



STEMworks – STEM Advisory Council’s Approved STEM Program October 2017

STEM IN ACTION

PROGRAM OVERVIEW

STEM in Action® is a supplemental, module-based curriculum for grades PreK-5 that harnesses the power of hands-on learning to inspire curiosity and nurture critical thinking and problem-solving skills. Modules follow the engineering design process of defining the problem, planning solutions, making a prototype, testing the prototype, reflecting, communicating results, and redesigning. There are 1–3 hands-on lessons for each step in the engineering design process (5–8 lessons total). STEM in Action meets national and state science standards and incorporates three-dimensional learning with an emphasis on engineering as well as AUTHENTIC hands-on, problem-based learning. Each module also integrates science, math, and literacy practices and standards. Developed in partnership with Purdue University and Texas A&M University, STEM in Action was tested in classrooms to ensure the lessons are teacher friendly, and the activities are fun and engaging for students. Each module strikes the perfect balance of rigor and ease of use.

TARGET GRADES

PreK – 5th grade

A UNIQUE OR SPECIAL FOCUS OF THE PROGRAM

STEM in Action® is a supplemental module-based curriculum for grades PreK-5 that harnesses the power of hands-on learning to inspire curiosity and nurture critical thinking and problem-solving skills.

THE PROGRAM’S IMPACT ON STUDENTS

Our research shows that student interest in STEM, content knowledge in science and math, and understanding engineers as designers was significantly improved classrooms using STEM in Action.

SPECIFIC SKILLS STUDENTS WILL LEARN

Engineering design process:

- *defining the problem*
- *planning solutions*
- *making a prototype & models*
- *testing the prototype*
- *communicating results*
- *redesigning*

Science, Math & ELA Practices:

- *Asking questions & define problems*
- *Developing & using models*
- *Planning & carrying out investigations*
- *Analyzing & Interpreting data*
- *Using mathematics & computational thinking*
- *Construct explanations & design solutions*
- *Engaging in argument from evidence (making claims based on evidence); read, write and speak grounded in evidence*
- *Obtain, evaluate & communicate information*

RESOURCES PROVIDED TO EDUCATORS

Each module/kit includes:

- *Classroom set of 6 engineering teams (30 students total)*
- *All consumable and nonconsumable items needed for lessons/activities*
- *6 Student Activity Books.*
- *Teacher Guide - Online resources consist of: editable blackline master student recording sheets; set-up and facilitation videos; correlations; posters and discussion prompts.*

WEBSITE

<http://www.hand2mind.com/Brands/STEM-in-Action>

CONTACT INFORMATION

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