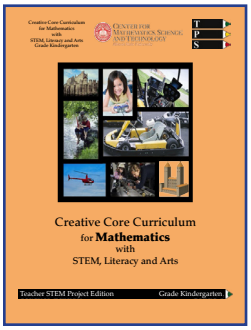
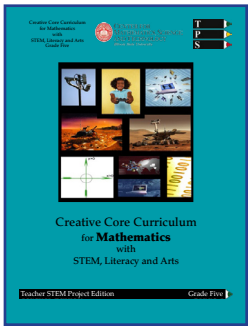
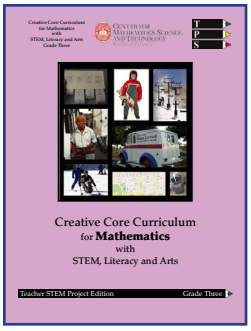
STEM Project Editions

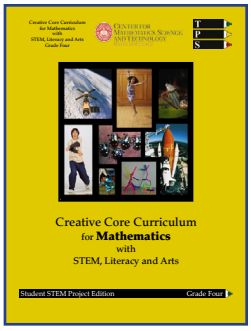
The STEM Project Edition, for grades K through 5, takes mathematics instruction to a whole new level. Students learn Common Core State Standards Mathematics content by using fun projects. They design and build a variety of devices and use mathematics to measure, describe, and predict their operation. STEM projects work well as a visual assessment at the beginning or end of a unit of instruction. They also can be used to tie unrelated concepts together. Mathematical Process Standards are clearly addressed and utilized in every project.

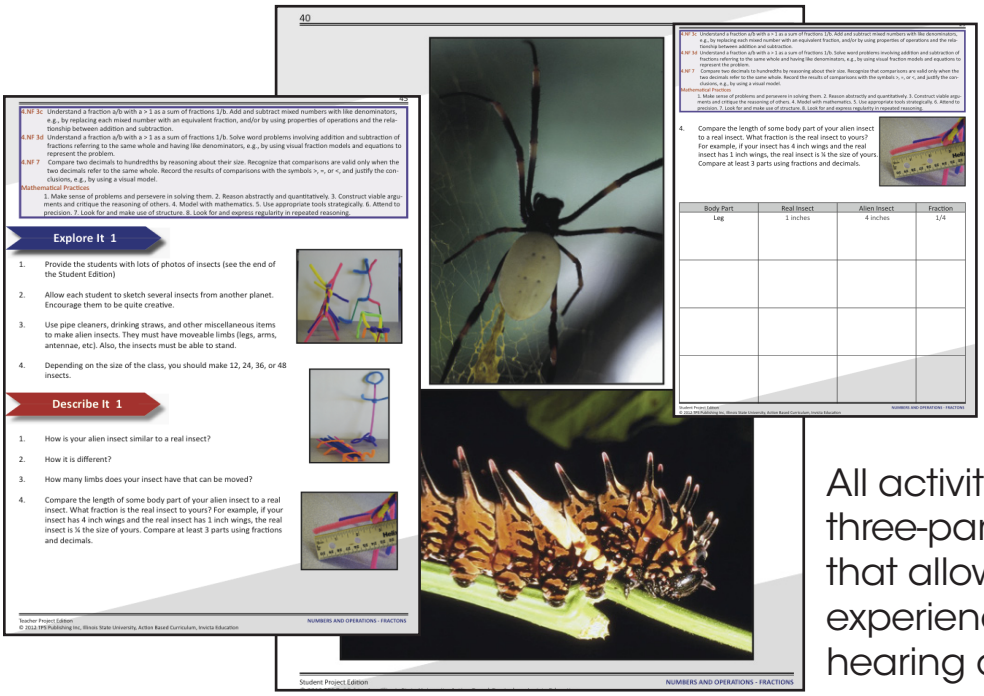




Our STEM project editions provide project-based, career-targeted challenges related to specific standards. For every strand a project is available for teachers and students. Each project is underpinned with literacy. **Grade 4, Numbers, Operations, Fractions:** students make "alien insects" from craft supplies. They learn how to work with fractions as they compare features of their imaginary alien insects to actual insects. It is important that there are either 12, 24, 36, or 48 total insects so there are plenty of options for fractions. In the second section of the learning cycle, students apply fractions as they analyze a song. Comparing the various sections of the song provide opportunity to use fractions. In the third section, students determine the size of the stage and how it can be divided to provide adequate sections for each dance team. The manipulation of fractions is stressed. The insects, music, and stage all come together when students make a stop-action video.





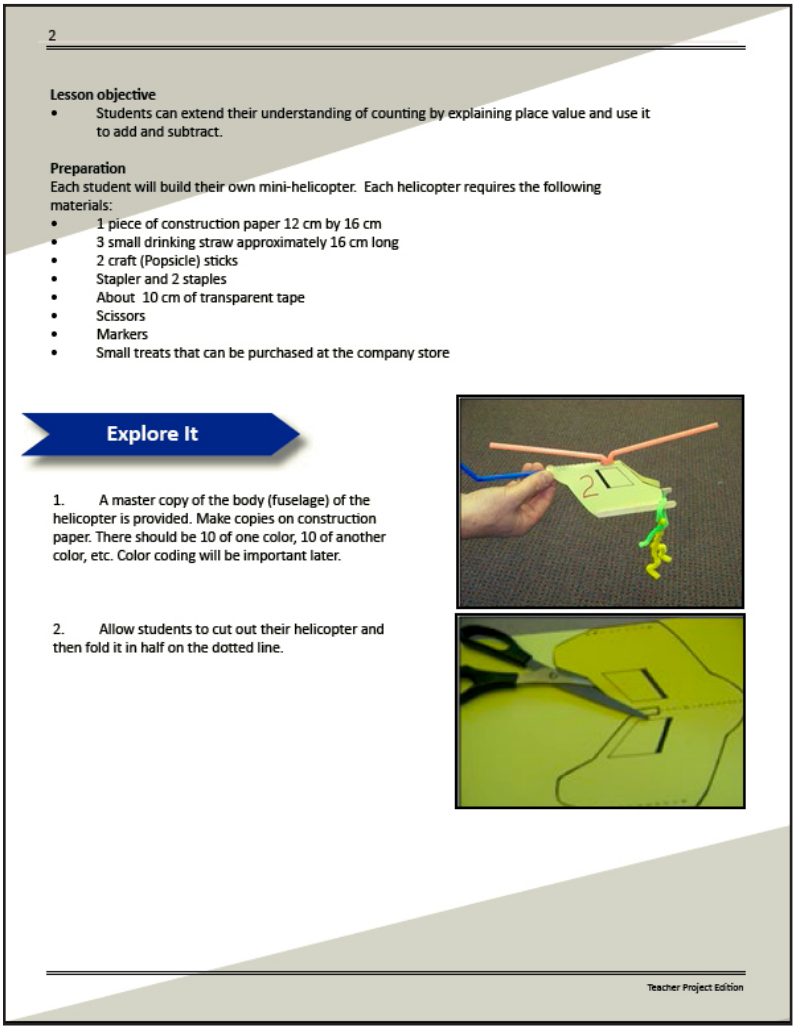


Explore

Describe

Use It

All activities are written in a three-part learning Cycle format that allows students to learn by experiencing the concept, not just hearing about it.



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Lesson objective

- Students can extend their understanding of counting by explaining place value and use it to add and subtract.

Preparation

Each student will build their own mini-helicopter. Each helicopter requires the following materials:

- 1 piece of construction paper 12 cm by 16 cm
- 3 small drinking straw approximately 16 cm long
- 2 craft (Popsicle) sticks
- Stapler and 2 staples
- About 10 cm of transparent tape
- Scissors
- Markers
- Small treats that can be purchased at the company store

Explore It

1. A master copy of the body (fuselage) of the helicopter is provided. Make copies on construction paper. There should be 10 of one color, 10 of another color, etc. Color coding will be important later.

2. Allow students to cut out their helicopter and then fold it in half on the dotted line.

Teacher Project Edition

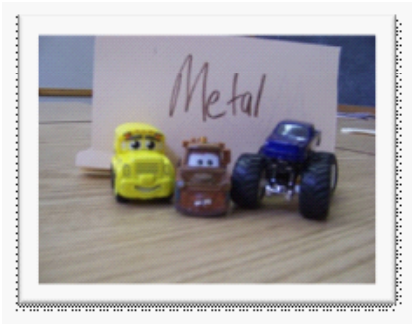
Have No Fear!

"STEM" is a buzz word. However the University writers have been creating STEM lesson plans for two decades.

The instructions are clear and concise.

Teachers can receive excellent professional development at their school or at the University.

Have no fear, we are here to help you deliver STEM activities.



Kindergarten students learn classification and measurement as they race toy cars by similar groupings.

Second graders design and build custom mini-choppers to learn how to add multi-digit numbers.

Fourth grade students learn fractions by designing and building alien insects and making a stop-motion video of them dancing on a stage.