Mathematics Instructional Focus for Grade 4 Marking Period 3

What is the instructional focus for this marking period?

In week 1, Grade 4 students learn the terms *factor* and *multiple*. Students multiplicatively decompose whole numbers 1–100 into factor pairs in order to develop the understanding that a whole number is a multiple of each of its factors. Students also classify numbers as prime or composite.

Grade 3 students compared fractions with the same numerator or the same denominator by reasoning about their size and discovered that equivalent fractions name the same point on a number line. In weeks 2 and 3, Grade 4 students extend their understandings of fraction equivalence and ordering. As students model and generate equivalent fractions, they develop the understanding that partitioning each unit fraction into *n* smaller equal parts can be represented by multiplying the numerator and denominator of a fraction by the same number, *n*. Students use a variety of strategies, including reasoning with benchmark fractions and creating common denominators or common numerators, to compare two fractions with unlike numerators and denominators. In Grade 4 Number and Operations—Fractions, denominators are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100. In various contexts, however, as students reason about fractions as numbers and explore fraction models, such as Cuisenaire® rods, fraction circles, and extended set of pattern blocks, students will encounter and be able to reason with other denominators.

In Grade 3, students developed the understanding that just as every whole number is obtained by combining ones, every fraction can be obtained by combining unit fractions. In weeks 4–5, Grade 4 students extend these understandings about building fractions from unit fractions, as well as understandings about addition and subtraction of whole numbers, to add and subtract fractions with like denominators. In weeks 6–7, students apply and extend understandings about multiplication and equal groups to understand fractions as multiples of unit fractions and multiply a fraction by a whole number. While computing these sums, differences, and products may seem simple, it is important that students use models, contexts, and reasoning to develop critical understandings of the meaning of the operations with fractions.

Students apply their computational fluency 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, distances, and mass. In marking period 4, measurement word problems will include problems involving simple decimals.

In week 9, students describe and identify points, lines, and line segments, including parallel and perpendicular lines. Students identify these geometric features in two-dimensional figures. Students' analysis of the properties of two-dimensional figures includes identifying figures with line symmetry and drawing lines of symmetry. In weeks 1–3 of marking period 4, students continue to develop their understanding of geometry and geometric measurement; students are introduced to angles as geometric shapes and classify two-dimensional shapes by properties of their lines and angles.

Why will students learn this?

Enduring Understandings and Essential Questions

There are relationships among the four operations.

- What are the relationships among factors, products, and quotients?
- How can you model, represent, and interpret addition, subtraction, multiplication, and division situations?

Fractions and decimals allow us to solve problems that are not possible with just whole numbers.

- How can you represent, interpret, and solve problem situations involving fractions and decimals?

Just as every whole number is obtained by combining ones, every fraction can be ovtained by combining unit fractions.

- How can you apply understandings of operations on whole numbers to operations on fractions?
- Why are fractions composed and decomposed in different ways?

The size of a fractional part is relative to the size of the whole.

- What strategies can be used to explain equivalence of fractions?
- What strategies can be used to compare two fractions?
- How can you apply understandings of operations on whole numbers to operations on fractions?

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

- How are units of measure within one system related?

Objects can be described and compared using geometric properties.

- How are points, lines, line segments, rays, and angles related?
- What strategies can be used to identify and draw lines of symmetry?