



Think Make Create



The Makerspace Playbook

Issue #01: August 2021

TMC ON THE MOVE

With a variety of users hitching and hauling TMC Labs, a [checklist](#) was created in Idaho's TMC Lab program to make sure even the most novice of transporters could secure the Labs before and after use. Trailers for the Labs in each state may be slightly different, so TMC Lab transporters will need to check with their own state and TMC program on laws and requirements for proper hauling.

*~Claire Sponseller,
University of Idaho Extension
4-H STEM Educator*



Spotlight on Nebraska: BioBlitz

At Beyond School Bells, [BioBlitz](#) means an opportunity to excite students about biology and ecology by engaging with nature that exists right outside a school's front doors, along the banks of a local stream, or in any other natural environment students can easily access.

BioBlitz is a citizen science endeavor developed by National Geographic to explore and understand the living organisms inhabiting student's local environments. Taking that idea and combining it with the mobility and opportunities provided by the TMC Lab, BSB has developed 4 stations to allow students of all ages to explore the natural world - Soil Life, Habitat and Plant Life, Aquatic Life, and Animal Life. For younger students this means making mud-shakes and writing stories about the plants they find; for older students this can be an introduction to a biological survey or an eye-opening experience to the diversity of life around them. To everyone involved, it is a reminder of the value of getting outside and observing the natural world and of how accessible science can be to anyone who wants to look for it. For more information on the 4 stations check out [BSB Curriculum](#).

The TMC lab has served as a BioBlitz field station for many programs across NE, giving students a home base from which they can disperse to gather scientific evidence and reconvene to investigate their discoveries and share their stories. TMCs are the perfect pop-up outdoor classroom station with a table and canopy to gather at while also providing the basic materials every student needs to explore. In both urban and rural communities across Nebraska, BSB has seen TMC Labs serve as the key to BioBlitz and many other outdoor and environmental education experiences. We look forward to continuing to engage more communities, throughout Nebraska and beyond, in this meaningful and exciting use of TMC Labs to support important environmental education work.

*~Sandra Day, Nebraska's Beyond School Bells Director of Content and Delivery
& Dakota Staggs, Nebraska's Beyond School Bells Program Coordinator*

Give It A Try: Make a Fort

The Malone Center in Lincoln, Nebraska received an upgrade kit for its TMC this summer. In the kit, there were three "Make a Fort" kits and a solar panel. Youngsters worked in teams to create a structure that had multiple rooms and utilized the solar panel in some way. That first day, three different structures were made that youth thought would be useful to their community in some way. One structure was a movie theater, one was a community cafeteria and another was a housing complex! The solar panel is a [Goal Zero Nomad 20](#), foldable. [Make a Fort](#) is found here.

~Sandra Day, Nebraska's Beyond School Bells Director of Content and Delivery



Selecting STEM Activities

- Need to mix things up a bit, or are you looking for activities that fit into a specific theme? A quick Google search can easily provide an overwhelming number of ideas. Many of the activities are flashy and fun, yet lack the ability to fully engage youth; so how do you choose?
- To begin selecting activities, you need to first define what makes up a quality activity. Once this is defined, you can develop a brief assessment to filter activities. Here are some key components to consider in your definition of what is a quality activity.
 - **Learning Goals:** Every lesson should have a learning goal at its base. This goal can be skill based as well as academic.
 - **Materials:** Materials need to be appropriate for the lesson, but also developmentally appropriate and accessible to all youth.
 - **Engagement:** Engagement is about more than being active and having fun, it should encourage curiosity and cognitive work.
 - **Connection:** Real world connections and even career exploration provide additional strength to the activities potential.
 - **Reflection:** Activities that allow opportunities for youth reflection deepen the understanding of concepts and connections.

~Christine Wood, SDSU Extension 4-H STEM Field Specialist

Quick Questions for Assessing Activities

- To what extent is there a STEM learning goal?
- To what extent are the materials used comfortable and safe for youth?
- To what extent did the activity provide youth with the opportunity to manipulate the materials and interact with the lesson?
- To what extent did the activity relate content to youth's lives or future careers?
- To what extent did the activity provide opportunity for reflection and sharing?

~Christine Wood,
SDSU Extension
4-H STEM Field Specialist

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