

Mathematics Instructional Focus for Grade 4 Marking Period 2

What is the instructional focus for this marking period?

In weeks 1–4, students extend understandings about place value and properties of operations, including the distributive property, to multiply a whole number of up to 4 digits by a 1-digit whole number. Rectangular arrays, area models, and equations are used to represent and explain calculations. Students are encouraged to flexibly decompose numbers and select from a repertoire of strategies, including mental math, to calculate products. In week 4, students apply knowledge of operations and make connections between geometry and number to solve problems involving conversion of measurements from a larger unit to a smaller unit. They use multiplicative reasoning to develop two column tables of equivalent measurements. Students consider measurement units within the same system of units including: kilometer, meter, centimeter; kilogram, gram; pound, ounce; and hour, minute, and second.

In weeks 3 and 8, students develop an understanding of a formula. Understandings about the attributes of a rectangle from earlier grades are extended and abstracted to develop formulas for the area and perimeter of rectangles. Students deepen their understanding of perimeter as the linear measurement of the boundary of a rectangle. The critical understanding that area measurement is derived from linear measurements builds upon work with rectangular arrays in Grades 2 and 3. Students have opportunities to apply area and perimeter formulas and use whole number operations to solve problems, including problems involving unknown side lengths. The focus in Grades 4–5 is on using formulas to summarize an efficient process for determining perimeter and area; in Grade 6, students will substitute values into the formulas and evaluate the expressions. In Grade 5, understandings about spatial relationships are extended as students develop formulas for measuring the volume of rectangular prisms.

In weeks 5–7, students extend understandings about the operation of division and the relationship between multiplication and division developed in Grade 3 to find whole number quotients (up to 4-digit dividends and 1-digit divisors). Students use the terms dividend, divisor, quotient, and remainder; remainders are interpreted based on the contexts of problems. Students use strategies and explanations based on place value and the properties of operations to estimate and calculate quotients.

In marking period 2, students apply their computational fluency with whole numbers to solve a variety of word problems. Students assess the reasonableness of answers using mental computation and estimation strategies including rounding. In week 8, problems involve intervals of time, weight or mass, and money. In marking periods 3 and 4, measurement word problems will include problems involving simple fractions and decimals. In week 9 of marking period 2, students solve multi-step word problems involving the four operations, including problems in which remainders must be interpreted.

Why will students learn this?

Enduring Understandings and Essential Questions

Flexible methods of computation involve understanding place value concepts and properties of operations.

- How can knowledge of place value help with multiplication and division of multi-digit whole numbers?

Patterns and relationships can be represented in multiple ways.

- How can you generate and analyze a number or shape pattern?

There are relationships among the four operations.

- What are the relationships among factors, products, and quotients?
- How is a multiplicative comparison different from additive comparison?
- How can you model, represent, and interpret addition, subtraction, multiplication, and division situations?

Relationships exist among larger and smaller measurement units within a system.

- How are units of measure within one system related?

Perimeter is a one-dimensional measure, and area is a two-dimensional measure.

- What strategies can be used to find area and perimeter of a figure?