

6.NS What is the Best Way to Divide?

Alignments to Content Standards: 6.NS.B.3

Task

- a. A group of 10 scientists won a \$1,000,000 prize for a discovery they made. They will share the prize equally. How much money will each person get?
- b. Two cousins shared 0.006 kilograms of gold equally. How many kilograms of gold did each cousin get?
- c. A barrel contained 160 liters of oil that costs \$51.20. What is the cost for one liter? How many liters can you buy for \$1.00?

IM Commentary

The purpose of this task is to have students think strategically about their method for solving a division problem. Achieving fluency requires attention to developing students' flexibility when performing computations. For example, students who use long division to find $50,000 \div 10$ are neither efficient nor flexible, and therefore not demonstrating fluency. This task shows an example of focusing on the choice of strategy as opposed to applying an algorithm without first considering options.

For the first two problems, students should be able to solve it using mental strategies. For the third problem, the long division algorithm will likely be the most efficient method students have in their repertoire. Students should either discuss their strategies in small groups or compare strategies in a whole-class discussion (or both).

In grade 6, students are expected to find unit rates from ratios that are whole numbers, so they should not be held accountable or assessed on finding unit rates using non-whole numbers. However, finding unit rates provides an excellent opportunity for students to practice the fraction and decimal division skills that they have been honing, which is why the third part is included. It also provides students an opportunity to make connections between the different topics they are learning in the course and to revisit and practice previously learned concepts and procedures. Note that this task should come after students have studied ratios and unit rates in depth.

[Edit this solution](#)

Solution

- a. Each scientist got $1,000,000 \div 10$ or \$100,000 dollars.
- b. Each cousin got $0.006 \div 2$ or 0.003 kilograms of gold.
- c. The cost for one liter of oil is $51.2 \div 160$ or \$0.32. You can buy $160 \div 51.2$ or 3.125 liters for \$1.00.



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