



Practical Uses of Math And Science



The On-Line Journal of Math and Science Examples
for
Pre-College Education

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Working scientists and engineers are often asked to contribute to pre-college education in general, and to “science literacy” in particular. But few of us have the time or the background to teach long division to third graders, or to develop middle-school science curricula. What can we do that will really help?

One thing working scientists know is how the science and math taught in pre-college classrooms is actually used. It occurred to me that teachers who are presenting this material in the classroom might find our experience to be of value.

So we created PUMAS (**poo’ • mas**), which stands for Practical Uses of Math And Science. PUMAS is a collection of brief examples illustrating how math and science topics taught in K-12 classes can be used in interesting settings, including everyday life.

Examples may be activities, anecdotes, descriptions of “neat ideas,” formal exercises, puzzles, or demonstrations. They are written primarily by scientists and other content experts, aimed at providing that extra ‘spark’ of understanding, so important to motivate learning, that comes from having practical experience. Examples are intended mainly to help teachers enrich their presentation of math and science topics, but anyone can access the examples via the PUMAS Web Site (<http://pumas.nasa.gov>).

PUMAS examples may be written in any style that serves the material well. All examples are peer-reviewed by at least one scientist with a relevant background, and at least one teacher at an appropriate grade level. The primary review criteria are originality, accuracy, clarity, and connection to national math and science curriculum guidelines. Accepted examples are citable references, in a refereed journal of science education.

Users can search the PUMAS collection based on curriculum topic, grade level, or subject. They can then scan through the relevant examples, and develop ideas of their own about how to apply the material in the classroom. So PUMAS asks scientists to contribute and effectively express their experience to teachers, and puts the job of integrating the material into lesson plans on teachers, who are in a far better position than most scientists to address students’ needs, abilities, and interests.

Interested in participating? The Examples speak eloquently for themselves, so you might have a look at those already in the PUMAS Collection. We need teachers at all grade levels, scientists, and engineers to volunteer for the pool of PUMAS Reviewers. And we are always looking for good examples of Practical Uses of Math And Science...

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