

# Makerspace STEM Lab in the Library

Innovation Strategy & Roadmap  
Hyperlinked Library, Spring 2024  
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**Imagine a place where children and teens can go to learn and explore science, technology, engineering, and mathematics. This special STEM Lab would have makerspace material available during all lab open hours. It would also host special programs and events centered around children and teens for the sole purpose of introducing them to STEM.**

# Action Brief

**Convince** the county library board

**That by** adding a STEM Lab and Makerspace to the library

**They will** give children and teens a place to gather, learn and grow, especially in the STEM areas

**Which will** give children more confidence in school and a better chance to learn about science, technology, engineering, and mathematics

**Because** children learn best by hands on experience, and STEM activities and opportunities will help children and teens build their knowledge and not only do better in school, but may also find a future in science, technology, engineering, or mathematics

# Makerspace STEM LAB

## Details

- Makerspace
- Study Hall/Tutorial Center
- STEM clubs
- Partnerships
- Classes/events/programs

# Makerspace

- Makerspace is a “gathering point for tools, projects, mentors and expertise” (Graves, 2017). It is a space where children and teens can create
- Using the mostly unused room behind the stacks, we will set up a place for creativity, design, technology.
- It will have building materials such as legos and blocks
- It will have supplies for creation: paper, scissors, pipe cleaners, popsicle sticks, and glue
- Materials will be available to allow students to “tinker” and while doing so, learn

# Study hall/tutorial center



- Specific times and dates will be set aside for volunteers (from the local college) to come and work with students on science, technology, engineering, and mathematics
- Tutors can work with small groups of students on homework or projects.

# STEM clubs

Clubs will be arranged by age group and meet weekly to make, create, learn, and socialize.



While they are building their skyscrapers or robots, they are also building relationships with each other *and* the library.

# Partnerships

- Having connections in the community will help the success in this endeavor.
- We will contact the Science, Technology, Engineering, and Mathematics departments at the local college to recruit tutors, presenters, lab guides
- Professionals in fields that use Science, Technology, Engineering, and Mathematics will be invited to come give presentations about their field (medical, civil engineers, architects, Biotech labs, computer engineers, etc.). They can also lead the various clubs and serve as tutors.



# Classes/events/programs

Programs in STEM will be geared towards specific age groups. These will be special one time events, movies, classes, and weekly programs. These will be led by community partners in conjunction with the library staff.



## Showcase successes



The children's creations will be put on display for the community to see. This will allow the children to show off their creations and allow the community to see what the program is all about. It will generate excitement and bring more partners and students.

The background is a solid orange color. In the top-left corner, there are three vertical bars of varying heights, each composed of several overlapping semi-transparent orange circles. In the bottom-right corner, there are four vertical bars of varying heights, also composed of overlapping semi-transparent orange circles.

# Goals and Objectives

**The goals for Makerspace STEM LAB is to provide equitable access to resources to children, create a learning environment in the areas of Science, Technology, Engineering, and Mathematics, and provide a safe place for children to socialize, learn, and grow.**





**Makerspace STEM  
LAB helps many**



# It helps children and teens:

- A makerspace brings about equality by providing essential resources to everyone ( Lakind)
- Provides a safe place to learn and explore
- Teaches collaboration
- Provides resources that help children and teens in school and betteres their chance at college and/or career

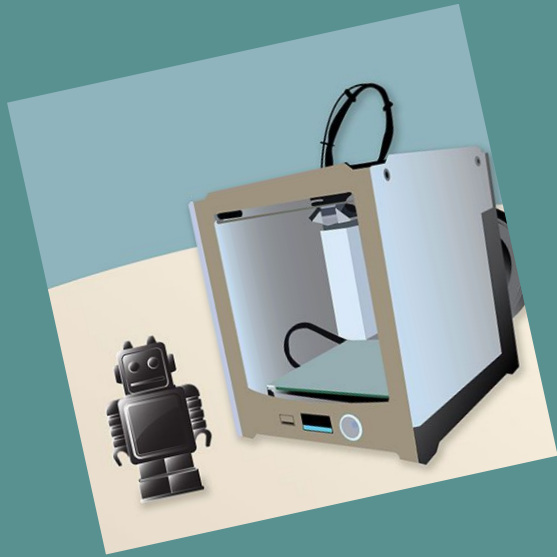
# It helps the community

- Parents will have safe and enriching activities for their children.
- Fills an unmet need in the community (Matthews, 2012)
- Communities are strengthened when community members work together (peet, 2018)
- Cities thrive when their citizens and government are positively engaged with one another.(Lipse, 2015)
- In the long term, the community will have more citizens that have STEM skills

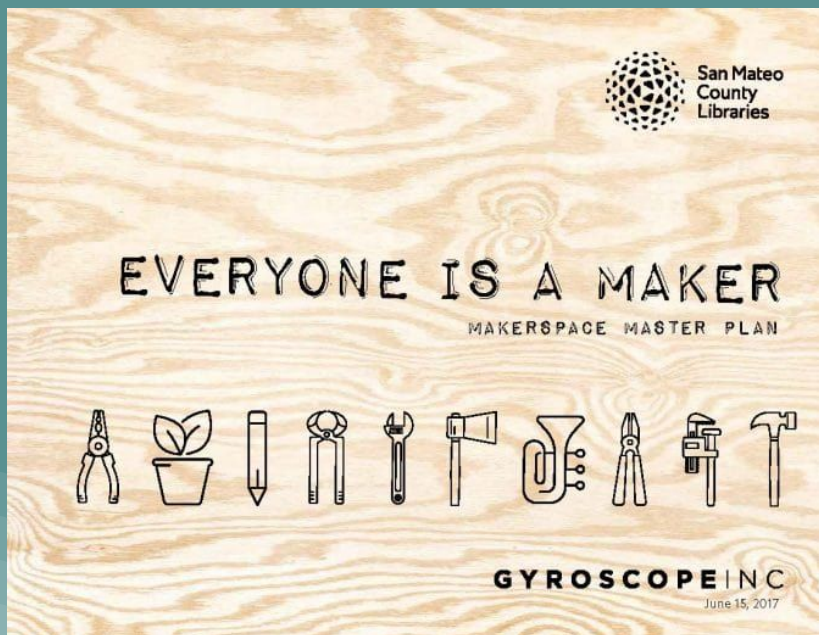
**Other Libraries are  
having success with  
Makerspace Labs**



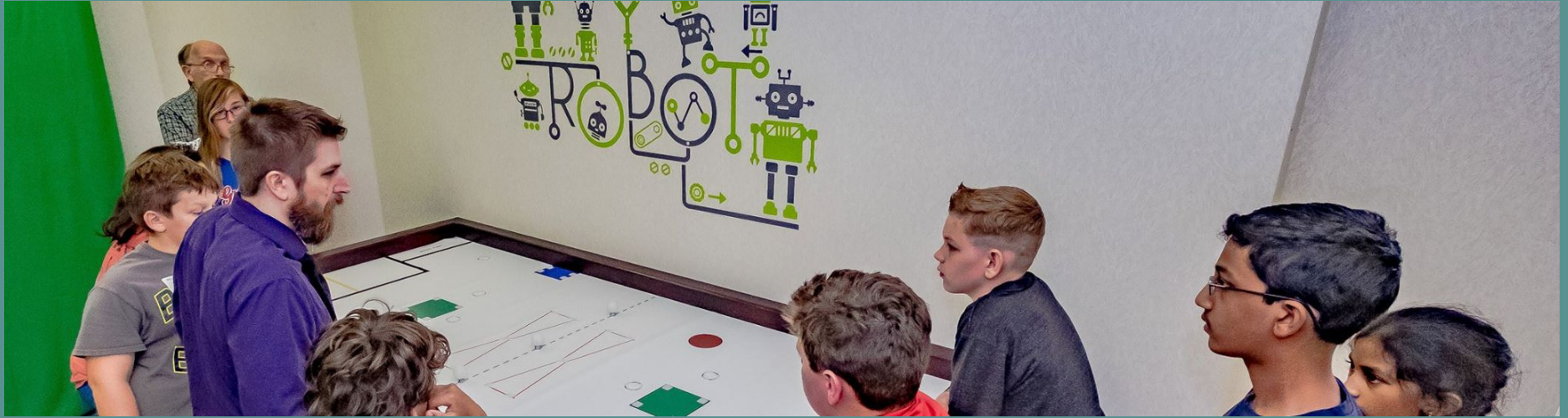
# CSUN Library Creative Maker Studio



# San Mateo County Library



# Grapevine Public Library CREATE IT MAKER SUITES & SERVICES



The image features a solid orange background. In the top-left corner, there are three vertical bars of varying heights, each composed of several overlapping semi-transparent circles. A similar set of four vertical bars is located in the bottom-right corner. The text 'Makerspace STEM LAB' is written in a large, bold, white sans-serif font, slanted upwards from left to right. Below it, the word 'Policies' is written in a smaller, bold, white sans-serif font, also slanted upwards from left to right.

# Makerspace STEM LAB

## Policies

Respect others and the space  
AND  
Clean up after yourself



The background is a solid orange color with several decorative circular elements in the upper right quadrant. These include a large, semi-transparent circle with a smaller circle inside it, and two smaller semi-transparent circles, one above and one below the larger set. Each of these circles contains a smaller, solid orange circle, creating a layered, geometric pattern.

# **Timeline for implementation**

# Timeline

## Year one

1. Gather partners
2. Set up the room
3. Purchase supplies

## Year two

1. Start advertising
2. Hire lab guides and arrange volunteers
3. Invite speakers for special programs/events
4. Organize an open house revealing party
5. Plan and implement events





# Marketing







Colorful flyers will help to promote Makerspace STEM LAB

Flyers made by author using Publisher and LibraryAware

# Marketing Cont.

- Flyers posted at branch
- Notices given to newspapers, radio public services announcements
- Flyers posted at public bulletin boards
- Flyers given to schools to post and distribute

# Training

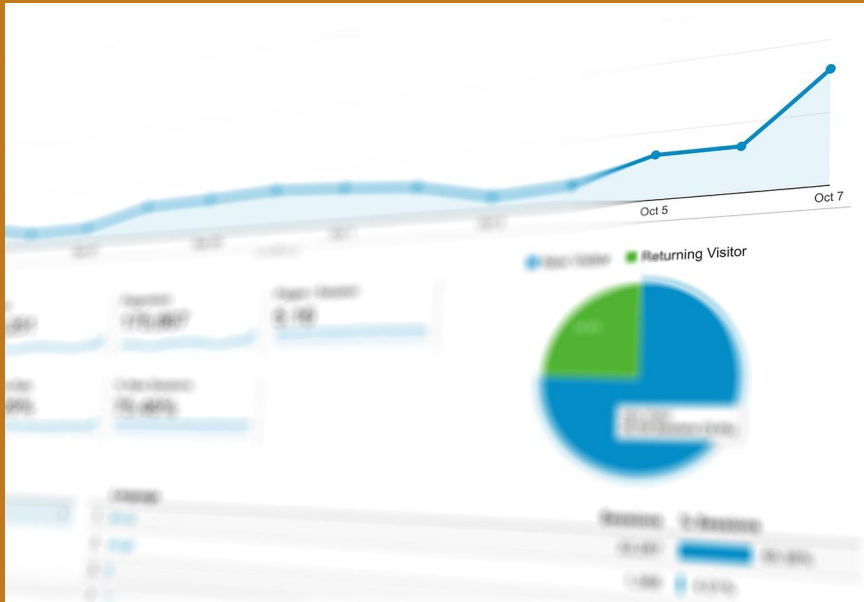


# Training



- Staff will serve as a supporting role, so they will schedule, promote, help plan, programs, and set up and take down. This is all part of their jobs, so little training will be needed.
- Lab guides (volunteers and staff lab guides) will be trained on how to use the equipment and library policies.
- Volunteers (tutors, lab guides, assistants) will have to undergo an orientation to learn library policies (like privacy policies, etc).

# Evaluation



# Evaluation

First evaluation will be after 6 month of opening the STEM LAB. If needed, adjustments can be made. After the first year, evaluations will take place every year. Success is not about numbers alone, but about lives changed. These are harder to measure, but the following will be used to evaluate.

- Surveys - both formal and informal
- We will hold community forums to gather feedback
- Attendance and door count

# Sources

CSUN University Library. Creative Maker Studio. <https://library.csun.edu/learning-commons/creative-maker-studio>

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