Think Make Create LABS

The Makerspace Playbook

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MAKING CAREER CONNECTIONS: LIBRARY SCIENCES

In today's world of digital information, there is a strong demand for individuals with a background in informational sciences, especially library sciences. While many choose library science because of their love of literature, library science is about much more than enjoying the classics. Library scientists can work in a variety of settings and have a variety of different focuses. Individuals with library science degrees can serve as teaching assistants, editors, government record analysts, and research analysts among other things. These careers rely on an individual's ability to work well with people, manage information, and adapt to evolving technology.

Consider introducing these careers to your youth through activities that teach about classification, require sharing out information, or data analysis.

Library science as well as other STEM careers can be introduced using literature. Some great books for introducing STEM careers and activities are:

- Rosie Revere, Engineer
- Ada Twist, Scientist
- Iggy Peck, Architect
- Sofia Valdez, Future Prez
- Aaron Slater, Illustrator

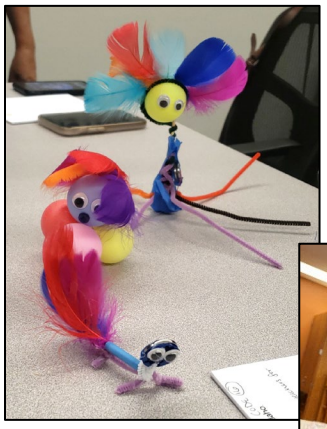
~Christine Wood, 4-H STEM Field Specialist SDSU Extension

Spotlight on You: Oglala Lakota Nation

Our West River TMC trailer was on the move Saturday, August 7 for the Oglala Lakota Nation Wacipi. Located in Pine Ridge, South Dakota. This event included a parade, skateboarding competition, softball tournament, dancing, and our favorite, STEM activities with the kids. Thousands of people gathered on a beautiful Saturday where the parade led our procession to the powwow grounds. Upon arrival we set up a table next to the skate park with a variety of hands-on activities for kids to explore. A theme that emerged throughout the day was that natural curiosity and the absence of a need for control allowed these kids to process their world in a unique and beautiful way. As adults we often try to create schedules and itineraries, come up with contingency plans, and generally try to control the uncertainty in our world. Throughout the afternoon we watched children approach our table with a willingness to try new things and a natural desire to build community with us and one another through play and exploration. One telling example of this was with a young man who spent over fifteen minutes perfecting his model house. A gust of wind pushed his creation off the table and it all came crashing to the ground. His reaction gave us all a moment of pause, as he simply shrugged his shoulders and said "let's try again". While this example makes many of us appreciate his grit and determination to persevere, I was instead struck by this boy's resiliency in a moment of sudden change. Many other youth also helped instill an overarching sense of community through their interactions with one another and with us. These visits help our organization understand the beautiful diversity present in our state and the kids we work with teach us valuable lessons that guide our work. To the children and all people of the Oglala Lakota Nation, we are so grateful to have spent the day with you, wopila.

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

Give It A Try: Vibrobots



Whether you are with adults or youth, participants of all ages love creating small little creatures that dance across your work surface. We sometimes call them vibrobots or when we use cupcake liners, we have cupcake monsters. We often use this is a great way to introduce simple circuitry, especially when participants have not done circuits before. Materials include ping pong balls, straws, pipe cleaners, paper clips, feathers, buttons, and of course, googly eyes. The trick is to find small light weight materials. Most craft materials will work alongside generic office supplies. With just a vibrating motor and a coin cell battery, let your imagination run wild. To add more innovation and expand your STEM design skills, add on-off switches or LED lights as eyes. There is no limit on the creativity that comes with these creatures!

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

Put it Into Practice

Including career exploration in your STEM activities is another method to create a strong STEM impact on our youth. Research continues to show that early exposure to STEM helps youth better understand STEM as adults and to have the skillsets to proceed professionally. By connecting STEM careers to the hands-on activities they participate in, you are making real-life connections to STEM. Add to your program:

- Talking about careers that youth know (electricians, computer programmers, librarians, etc.),
- Sharing the future of what could be (open STEM jobs grow annually and many have not yet been created)
- Using terminology ("You just engineered your design to…" or "Way to be a scienctist!")
- Have them experience a piece of those STEM careers through your hands-on activity (binary bracelets to coding)

By adding these steps in your activities, you are creating academic interest and and building career awarness for STEM. The earlier you can do this with youth the better, as often times middle school is the make or break point (they either like STEM and continue, or they don't) for STEM interest and career aspirations.

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

Tips and Tricks

How can you build career awareness into your STEM activities?

- Take a field trip (industry, labs, retail store, etc.)
- Review what was seen on the trip (type of jobs, what skills were needed) – maybe provide some questions they need to answer while on the trip
- Interview professionals (watch a YouTube video, video chat with someone that isn't local but has a great job) – we aren't limited to a physical space anymore!
- Plan an activity around those jobs and/or skillsets needed for those jobs
- Reflect and share – have the youth report on what they learned

You can do one or all these things, just note it doesn't have to be a huge effort; even the little steps to introduce STEM careers leaves a big impact.

~ Claire Sponseller, University of Idaho Extension 4-H

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