



## ATTENTION EDUCATORS! LOOKING FOR A SIMPLE WAY TO STIMULATE CLASSROOM INTEREST?

PACK MORE LEARNING INTO YOUR LESSON PLANS BY INCORPORATING THE SECRETS OF ROMAN CONCRETE AND THE WORKS OF DAVID MACAULAY!

**C**all us crazy, but we don't think there's a single schoolkid in America who could fail to be fascinated by *The Secrets of Roman Concrete* (see facing page) and its several companion pieces. So we'd like to make a direct appeal to all construction educators, and to AGC contractors who work with their local school systems: Consider integrating this material into your lesson plans wherever and whenever possible. We are certain it will have a real impact.

Students are eager to learn about the ancient world, and because *Build Up!* and *On Site!* study guides both explore ancient construction practices, augmenting those lessons with this material would be highly appropriate.

You may want to repackage and simplify it a bit—*The Secrets of Roman Concrete* is clearly written over the head of the average fifth grader—but the basic concepts are not. And since every kid knows something about concrete, she or he can relate.

Another opportunity: On page 30, you'll read about David Macaulay, "the Miracle Man of Construction Education." For the past three decades Macaulay, an architect and professor at the Rhode Island School of Design, has been doing pretty much what AGC is now doing with its *Construction Futures* initiative—selling kids on the magic and wonder of the construction industry, past and present.

Macaulay's books, it should be noted, are aimed *squarely* at kids—although students of all ages and even adults enjoy reading them. These are lofty, stimulating works like *City*, about the building of a Roman city, or *Cathedral*, about the construction of a European cathedral in the Middle Ages.

Richly illustrated, these works educate and stimulate interest in so many subjects—history, science, mathematics, and anthropology—even sociology.

### DESKTOP CONCRETE? CONSIDER THE POSSIBILITIES!

A powerful, hands-on learning exercise your students will love is to simply make small batches of cement or concrete—out in the schoolyard or even right in the classroom! The wonder of this exercise is that each student can literally create "desktop concrete" by blending the ingredients in something as small as a styrofoam cup, cereal bowl, or coffee mug.

As you'll read in the cover story at right, Joseph Aspdin, the British stone mason credited with the invention of Portland cement in 1824, literally cooked up the first batch on his kitchen stove!

You might begin the exercise with a field trip to a local batching plant and then let students have a go at it when they return to school. Students can also build a small structure as a team project and experiment with different admixtures, rating the final product for strength, setting time, appearance, and other variables.

There's even a case to be made that these books can help build character. Take Macaulay's *Cathedral* for a moment. As a constructor, can you imagine toiling for decades on a structure that would not be finished in your lifetime—but only by succeeding generations? Talk about hard work, faith, and commitment.

These books impart valuable lessons to the young students of today who often live not only on junk food but a steady diet of nutritionally deficient television shows and reading materials as well. You won't have to make a great leap to integrate these materials into the classroom either; the link is already there.

### HOW DOES BUILD UP! RELATE?

The study of concrete is one of the key components of *Build Up!*, the first phase of AGC's *Construction Futures* campaign, which introduces fifth-grade students across the nation to the construction industry. In "Road Ways!," a supplement to *Build Up!*, students study aggregate recipes and the hot asphalt process to better understand modern concrete-making techniques and the importance of highway construction.

### HOW DOES ON SITE! RELATE?

Aimed at middle school students, *On Site!* is the advanced, follow-up curriculum to *Build Up!*

In lesson Three, "On the Road Again—Roman Roads vs. Modern Roads," students are asked to compare and contrast Roman roads with modern ones. What materials, machinery, craftworkers, and labor are needed and available in each case? How will the road be built, and how long will it take? What maintenance will be required?

There are many different answers, and the point is to stimulate abstract thinking as much as anything else. But this much is clear: by studying the construction practices of ancient civilizations, students not only have fun and exercise their brains—they come away with a greater understanding and appreciation for the construction industry of today and how vital it is to their daily existence and quality of life.

—Based in part on copy prepared by Stephani Miller, CONSTRUCTOR's former editorial assistant.

### FOR MORE INFORMATION

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