Math Notes

A Newsletter from the Elementary Mathematics Team

Look for and Express Regularity in Repeated Reasoning
Mathematical Practice # 8

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COMMON CORE STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education. They are sometimes referred to as the *8 Standards for Mathematical Practice*. In this and subsequent issues you will find excerpts from these practices as well as brief sketches from the **Conference Board of Mathematical Science** of the Common Core State Standards for Mathematical Practice as they apply to teaching in elementary school.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

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8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Elementary school students require repeated opportunities to reason about and make sense of strategies and methods. It is through repeated reasoning that students will be able to make sense of calculation methods and use them with understanding.

Try this!

Given 24 cubes, make as many rectangular prisms as possible with a volume of 24 cubic units. Build the prisms, illustrate and record your dimensions.