



Center for  
Excellence in  
STEM Education

# STEM EDUCATION IN A MAKER SPACE

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# What is STEM?

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# Let's Brainstorm

In your groups share some tasks or activities that you believe exemplify STEM.

# How Are These STEM Skills?

*Reason Effectively*

*Work Creatively with Others*

*Use Systems Thinking*

*Implement Innovations*

*Make Judgments  
and Decisions*

*Communicate Clearly*

*Solve Problems*

*Collaborate with Others*

*Think Creatively*

*Access and Evaluate  
Information*

# STEM Education is Defined by...

- » Inquiry-based science and math education
- » Integrated curriculum
- » Practice focused
- » Project-based group learning
- » Career awareness



# STEM Education Teaches Students To:

1. Ask and define problems
2. Develop and use models
3. Plan and carry out investigations
4. Analyze and interpret data
5. Use mathematics, technical and computational thinking
6. Construct explanations and design solutions
7. Engage in arguments based on evidence
8. Find, evaluate and communicate conclusions

**When you hear the term  
“maker space” – what do  
you think of?**

# What is a maker space?

A place in which people with shared interests can gather to work on projects while sharing ideas, equipment and knowledge.

# What is the purpose of a maker space?

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A space where students can gather to invent, tinker, explore, and discover a variety of tools and materials. ~Diana Rendina

# How can a maker space support STEM?

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# How can a maker space support STEM?

- **Open-ended tasks allow for creative problem solving.**
- **Shared tools and resources allow for project ownership and unique products.**
- **Maker community provides an identity and an authentic audience.**

# Design Thinking can support STEM in a maker space through....

- Empathize
- Ideate/problem solve
- Create (prototype)
- Test
- Refine (prototype)
- Communicate results

# Center opportunities for teachers/schools:

- ✓ STEM Excellence Pathway
- ✓ Field trips to the maker space
- ✓ Maker studio
- ✓ Professional development workshops
  - » Design Thinking
  - » Edison robots
  - » Makey Makey tools

# What questions do you have?

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