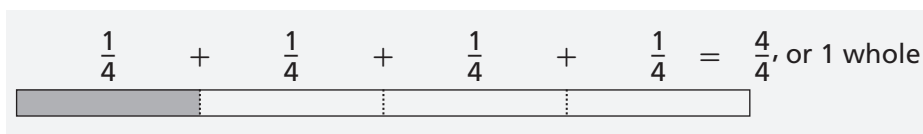




Dear Family,

Your child is learning about fraction concepts. Using fraction bars, students learn about unit fractions, or fractions that are just one part of the whole, such as $\frac{1}{2}$ or $\frac{1}{4}$.



Non-unit fractions are sums of unit fractions.

Unit fractions are used to convert mixed numbers, which have a whole-number part and a fraction part, to fractions in which the top number (numerator) is larger than the bottom number (denominator).

$$\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$

$$2\frac{1}{4} = \frac{4}{4} + \frac{4}{4} + \frac{1}{4} = \frac{9}{4}$$

Fraction bars help students understand how to compare, add, and subtract fractions with like denominators.

$$\frac{a}{d} + \frac{b}{d} = \frac{a+b}{d}$$

$$\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$$

$$\frac{a}{d} - \frac{b}{d} = \frac{a-b}{d}$$

$$\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$$

If $a > b$, then

$$\frac{1}{a} < \frac{1}{b} \text{ and } \frac{a}{d} > \frac{b}{d}$$

$$\frac{1}{3} < \frac{1}{2} \text{ and } \frac{3}{7} > \frac{2}{7}$$

These skills extend to fractions with unlike denominators. We rewrite each fraction with a common denominator, using multiplication to make an equivalent fraction.

$$\frac{1}{3} \xrightarrow{\times 5} \frac{5}{15}$$

We add and subtract mixed numbers by treating the whole-number part and the fraction part separately, ungrouping 1 whole, if needed.

$$\begin{array}{r} 4\frac{1}{3} \\ - 2\frac{7}{15} \\ \hline 2\frac{2}{15} \end{array}$$

Sincerely,
Your child's teacher



This unit includes the Common Core Standards for Mathematical Content for Number and Operations—Fractions, 5.NF.1 and 5.NF.2, and all Mathematical Practices.



Dear Family,

Your child has studied addition and subtraction with whole numbers and decimals in past years. Unit 2 of *Math Expressions* guides students as they study these topics in greater depth.

The main goals of this unit are:

1. to help students extend their understanding of place value for decimals;
2. to help students add and subtract decimals using the methods they learned previously to add and subtract whole numbers;
3. to develop rounding skills as students estimate sums and differences and engage in graphing activities.

Students will extend and apply their knowledge of place value as they complete activities involving money and metric lengths. When the opportunity arises, ask your child questions about money amounts to help reinforce what is being taught in class.

To accomplish the second goal, students will use various methods of grouping. Students may use whatever method they prefer as long as they understand why it works and can explain it. To add and subtract accurately, students need to align the digits by place value correctly. Observe your child as he or she adds and subtracts. Help align the digits when necessary.

The third goal is accomplished in several ways. Students will learn to use the scale on a graph to understand how to round a number. For example, they see that a number such as 3,879 is between 3,000 and 4,000, but closer to 4,000. So, 3,879 rounded to the nearest thousand is 4,000.

Finally, students will solve real world problems that require estimating sums and differences while adding and subtracting large numbers and decimals.

If you have any questions or comments, please call or write to me.

Sincerely,
Your child's teacher



This unit includes the Common Core Standards for Mathematical Content for the Number System, CC.5.NBT.1, CC.5.NBT.3, CC.5.NBT.3a, CC.5.NBT.3b, CC.5.NBT.4, CC.5.NBT.7 and all Mathematical Practices.



Dear Family,

In this unit of *Math Expressions*, your child is studying multiplication and division with fractions.

Multiplication tells how many times we are taking a number. For example, when we take $\frac{4}{5}$ of something, we multiply it by $\frac{4}{5}$ to find the answer. In this unit, your child will learn to:

- multiply a whole number by a unit fraction $\frac{1}{b} \cdot w = \frac{w}{b}$ $\frac{1}{3} \cdot 5 = \frac{5}{3}$
- multiply a whole number by a non-unit fraction $\frac{a}{b} \cdot w = \frac{a \cdot w}{b}$ $\frac{2}{3} \cdot 5 = \frac{10}{3}$
- multiply two fractions $\frac{a}{b} \cdot \frac{c}{d} = \frac{a \cdot c}{b \cdot d}$ $\frac{2}{3} \cdot \frac{5}{7} = \frac{10}{21}$

Division tells us how many of a certain number are inside another number. For example, when we ask how many times $\frac{1}{5}$ fits inside a number, we divide it by $\frac{1}{5}$ to find out. Using the relationship between multiplication and division, your child will discover how to:

- divide a whole number by a whole number $a \div b = a \cdot \frac{1}{b} = \frac{a}{b}$ $3 \div 4 = 3 \cdot \frac{1}{4} = \frac{3}{4}$
- divide a whole number by a unit fraction $w \div \frac{1}{d} = w \cdot d$ $6 \div \frac{1}{5} = 6 \cdot 5 = 30$
- divide a unit fraction by a whole number $\frac{1}{d} \div w = \frac{1}{d} \cdot \frac{1}{w}$ $\frac{1}{2} \div 4 = \frac{1}{2} \cdot \frac{1}{4} = \frac{1}{8}$

Throughout the unit, students will also practice comparing, adding, and subtracting fractions. This helps them maintain what they have learned. It also helps them to see how the various fractional operations are alike and how they are different. It is particularly important for your child to realize that comparing, adding, and subtracting fractions require the denominators to be the same. For multiplying and dividing, this is not true.

If you have any questions about this unit, please call or write to me.

Sincerely,
Your child's teacher



This unit includes the Common Core Standards for Mathematical Content for Number and Operation—Fractions, 5.NF.3, 5.NF.4, 5.NF.4a, 5.NF.4b, 5.NF.5, 5.NF.5a, 5.NF.5b, 5.NF.6, 5.NF.7, 5.NF.7a, 5.NF.7b, 5.NF.7c, and all Mathematical Practices.



Dear Family,

Unit 4 of *Math Expressions* introduces students to multiplying with multidigit numbers using models and different recording methods. The main goal of this unit is to develop skills in multiplying with whole numbers and decimal numbers. Some additional goals are:

- to solve real world application problems;
- to understand patterns in the number of zeros in the product when multiplying a number by 10, 100, or 1,000;
- to use estimation to check the reasonableness of answers;
- to understand and use exponents to denote powers of 10.

Your child will learn and practice techniques such as Place Value Sections, Expanded Notation, and Shift Patterns to gain speed and accuracy in multidigit and decimal multiplication. Money examples will be used in multiplication with decimals.

Place Value Sections		
	80	+ 1
81×14		
10	$80 \times 10 = 800$	$1 \times 10 = 10$
+		
4	$80 \times 4 = 320$	$1 \times 4 = 4$

Expanded Form

$$\begin{array}{r}
 81 = 80 + 1 \\
 \times 14 = 10 + 4 \\
 \hline
 80 \times 10 = 800 \\
 80 \times 4 = 320 \\
 1 \times 10 = 10 \\
 1 \times 4 = 4 \\
 \hline
 1,134
 \end{array}$$

Throughout Unit 4, your child will solve real world problems that require multidigit multiplication as well as using rounding and mental math to estimate products.

If you have any questions, please call or write to me.

Sincerely,
Your child's teacher



This unit includes the Common Core Standards for Mathematical Content for the Number System, CC.5.NBT.1, CC.5.NBT.2, CC.5.NBT.3a, CC.5.NBT.4, CC.5.NBT.5, CC.5.NBT.7, and all Mathematical Practices.



Dear Family,

The main goal of Unit 5 of *Math Expressions* is to enhance skills in dividing with whole numbers and decimal numbers. Some additional goals are:

- ▶ to solve real world application problems,
- ▶ to use patterns as an aid in calculating,
- ▶ to use estimation to check the reasonableness of answers, and
- ▶ to interpret remainders.

Your child will learn and practice methods such as Place Value Sections, Expanded Notation, and Digit-by-Digit to gain speed and accuracy in multidigit and decimal division. Money examples will be used to help students understand division with decimals.

Throughout Unit 5, your child will solve real world application problems that require multidigit division. Your child will learn to estimate using rounding and other methods, and then to use estimation to determine whether answers are reasonable. Remainders will be interpreted in real world contexts, and expressed as fractions or decimals when appropriate. Students will learn to distinguish between multiplication and division in real world situations involving decimals.

If you have any questions, please call or write to me.

Sincerely,
Your child's teacher



This unit includes the Common Core Standards for Mathematical Content for Number and Operations in Base Ten, 5.NBT.2, 5.NBT.3b, 5.NBT.5, 5.NBT.6, 5.NBT.7, and all Mathematical Practices.



Dear Family,

In Unit 6 of *Math Expressions*, your child will apply the skills they have learned about operations with fractions, whole numbers, and decimals as they solve real world problems involving addition, subtraction, multiplication, and division.

A *situation equation* shows the structure of the information in a problem. A *solution equation* shows the operation that can be used to solve a problem. Your child will review situation and solution equations for addition and subtraction, and for multiplication and division. These methods of representing problems are particularly helpful when problems involve larger numbers that students cannot add, subtract, multiply, or divide mentally.

Your child will also solve multiplication and addition comparison problems and compare those types of problems, identifying how they are the same and how they are different.

Addition Comparison Problem

Terrell has 144 soccer trading cards. Manuel has 3 more cards than Terrell. How many cards does Manuel have?

Multiplication Comparison Problem

Elena has 74 stamps in her collection. Hassan has 3 times as many stamps. How many stamps does Hassan have?

Students learn that in the addition problem, they are adding 3, and multiplying by 3 in the multiplication problem.

Solving multistep problems is an important Grade 5 skill. Your child begins by solving one-step problems, then moves to two-step problems, and finally solves multistep problems which involve more than two steps. Your child will represent and use visual models and equations to find solutions for these problems.

Sincerely,
Your child's teacher



This unit includes the Common Core Standards for Mathematical Content for Operations and Algebraic Thinking, CC.5.OA.1, Numbers and Operations—in Base Ten, CC.5.NBT.5, CC.5.NBT.6, CC.5.NBT.7, Number and Operations—Fractions, CC.5.NF.1, CC.5.NF.2, CC.5.NF.3, CC.5.NF.4, CC.5.NF.4a, CC.5.NF.4b, CC.5.NF.5, CC.5.NF.5a, CC.5.NF.5b, CC.5.NF.6, CC.5.NF.7, CC.5.NF.7a, CC.5.NF.7b, CC.5.NF.7c, and all Mathematical Practices.



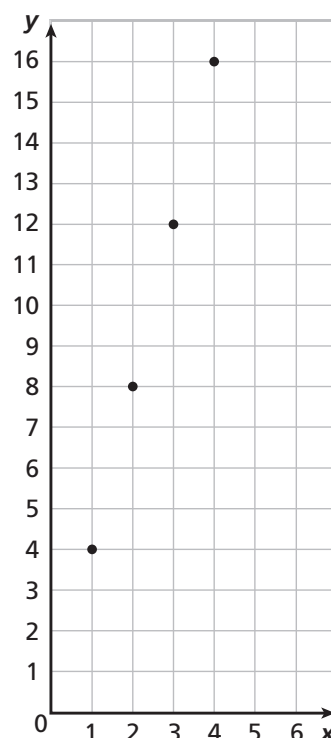
Dear Family,

In our math class, we are studying algebra and operations. Your child will explore simplifying expressions using the Order of Operations.

Your child will generate ordered pairs and use the first quadrant of the coordinate plane to graph the x - and y -coordinates.

An example is shown below.

x	1	2	3	4
y	4	8	12	16



You can be an active part of your child's learning by asking your child to provide answers or examples for the following questions:

- What algebraic expression describes, "4 more than the product of 2 and c ?"
- Generate the first five terms of a pattern with the rule *Add 5*.
- For the ordered pair (4, 6), which is the x -coordinate and which is the y -coordinate?

Sincerely,
Your child's teacher



This unit includes the Common Core Standards for Mathematical Content for Operations & Algebraic Thinking, 5.OA.1, 5.OA.2, 5.OA.3, Geometry 5.G.1, 5.G.2, and all Mathematical Practices.

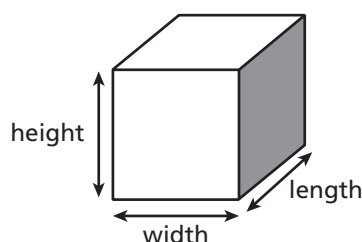


Dear Family,

Your child is learning to convert units of measurement for length, liquid volume, and weight. Liquid volume is a measure of the amount of liquid in a container. It is measured in units such as liters or quarts.

Your child will also learn about units of weight and mass. Two objects with the same volume can have very different masses—for example, iron and wood. Weight is a measure of the pull of gravity on these objects: an object made of iron weighs more than that same object made of wood. Weight is different on Earth than on the moon, but mass always stays the same.

Volume is a measure of the space that a three-dimensional figure, such as a box, occupies. This is a new topic at this grade level.



Your child will learn the underlying concepts of volume as well as multiply the three dimensions of a rectangular prism, $\text{length} \times \text{width} \times \text{height}$ to find its volume. Volume is measured in cubic units, such as cubic meters or cubic feet.

Your child will also learn that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. Students then learn to classify two-dimensional figures in a hierarchy based on properties.

If you have any questions or comments, please call or write to me.

Sincerely,
Your child's teacher



This unit includes the Common Core Standards for Mathematical Content for Number and Operations–Fractions, 5.NF.4b, Measurement and Data, 5.MD.1, 5.MD.2, 5.MD.3, 5.MD.4, 5.MD.3a, 5.MD.3b, 5.MD.5, 5.MD.5a, 5.MD.5b, 5.MD.5c, Geometry, 5.G.3, 5.G.4, and all Mathematical Practices.