



# The PIPES Project

- What Can You Do?
- What Is STEM?

# THE PIPELINE

## What Can You Do?

### Opportunities to work with kids in science and math

We all know how important and fun science and math can be for students when placed in a real-world context with hands-on experiences. As classroom teachers devote more of their time and attention to reading and writing testing they are struggling to include these real-world, hands-on experiences for their students, yet these teachers see how fun and important hands-on science and math is. The PIPES Project is addressing this issue by partnering classroom teachers, university students and professionals, both retired and working, in innovative hands-on science experiences that bring together scientific thinking, literacy, and math skills around a long-term science project.

Consider being a part of a solution for students and teachers by leading students through a series of hands-on projects that will not only increase their interest in math and science, but challenge you to make a difference in kids perceptions of how important math and science are. Take a look at some of our projects and be a part of impacting kids lives.

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 Take a look at our other programs at:  
[www.uccs.edu/pipes](http://www.uccs.edu/pipes)

#### What are the projects?

To alleviate any extra work on your part, several programs have been developed that can be plugged into any upper elementary classroom. Of course, if there is a particular project that you would like to do, that is always a possibility. The developed programs are:

- The Solar Sprint—design and build a solar powered model car
- The Rocketeers—design and build rockets using several different types of propellant
- The Toy Challenge—a national competition where students design and build the next great toy or game
- Pasta Bridges—students investigate the principles of structural design by building bridges of different types from pasta that they test for structural integrity
- Bernoulli’s Bash—investigate the principles of flight and design boomerangs, paper airplanes, and balsa wood planes for testing
- LEGO Bots—investigate the principles of computer programming and robot design to build a robot that accomplishes certain tasks.

All projects focus on the hands on application of the math and science principles being taught in the curriculum.

**WHAT IS STEM (Science, Technology, Engineering, and Math)**  
 Students today have a high interest in these areas in the early grades and begin to lose interest as they get older. It is the goal of the Partnership in Innovative Preparation for Educators and Students (PIPES) to give students a new and innovative exposure to science and math so that they can see how important these fields are to our lives today. We want to see this interest translate into more scientists and engineers in the future.

#### What is the time commitment?

The minimum time commitment expected is 4 hours per academic year (August-May), but additional time is always welcome.

The basic format is that you would visit the classroom to discuss how the math and science concepts being applied in the project are used in real-world applications from your experience in industry. This could be four times per year to kick-off each phase of the project or 2 times per month to help guide students through all the phases of the project. The sky is the limit!

#### Elementary Opportunities:

Ivywild Elementary: every 2nd and 4th Friday from 10:00-11:00 starting January 18th working with 4th and 5th grade students. Also a weeklong camp in April of 1 hour per day will be available

Hunt Elementary: every Friday from 12:00 to 1:45 in April and May working with 1st-3rd grade students.

Queen Palmer Elementary: 1 day per month (TBD) from 12:00-1:00 from February to May working with 5th grade students.

Other opportunities are forming in other districts as well.

#### Middle School Opportunities:

March 15: all day at UCCS working with 8th grade students on Lego Mindstorm robots.

June 9-10: 1-2 hours (9:00-11:00) at UCCS working with middle school students on a particular project of your choice





