale-ups require that.

Shelly: With doing the business partnerships, the students might modify the consumables that are in there. I will send out emails, and parents bring parts to me.

Woman: PLTW is requiring that you have a PLTW partnership team, so that's an automatic connection with business and community, but one thing we always say is make sure you have a wish list every single meeting and that everyone has access to it.

Woman: We could use more of a hub to facilitate some of these needs.

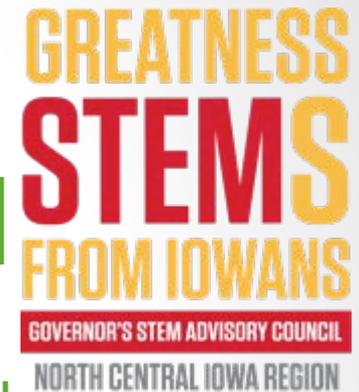


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STEMS
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Greatness STEMs from North Central Iowans!

With help from the Iowa Governor's STEM Advisory Council

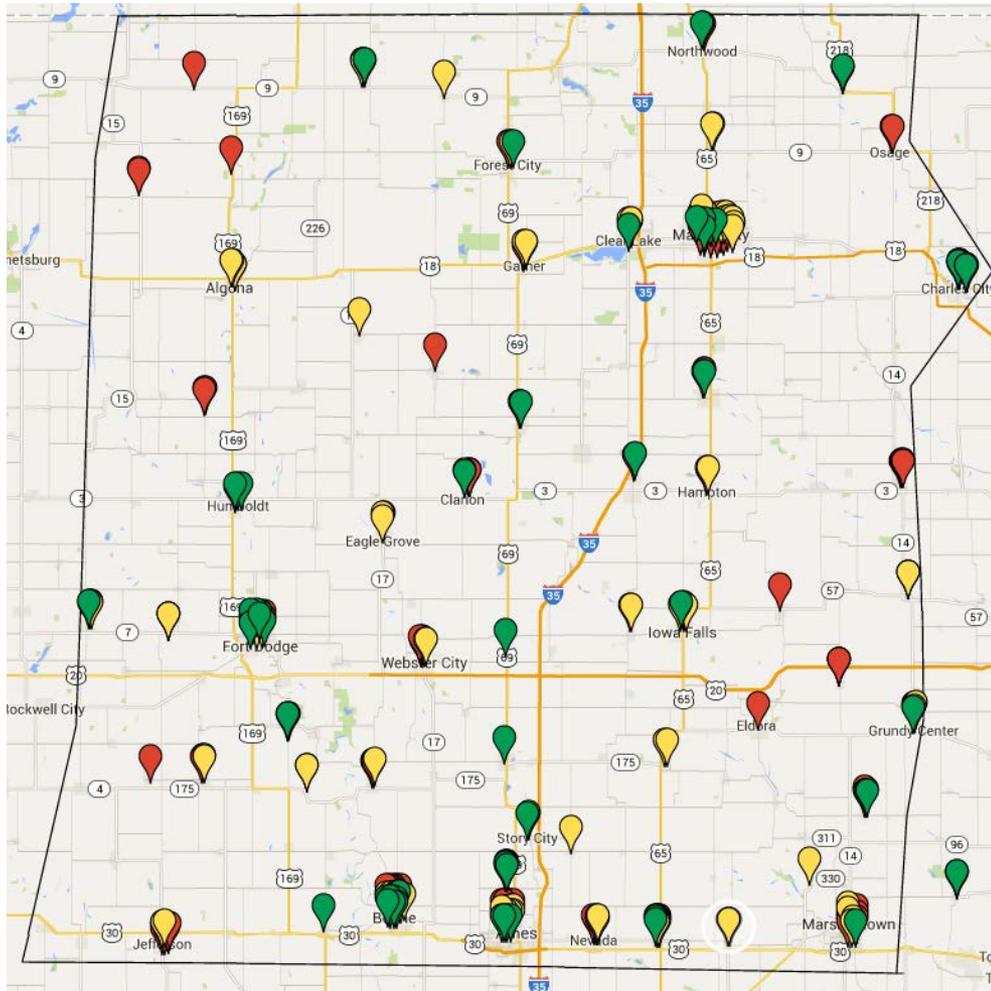
North Central STEM Regional Advisory Board



- **Robin Anderson** – Mason City
- **Emily Banks** – Marshalltown
- **David Barajas** – Marshalltown
- **Paul Bartelt** – Forest City
- **Julie Graber** – PL AEA
- **Doug Jacobson** – Ames
- **Adah Leshem** – Ames
- **Corey Metzger** – Ames
- **Ben Petty** – Conrad
- **Kathy Rogotzke** – Mason City
- **Sarah Rosenblum** – Marshalltown
- **Camille Sloan Schroeder** – Ames
- **Christine Sturgeon** – Barnum
- **Jan Westrum** – Boone
- **Rich Wrage** -- Marshalltown

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NC Scale-Up Regional Distribution History

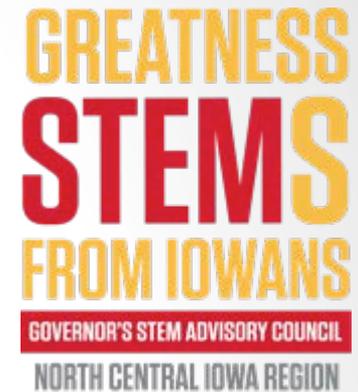


2012-13: Green
2013-14: Yellow
2014-15: Red
2015-16: TBD

Data: Scale-Up Programs

- **3,106** Classrooms & Clubs in 2014-15
- **>100,000** Iowa Youth Involved in 2014-15
- **All 9** Programs had Positive Effect on Student Interest in STEM Topics and Careers
- **About 75%** of Past Scale-Up Educators Sustained Programs After Seed Funding

Externships for North Central Educators



- Full-time, six-week temporary summer position
- Stipend of up to **\$4,500!**
- One graduate credit the UNI's Continuing Education Program
- **Positions Available This Summer!**

Ames	Armstrong	Marshalltown	Ames
Barilla America	GKN Wheels	Lennox	Danfoss
Physical Science	Math, Tech, Engineering	Technology	

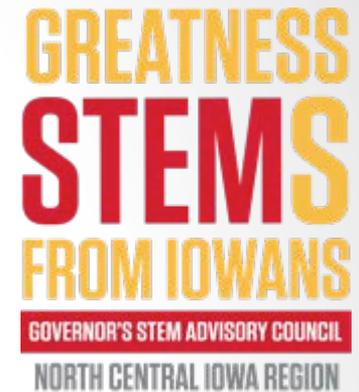


Data: Teacher Externships

Percentage of Teachers Agree

- **88%** - Externships Were Relevant to the Courses They Taught
- **87%** - Externships Impacted Their Understanding of 21st Century Skills
- **93%** - Externships Were More Valuable than ANY Other Professional Development

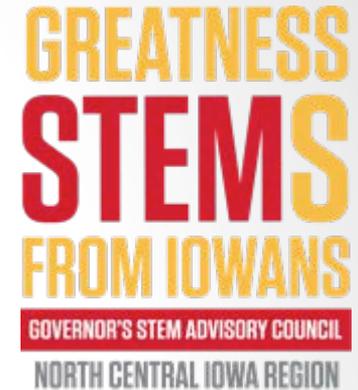
North Central Hub Resources



- STEM resource check out – online soon
- Invite Manager to speak to groups in your community
 - School Board, Chamber of Commerce, Service Organizations, County Extension Board, etc.
- Assistance developing a STEM Festival
 - May 28th – Mason City, Lincoln Intermediate – STEAM Festival
 - July 9th – Marshalltown, STEM Day at Central Iowa Fair

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Speed Networking Wagon Wheel Style (12:50-1:05)



- Two concentric circles
- Each pair introduce themselves
 - Name, organization, role
- Inner circle begins – 1 minute
 - What do you wish STEM stakeholders knew about your role/organization?
 - What was the most inspiring STEM thing witnessed this year?
- Outer circle starts/responds – 1 minute
- Outer circle moves 2 people to left
- Repeat ~5 times

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Roundtable Discussion

- Break into small groups
- Determine Group Facilitator/Recorder
- Suggested Discussion Topics (Begin at 1:05)
 - What is going well in the NC region?
 - What do you want more of in the region?
 - What is missing? What/Who/Where is the solution?
- Full Group Sharing (Begin at 1:25)
 - Verbal sharing
 - Written for those unable to attend



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NORTH CENTRAL IOWA REGION GOVERNOR'S STEM ADVISORY COUNCIL

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