



Making STEM Connections

2019-2020 STEM Scale-Up Program

Grade Levels: K-8, available in or or out of school

Information Session: 4 PM, 2/12, <https://uni.zoom.us/j/657311591>

Website: <http://www.sciowa.org/makingstemconnections>

Video Link: <https://www.youtube.com/watch?v=sRLWF332Dpg>

Award Provides:

- Full day of Professional Development
- Program guide including lesson prompts, teacher resources, and books for teacher instruction and inspiration
- Maker toolbox with materials to activate youth experiences including a variety of materials for a classroom of 30
- Non-fiction and fiction literature for student engagement and understanding
- Educator stipend/sub-pay available (\$120) to attend professional development
- Travel stipend available (\$50) to attend professional development

Additional Cost(s) to Awardee In 2019-2020:

- Opportunity for teacher license credit

Approximate Sustainability Cost After Award Period:

- Annual consumable replacement does not exceed \$200 & is dependent on the use of materials

Program Summary:

Making STEM Connections is designed to empower teachers to cultivate engaging, purposeful and successful extensions of their already developed curriculum. The making philosophy directs students to use their hands in conjunction with their minds to produce meaningful learning outcomes. Educating teachers on the process of making as well as familiarizing them with the tools and materials to be used will be the cornerstone of the *Making STEM Connections* professional development. A classroom using the *Making STEM Connections* kit might have students learning how to fuse plastics to create textiles or assembling an art-bot using a DC motor and batteries. Teachers are provided with a curricular framework to develop STEM principles and enhance those already existing in their classroom using maker materials, both high tech and low tech, as well as skills.

This curriculum framework is focused around the idea that making and tinkering are ways to engage student's minds and build conceptual understanding around academic content. *Making STEM Connections* is structurally supported by cross-curricular experiences and opportunities, including literacy and math, to reinforce the maker foundation of active learning and problem solving.

The purpose of making as a learning technique is summed up by Dale Dougherty, Chairman of Maker Education Initiative, "It is the difference between a child who is directed to perform a task and one who is self-directed to figure out what to do."

Requirements to Implement the Program:

Educator(s) must participate in a full day of professional development. A memorandum of understanding signed by the building administrator is required before training or materials can be delivered.

Professional Development:

Includes an overview of making, strategies for inspiring the maker mentality, training for tool use and safety as well as a walkthrough of each lesson prompt. Educators will also benefit from four regional webinars offered as continued support and education about making and use of their kits.

Duration: 1 day

Date(s): Multiple options in each region will be offered July-September 2019

Location: Trainings are held in each of the six STEM regions