Unit 9 Family Support Materials

Putting It All Together

In this unit, students apply what they have learned throughout the year to strengthen the major concepts and fluency goals of the grade.

Section A: Reason with Fractions

In this section, students practice multiplying fractions and whole numbers, as well as adding and subtracting fractions with the same denominator. They also solve problems that involve comparing fractions and adding and subtracting tenths and hundredths.

Here are the times of the runners for two teams.
Which team won the relay race?



runner	Diego's team, time (seconds)	Jada's team, time (seconds)
1	$10\frac{25}{100}$	$11\frac{9}{10}$
2	$11\frac{40}{100}$	$9\frac{8}{10}$
3	$9\frac{7}{10}$	$9\frac{84}{100}$
4	$10\frac{5}{100}$	$10\frac{60}{100}$

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Section B: Whole-Number Operations

In this section, students deepen their understanding of place value and build their fluency in performing operations on multi-digit numbers.

Students begin by using the standard algorithm to add and subtract numbers within 1 million. They recall when to compose a new place-value unit (a ten, a hundred, a thousand, and so on) when adding, and when to decompose a unit when subtracting.

Students learn to pay attention to potential errors, especially when subtracting a number with non-zero digits from a number with zeros, and to be more strategic in choosing a method.

Use both Priya's method and Han's method to find the difference of 20,000 and 472.

Priya

$$\begin{array}{r} 20,000 \\ -\ \ 472 \\ \hline \end{array}$$

Han

$$\begin{array}{r} 472 \\ +\ \ \ \ \ \ \ \\ \hline 20,000 \end{array}$$

Next, students practice multiplying and dividing multi-digit numbers using, algorithms that involve partial products and partial quotients. In both cases, students make connections across the different methods they see or use.

Here are two ways to find 34×21.

In Method A, where do the 4, 30, 80, and 600 come from?

In Method B, which two numbers are multiplied to get 34? 680?

A

$$\begin{array}{r} 34 \\ \times\ 21 \\ \hline 1 \\ \hline 4 \\ 30 \\ 80 \\ +\ 600 \\ \hline 714 \end{array}$$

B

$$\begin{array}{r} 34 \\ \times\ 21 \\ \hline 1 \\ \hline 34 \\ +\ 680 \\ \hline 714 \end{array}$$

Section C: Solve Problems with Multiplication and Division

In this section, students use multiplication and division to make comparisons and solve real-world problems. They make estimates to simplify a problem, help with calculations, or assess whether a statement or a number is reasonable.

A school needs buses to take 375 people on a field trip.



- *Bus Company A has small buses, with 27 seats in each.*
- *Bus Company B has large buses, with 48 seats in each.*

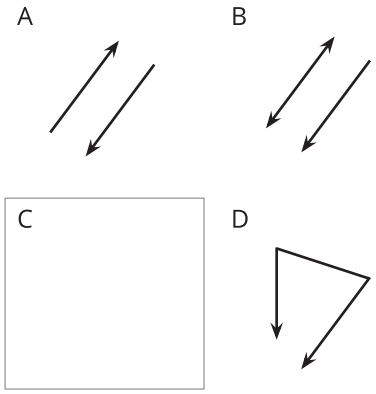
Which bus company should the school choose?

Section D: Creation and Design

Throughout the course, students have participated in *Warm-up* routines, such as *How Many Do You See?*, *Exploration Estimation*, *Which Three Go Together?*, *True or False?*, and *Number Talk*.

In this section, students apply the mathematics they have learned to design *Warm-up* activities that use some of these routines.

Add an item to complete the set.



For each group of 3 figures, discuss one reason why they go together.

Try it at home!

Near the end of the unit, ask your fourth grader to share the *Warm-up* routines they created. Questions that may be helpful as they share:

- How did you design the routine?
- How does the routine relate to what you learned this year?
- What might you change to improve the routine?

Solution:

Answers may vary.

Sample responses:

- I designed an *Estimation Exploration* routine by first thinking about a situation or picture that I could use that would make an interesting estimation problem. I wrote a question and then thought about an answer that would be about right, too low, and too high.
- This year I used estimation to help me think about answers that are about right, too low, or too high. Using estimation helped me figure out if my answers were reasonable or not.
- I might include more information in the directions to make it clear for someone who may not have used this routine before.