

## Teaching and Learning

# Family Roadmap to Math Success in Louisiana

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## Grade 4 Overview

In grade 4, students deepen their understanding of multi-digit whole numbers, fractions, and measurement while continuing to build fluency with multiplication and division. Students extend their work with place value to read, write, compare, and round larger numbers, and they use this understanding to solve multi-step problems with whole-number operations. They develop a stronger understanding of fractions by generating equivalent fractions, comparing fractions, and adding and subtracting fractions with like denominators. Students also explore decimals in real-world contexts and build measurement skills by finding area and perimeter and measuring angles.

### By the end of the grade, your child will be able to:

- Fluently add and subtract up to 1,000,000.
- Identify factors and multiples within 100.
- Compare and order numbers up to 1,000,000, identifying whether one number is greater than, less than, or equal to another.
- Multiply and divide with multi-digit whole numbers.
- Estimate and round whole numbers within 1,000,000 to any place value.
- Add and subtract fractions with like denominators.
- Multiply a fraction by a whole number.

### How can families help at home?

- Use real-life numbers, like prices, distances, or scores, to practice reading, comparing, and rounding numbers up to 1,000,000.
- Have your child explain their strategies for solving multiplication or division problems using whole numbers to strengthen reasoning and fluency.
- Add and subtract fractions with like denominators, say a problem aloud: “Four eighths plus three eighths.” Have your child write the fraction sentence and predict the answer before solving.
- Write two numbers, such as 354,192 and 342,122, and have your child compare one place at a time (hundred thousands to ones). Then they will say and write  $354,192 > 342,122$ . Continue this with numbers that are less than or equal to another number.
- Roll two dice to create the fraction's numerator and denominator. Then roll one die for the whole number. Multiply the fraction by the whole number using a model, then write the equation.

- Use or create a place value chart (hundred-thousands to ones). Give your child a number and have them round it to different place values and explain the change.

### **Building reasoning and problem-solving through word problems**

Working through word problems helps students develop both their mathematical vocabulary and their reasoning abilities. Word problems support critical thinking, improve problem-solving strategies, and help students apply math concepts to real-world situations. Example word problems that grade 4 students might work on:

- Maya collected 2,468 stickers last year and 1,735 stickers this year. How many stickers has she collected in total? Show or explain how you combined the numbers.
- A farmer planted 6 rows of corn with 24 plants in each row. How many corn plants did he plant altogether? Explain your strategy.
- Liam read  $\frac{3}{8}$  of a book on Monday and  $\frac{2}{8}$  of the same book on Tuesday. How much of the book has he read so far? Use a model to support your thinking.
- Emily has  $\frac{5}{6}$  of a yard of ribbon. Her friend has  $\frac{3}{6}$  of a yard. Who has more ribbon? Use equivalent fractions or a number line to show your reasoning.
- A classroom rug is 9 feet long and 7 feet wide. What is the area of the rug? What is the perimeter? Explain how these two measurements are different.
- Noah solved the problem  $\frac{4}{8} + \frac{2}{8}$  by writing  $\frac{6}{16}$  because he added the numerators and added the denominators. Explain why Noah's method is incorrect. Use a visual model to show the correct sum.
- Ava is buying supplies for a school project. She bought three notebooks that cost \$4 each and two packs of pencils that cost \$2 each. She paid with a \$20 bill. How much change should Ava receive? Explain how you know your answer makes sense.

### **Family Engagement Tips**

- Talk positively about math and encourage your child to maintain a growth mindset.
- Encourage your child to share/show you a different way to solve a math problem than you are familiar with and explain the reasoning for their approach.
- Celebrate mistakes as learning opportunities. Remind your child that making mistakes is part of learning and praise their efforts.
- Stay in touch with your child's teacher to learn what your child is learning and how to support it at home.
- Create a learning space for your child with supplies such as paper, pencils, rulers, calculators, and age-appropriate math manipulatives.

### **How does grade 4 math build on grade 3?**

In grade 4, students build on the foundations of grade 3 by deepening their understanding of multiplication, division, fractions, and measurement. They move from basic facts and simple arrays to multiplying larger numbers, dividing larger quantities, and explaining their reasoning using place value. Fraction work grows from partitioning shapes and placing fractions on number lines to generating equivalent fractions, comparing them, and adding and subtracting fractions with like denominators. Measurement skills also expand as students move from telling time and finding area in grade 3 to calculating area and perimeter, solving real-world measurement problems, and beginning to measure and classify angles. These skills prepare students for more complex fraction, decimal, and volume work in grade 5.

## Math Conversations

Communicate with your child about math using open-ended questions:

- What strategy did you use to solve the problem?
- Why do you think your answer makes sense?
- If your answer was wrong, how could you check your work?
- How did you solve that problem?

## Online Resources

- [Family Math Resources](#)
- [Family Literacy Resources](#)
- [School System Parent and Family Engagement Resources](#)