

MAKERSPACES FOR SMALL LIBRARIES ON A BUDGET

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OUR LIBRARY GOALS FOR MAKERSPACE:

- We have turned into a society of consumers instead of makers. We wanted to create a space for children (Pre-5th grade) and a separate space for Teens (Grades 6-12) to create, invent, and “make” using a variety of materials provided by the library.
- Participants would need to be self-directed through signs on how to use materials since staff time was limited to supervise a makerspace. This meant projects must be safe for a variety of ages with minimal supervision.
- Find community partners to help with expenses of makerspace either through donations of \$\$ or materials.
- The Makerspace would incorporate STEM learning along with a creative, artsy component.
- FINAL PHASE- make equipment and materials the library already has available to the public, or try to get equipment & materials that patrons ask for public use in our community makerspace.

HERE'S WHAT OUR MAKERSPACES LOOK LIKE TODAY- AFTER 2 YEARS



In the Children's Room, we set up 2 child-size tables in an unused corner with empty book shelves. Materials are placed on the book shelves in bins.



A sign on the table tells them the "challenge" or project set out for the week. There is something set-up in Creative Corner every other week.

TEEN TINKER LAB



Tinker Lab is targeted to 6th-12th grade youth, however we have allowed 5th graders to participate. Any younger children who are interested must be with a parent to participate.



We looked for a corner in the Teen Den with an electrical outlet and room for a table and chairs. Some unused shelving was added to the area to hold materials for the project of the week.



The space can get very cramped, but usually there are only 2-4 teens using the area at a time afterschool or on weekends.

LAST YEAR A COMMUNITY MAKERSPACE WAS ADDED IN THE TEEN DEN- OPEN TO ALL AGES.



After having the Tinker Lab and Creative Corner for one successful year, we then decided to move some library equipment out for public to use.



There are shelves with the basics- glue, glue guns, crayons, colored pencils, markers, various kinds of tape, stapler, book stapler, good scissors, decorative edge scissors, and a variety of paper-lined, plain copier, colored paper, scrap construction paper.



Large equipment includes- die cut machines, button-maker, large paper cutter, irons, and a standard paper size laminator. Recently we received a sewing machine and will be making that available for the public to use in the building as part of our Makerspace.

WHERE DOES THE MONEY COME FROM FOR MAKERSPACE?

- Community Partners- With help of an enthusiastic, savvy patron, we have applied for multiple grants from local organizations:

-STEAM Boosters -Arts Council -Miami Co. Foundation -Tipp Monroe Community Services

We were successful at getting several thousands of dollars as start-up because we were able to show how the Makerspace would benefit the whole community.

- Other groups to consider:
 - American Legion Women's Auxiliary -Optimist Club -Crayons to Computers
 - Community Minded Women -Local Business Association
- The library also pays for some of the crafts supplies & equipment through our normal supplies & programming budget.

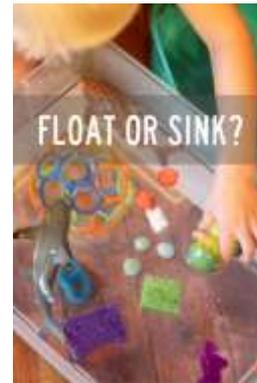
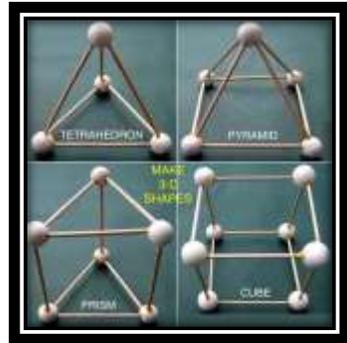
THINGS WE LEARNED

- **Arts & Crafts IS making!** Look for open-ended projects that allow participants to use materials in new ways. Craft projects provide opportunities for using math, learning to follow directions, reading, and trial & error learning. Your makerspace doesn't have to be high tech to succeed.
- **Recycle & Reuse to keep costs down.** We take inventory of our supplies and see what we have a lot of, or need to get rid of, and then search Pinterest or the internet to find a suitable project. We have found many groups willing to donate materials they no longer want- Ex. book binding machine from Community Services, crafters die cut machine & die cuts, sewing supplies.
- **Start small and add on as you can.** We started with one project per month in the Creative Corner and Tinker Lab, then moved to two projects each month. Eventually we found funds to add on more equipment, like the button-maker and sewing machine. We also started to look for electronics and presenters to provide more traditional programming- littleBits sets, sewing machine, deconstructing electronics, LEGO robotics. Now our focus is planning special events with volunteers or staff-led programming or a Maker Fair Event.

MORE THINGS WE LEARNED

- **Plan for how to replace materials that get used up.** We started with some of our own supplies and \$\$, until we could get donations to replace things like craft supplies, button parts for the button-maker, laminating sheets. We charge for some things, like lamination and making buttons, but most of the supplies are free.
- **Don't disregard the amount of staff time needed.** Staff is needed to plan the 2 projects a month at Creative Corner and Tinker Lab. It takes time to research the projects, instructions signs need to be made, materials collected and to set-up the makerspace. Staff will need planning time for this just as you would for a program. Someone needs to keep restocking and cleaning and straightening the area on an ongoing basis- other staff can be involved in this.
- **KEEP YOUR GOALS IN MIND!** Be conscious of making the projects open-ended and incorporating STEM learning was something we had to keep reminding ourselves. We didn't want this to simply be an Arts & Craft Lab. Getting the word out to the community is vital if the Makerspace is going to benefit the whole community.

SOME OF OUR FAVORITE CREATIVE CORNER PROJECTS



MATH LEARNING

1. Geoboard- make geometric shapes with rubber bands on homemade pegboard.
2. Building 2-D & 3-D shapes with marshmallows & toothpicks.
3. Having kids measure and follow directions when making projects.

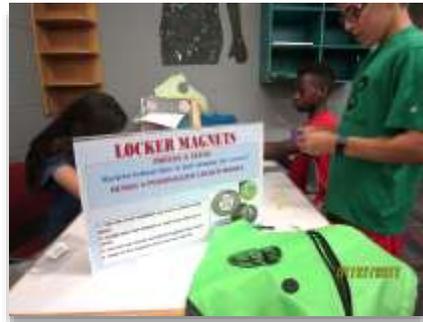
SCIENCE LEARNING

1. Sink or Float experimenting.
2. Tools of Science- weighing objects, mixing liquids, using magnifying glass, what sticks to a magnet trials.
3. Composting with worms- observe worms in jar with a compost heap inside.

OPEN-ENDED ART

1. Pipe Cleaner Sculptures.
2. Catalog Card Building.
3. Lego Challenge Days
4. Design an Amusement Park Ride from paper.

SOME OF OUR FAVORITE TINKER LAB PROJECTS



Building Projects:

1. Build with cardboard squares
2. Strawbees
3. Lego Challenges

Crafting:

1. Shrinky Dink Keychains
2. Perler Bead Backpack Hangers
3. Locker magnets
4. Button Maker
5. Comic Book Art

Special Programs:

1. Make a journal or notepad from old graphic novel covers & book binding machine.
2. Make a book or journal with sewing machine.
3. Deconstructing Electronics
4. littleBits exploration

BENEFITS WE OBSERVED FROM HAVING A MAKERSPACE

1. Gives teens something to do afterschool and in summer instead of just “hanging out”. Curbs disruptive behavior in the library.

2. Parents like having something to do with siblings while waiting for a family member participating in another library program.

3. Brought in new people to library to use die cut machines and laminator for a birthday party or Sunday School class, etc.

4. Local businesses appreciated knowing they could come to library to make signs, or buttons for their stores.

5. A collaboration between the schools and library developed through loaning out our littleBits kits and Strawbees set.

6. Allows people to participate in a library “program” when it is convenient for them. We have also gone out into the community with some of our makerspace projects at community fairs to reach a new audience.



OTHER RESOURCES

www.teenlibrariantoolbox.com- Look for Karen Jensen's posts about her experiences with their Teen Makerspace at the Public Library of Mount Vernon and Knox County.

www.slj.com- School Library Journal has done a lot of great articles about makerspaces. Just go to their website and put "makerspace" in the search box.

www.strawbees.com- We purchased a die cut to make our own connector pieces, but now you can just buy bags of the connectors and your straws and you're ready to go!

<http://littlebits.cc/>- littleBits can be expensive, but there are a variety of kits to buy at all price levels and they are constantly expanding. They have excellent Lesson Plans and Challenge Cards and are very easy for 3rd grade- high school to use and be challenged by.

www.instructables.com-

<https://makezine.com/>- These two sites will send you e-newsletters with new ideas. There are a TON of ideas for makerspace projects on these two sites.



Maker Workshop – Webcast Presented by LJ and SLJ
Create a Maker Program Ready to Implement in Your School or Library
October 3–24, 2017
Live Sessions on Tuesdays at 3:30 PM ET: October 3, 10, 17, 24

