GREATNESS STEMS FROM IOWANS
GOVERNOR'S STEM ADVISORY COUNCIL

STEM in Action®

2019-2020 STEM Scale-Up Program

Grade Levels: PreK-5, available in school and out of school

Website: http://www.hand2mind.com/STEMinAction
Video Link: https://www.youtube.com/watch?v=zEGLYNXZ03k&feature=youtu.be
Correlations Link: http://bit.ly/CorrelationsSummary

Award Provides:
- 3 STEM in Action® modules
- Plus an additional Helicopter Hang Time Exploration-Introductory Module and one Engineering Design Process Flip Chart

Each Module Includes:
- 1 Teacher's Guide
- 6 reusable Student Activity Books
- Non-consumable and consumable materials for all activities in the module (6 sets of everything for up to 30 students)
- Editable and reproducible materials for Student Recording, Family Connection letter, STEM Teamwork Principles, STEM Prompts poster, Engineering Steps poster
- Facilitating STEM in the Classroom video
- Teacher help/set-up video, 1 per module

Additional Cost(s) to Awardee In 2019-2020:
- Travel to and from the regional professional development trainings

Approximate Sustainability Cost After Award Period:
- Replenishment of consumable items, refill kits (3 additional uses/module) cost between $0-$215 with a median price of $81 per kit

Program Summary:
STEM in Action® modules follow the Engineering Design Process of defining the problem, planning solutions, making a prototype, testing the prototype, reflecting, communicating results and redesigning. These modules Integrate NGSS PRACTICES and Iowa Core MATH & ELA Curriculum while incorporating three-dimensional learning with an emphasis on engineering as well as AUTHENTIC hands-on, problem-based learning.

Every module developed in conjunction with Purdue University or Texas A & M is tested in classrooms to ensure the lessons are teacher friendly, and the activities are fun and engaging for students.

These modules:
- introduce students to the Engineering Design Process
- seamlessly integrate science, technology, engineering, mathematics, and literacy
- teach students how to work in collaborative teams to solve real-world problems

Students conduct investigations, analyze data to make evidence-based prototypes/models as possible solutions, test, make claims, communicate their findings to other teams and redesign. Math is embedded in the problems as measurement, budgeting, geometry, numeracy, fractions, data collection, etc.

There are 5–8 hands-on lessons per module. For grades K–2 each lesson takes no more than 30 min., and for grades 3–5 a lesson is 20–60 min. long. One module takes about 2–3 weeks to complete.

These lessons: require little prep time; provide flexibility for use in centers, classrooms, STEM labs, STEM camps, afterschool programs and summer school; and connect "real world" and school work through engaging activities. Each module strikes the perfect balance of rigor and ease of use.

Requirements to Implement the Program:
Educator(s) choose 3 of the 25 modules and attend a half-day of professional development. There is no digital requirement. A memorandum of understanding signed by the building administrator is required before materials can be delivered.

Professional Development:
Training includes an overview of the organization of the program, STEM teaching best practices, and a breakout session with time to explore (hands-on by grade level) your 3 modules and confirm which you will implement before you place the final order. 5 follow-up webinars to network and ask questions during the school year are also included.

Duration: 1 half-day of training
Date(s): Training dates will be offered in the summer, Tuesday-Friday, July 9-August 2, 2019
Location: Trainings are held in each of the six STEM regions

STEM Scale-Up Program Application Link: www.IowaSTEM.gov/Scale-Up-Application