



Think Make Create

LABS

# The Makerspace Playbook

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## CAREER SPOTLIGHT: PHLEBOTOMIST

Last month we included tips for conducting a blood typing analysis with your students, so in this edition of our career spotlight series we'd like to highlight the medical field of phlebotomy. For those of us who have donated blood, you are more familiar with this healthcare career than you may realize. Phlebotomists are trained medical professionals who draw blood from patients to be used for testing or in a blood transfusion for patients needing emergency care. Blood typing is an essential analysis to complete before a blood transfusion to ensure the patient receives the right blood type for them. Blood samples can also be tested to help confirm a diagnosis or check blood sugar levels, for example. Earlier this year the Red Cross announced we are experiencing one of the most severe blood supply shortages in over a decade, so we will need more phlebotomists to help increase donations going forward.

~ Jeff Sebern, Director of Programs,  
South Dakota Afterschool Network



## Spotlight on Idaho: Calder Elementary

I realize how lucky I am to have such a small school for my first Family Engagement Night: Calder Elementary/Middle School! We had a good turn out and a great time! This is one of the more isolated schools—it's located in northern Idaho in very rural Shoshone County, quite a way up the St. Joe River. These kids rarely get outside visitors and the school is similar to an old-fashioned "two-room school house". The kids were SO excited to have the Think Make Create (TMC) Lab at their school. It made the Gazette Record newspaper and teachers assured me the kids are still talking about it!

At our Family Engagement Night, we provided dinner to staff, kids, and families, in addition to supplies for the activities thanks to a grant with the Idaho State Department of Education. It was difficult to estimate participation, so the leftovers I left for school lunch the following day. I forgot to include a sign-in, but with the help of the principal, we estimated 20+ participants. The entire school enrollment is 26 students.

Regarding STEM activities from the TMC Lab, we did the *flashlight circuits* and had a station with SNAP circuits. We did *binary code bracelets* and *cardboard tube sling-shots*. Kids and families also had a chance to build with Keva planks. We also utilized the Picture-Perfect STEM literature bags and read *Jackrabbit McCabe* and *Rosie Revere*. The books are one of my favorite components of the lab!

We have plans to serve this school weekly beginning in the New Year, so it was a great opportunity to meet everyone and answer questions about our programs. A wonderful start to building new relationships with this little community.

~Polly Grasham, University of Idaho Benewah County, Youth Development Instructor



# Give It A Try: Paper Circuit Snowflake

Jack Frost has been nipping at our noses! While we might not be outside playing in the snow, we can still make some pretty awesome snowflakes. A typical snowflake we find in nature has 6 points, while the ones we make with paper tend to have 4 or 8 points. In this activity you will be building a 6 point paper snowflake and adding a circuit to light it up using an LED light. For complete instructions visit:

<https://lasteamlab.com/curriculum/paper-circuit-tutorials/snowflake-paper-circuit-tutorial/>

~Julie Boyle, Nebraska Extension



## Put it Into Practice: Experiential Learning

Experiential learning, what is it? Simply put it is learning by doing. The hands-on, minds-on learning we often see in out-of-school time programming and in our TMC Lab programming. Experiential learning is present when:

- Learning activities are carefully and thoughtfully chosen to support critical thinking and problem solving
- Learning activities require youth to take initiative and make decisions
- Youth are actively engaged in all types of STEM practices (learn more at [click2sciencePD.org](http://click2sciencePD.org))
- Relationships (youth to adult and youth to youth) are developed and nurtured
- You and the youth may experience failure and success
- Your primary role as the "teacher" or facilitator is to ensure the environment is safe physically, mentally, and emotionally; pose questions; set boundaries, support students through failures and success, and facilitate the learning process

To learn more about experiential learning go to:  
<https://www.niu.edu/citl/resources/guides/instructional-guide/experiential-learning.shtml>

~ Julie Boyle, Nebraska 4-H

## Tips and Tricks

How can we support experiential learning, that hands-on, minds-on learning, through the TMC Labs? Here are some tips from staff in programs using the TMC Labs:

- Ask open ended questions or answer a question with a question.
- Listen to gauge where youth are in their learning process
- Have different stages of your activity available so youth don't have to wait on each group to finish
- Provide other related activities in case some get done quickly
- Connect activities to real world problems
- Don't do it for them, ask helpful questions and allow youth time to think through to develop their own solutions

~ Julie Boyle, Nebraska 4-H

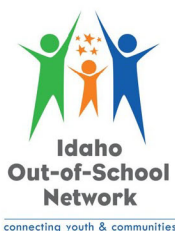
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