



# The Center for Science, Technology, Engineering, and Math Education at UCCS

## The Pipeline Partnership An Opportunity to Make Science and Math Come Alive

PARTNERSHIP IN INNOVATIVE PREPARATION FOR EDUCATORS AND STUDENTS

# THE PIPELINE

Have your students ever asked how science and math get used in everyday life? It is the classic “When will I use this?” question. As an educator, you want to show students how the curriculum is relevant, or even better have them experience it for themselves!

The vision of the Pipeline Partnership is to provide resources and people that partner with you to help your students experience the relevance of the curriculum through a problem based project of your choosing. The way this is accomplished is through a robust and flexible partnership between your classroom, a retired industry professional, and university students studying education, science, and math.

Take a look at the projects developed, the time commitments involved, and the resources needed to seriously consider becoming a part of the pipeline from one generation to the next.

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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 your curriculum. The projects are also Colorado state standards based and CSAP aligned.

As an additional resource science reading, writing, and literacy components may be added to each project to address CSAP preparation in those areas.

### How much time do the projects take?

The projects are designed to be worked on for at least 2 hours per month spanning several months of the school year as a part of the regular science or math class. The schedule can be as flexible as needed and can always encompass more time if needed or desired.

### What is the format of the project?

The projects are designed to be as flexible as needed to address your particular curriculum but also be a complete resource to avoid too much extra work on your part. The general format is:

- you decide on a project
- your support team is formed, comprising a retired science or engineering professional and one or more UCCS student facilitators
- several introductory and planning meetings are held between you and your team
- the project begins with a guest speaker introducing the project and showing how math and science are used in real world projects
- work continues on the project twice per month. The working sessions are facilitated by your UCCS students
- the retired professional visits the class again throughout the project to provide a real-life context to what is being learned in class
- the big day of project completion and presentation to parents, a panel of industry professionals, and other students arrives! This will often take the form of a race, launch or presentation day depending on the project.