



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

