

# STEAMstart

**“DO MORE THAN MAKE.  
MAKE WITH A PURPOSE.”**

## STEAMSTART K-2

You start each engineering adventure by reading a story. Team oriented design challenges offer project based learning that focuses on STEAM careers, geometry, measurement, data collection, data representation, and problem solving. Tinkers talk about math, design, and decisions as they collaborate to design and test scale models.

Individuals create logbooks to document the team’s progress. Sketches, notes, measurements, and other requirements instill an understanding of project based learning and engineering design process. These youngest designers learn the basics of building scale models, developing simple math models, and testing projects to failure. How far can you extend the pier before it requires more posts? If your workshop bench collapses under the weight of its tools, how will you reinforce the design to hold all the materials?

10 Day Units for the K-2 Classroom, Camp, After School, or STEAM Club.

All Units may be combined to deliver a long range and multi-year STEAM project.

You read the stories. They provide the solutions.



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## K-2 CURRICULUM MATERIALS

COMPREHENSIVE KIT CONTENTS ARE AGE-APPROPRIATE FOR KINDERGARTEN, FIRST GRADE, SECOND GRADE

### UNIT CONTENTS

#### Unit Teacher's Guide

- 5 STEMvestigations (1 per subject area)
- Educator Background Materials
- Common Core Math and ELA Correlations
- Next Generation Science Standards correlations for engineering and science
- Student handouts
- Student logbook inserts
- Rubrics for STEMvestigations
- Pre and Post Assessment Options
- Extended Multimedia and Tech Options
- Access to monthly STEAM webinars...

### CONSUMABLES KIT

1000 laser cut 3" squares and 300 triangles + Cardstock and heavy paper for cutting additional shapes  
Art Materials Kits (including adhesives)  
Unit STEMvestigation challenge materials

### NON CONSUMABLES KIT

Art Materials Set  
3D Printed Shape Tool & Cutting Board  
1 each: Stopwatch, Tape Measure, Digital Scale, Spring Scale, Thermometer

#### "Full STEAMStart Ahead" Curriculum Set

Unit 1, Unit 2, Unit 3, Unit 4, Unit 5, Unit 6, Unit 7, Unit 8, and Unit 9 Challenge Kits  
Consumable & NonConsumable Materials Kits

\$2494 with Traditional Print Package T80-RS-PRINT

\$970 with Digital Print Pack (download passcode) T80-RS-DG

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Units	Title	Unit Concepts and Challenge Description	Design Challenges
1 T80-RS-1	World Goes Round	Mechanical Engineering - Harvest shapes, observe moon & night sky patterns, swing pendulums and design rovers. Tinkers design and construct scale models around the themes of circles and motion.	sand rovers, lunch containers, moon viewers, pendulum art, spinning toys
2 T80-RS-2	Weather or Not	Geoengineering - Explore weather patterns and rainfall, identify common attributes, investigate building foundations, create digital patterns, and begin a study of math modeling. Emphasis on systems, patterns, and circles.	rain gauges, cube towers, quakeproof foundations, tessellations, and tracing tools
3 T80-RS-3	What's In Store	Agricultural Engineering - Emphasis on communicating ideas, recognizing patterns, and using quadrilaterals to meet design challenges.	raised containers, digital images, paper quilts, rabbit hutches, market cart
4 T80-RS-4	The Tiny House	Structural Engineering and Project Management - Look at familiar items with a new perspective while using squares and cubes to meet building challenges.	"try square" testing tool, working weather vanes, strong tool benches, classroom inventions, and play spaces for classroom pets
5 T80-RS-5	Climbing Towers	Civil Engineering - Make shapely presentations, locate triangles in structures, and fold origami in an age-appropriate introduction to angles, triangles, and pyramids.	drip testers, hidden rooms, squirrel feeders that defy birds, tessellation stations, and towering paper towers
6 T80-RS-6	Prism's Playground	Environmental Engineering - Use polygons and prisms to design and test scale models with a focus on weather, weathering, biodegradable materials, and planning.	bee nurseries, polygon play props, hopscotch mats, flower presses, playground models
7 T80-RS-7	Just in Time	Materials Engineering - Observe how living things construct homes, explore tools through time, investigate tools for marking the passage of time, and tell stories with timelines.	pendulum and water clocks, nests, 3D timelines, sodium art
8 T80-RS-8	LightBulb Moments	Enterprise and Innovation - Drawing, drafting, designing, and doing take center stage as teams take an idea from first concept to final presentation.  Extend with 3D printing and The Innovation Station 3D curriculum located on page 6.	drawing tools, drafting tables, graphic presentations, "elevator speeches,
9 T80-RS-9	Salty Dogs	Chemical Engineering - Look at quadrilaterals, polygons, regular polygons, and prisms through the lens of a chemical engineer. From food science to solar power, chemical engineers produce, transport, transform and use materials and energy.	electromagnet toys, salty art machines, solar cookers, food batteries, develop uses for ooblek, gak, putty and other non-Newtonian fluids