Unit 9

Family Letter

Reveal MATH

Dear Family,

In this unit, Add and Subtract Fractions, your child will learn how to estimate sums and differences of fractions, and add and subtract fractions and mixed numbers.

STEM Career Kid for this Unit

Hi, I'm Poppy.

I want to be a park ranger. I will use math in my job when I collect data on weather. I'll show students how I will add and subtract fractions with unlike denominators.

What math terms will your child use?

Term	Student Understanding
unlike denominators	denominators in two fractions that are not the same; For example, $\frac{4}{5}$ and $\frac{2}{8}$ have unlike denominators.
mixed number	a number that has a whole number part and a fraction part; For example, $2\frac{3}{4}$ is a mixed number.
regrouping	exchanging equal amounts when renaming a number; For example, $4\frac{1}{4} = 3\frac{5}{4}$.

Math @ Home Activity

What can your child do at home?

Help your child develop fluency with the strategy used to find common denominators. Create a deck of fraction cards by writing a fraction on each of 20 index cards. Shuffle the cards. Have your child pick two cards and find a common denominator for both. Replace the cards, and repeat the activity.

What Will Students Learn in This Unit?

Estimating Sums and Differences of Fractions

Your child will estimate sums and differences of fractions using the benchmarks 0, $\frac{1}{2}$, and 1. Students will use estimates to determine whether a solution is reasonable.

Example:
A plant is $\frac{5}{8}$ foot tall. It grows $\frac{3}{5}$ foot taller. Is the plant over 1 foot tall? Explain.

Since $\frac{5}{8}$ is greater than $\frac{1}{2}$ and $\frac{3}{5}$ is greater than $\frac{1}{2}$, the sum is greater than $\frac{1}{2} + \frac{1}{2} = 1$, so the plant is over 1 foot tall.

Adding Fractions and Mixed Numbers with Unlike Denominators

Your child will add fractions and mixed numbers with unlike denominators using regrouping. Students learn that they can decompose the mixed numbers into whole numbers and fractions. After adding, they regroup to rename sums with fractions greater than 1.

Example: Al walked $3\frac{3}{4}$ miles yesterday. Today he walked $2\frac{2}{3}$ miles. How far did Al walk both days?

To solve, find $3\frac{3}{4} + 2\frac{2}{3}$.

Add the whole numbers: $3 + 2 = 5$

Add the fractions:
$\frac{3}{4} + \frac{2}{3} = \frac{9}{12} + \frac{8}{12} = \frac{17}{12} = 1\frac{5}{12}$
Add the whole number and the fraction:
$5 + 1\frac{5}{12} = 6\frac{5}{12}$

Al walked $6\frac{5}{12}$ miles both days.

Subtracting Fractions and Mixed Numbers with Unlike Denominators

Your child will subtract fractions and mixed numbers with unlike denominators using regrouping. Students learn that they can decompose a whole number into a fraction to get more fractional pieces.

Example: Jenny buys $5\frac{1}{4}$ pounds of apples. She uses $2\frac{2}{3}$ pounds to make a pie. How many pounds of apples are left?

To solve, find $5\frac{1}{4} - 2\frac{2}{3}$.

Write the fractions with a common denominator: $5\frac{3}{12} - 2\frac{8}{12}$

Decompose one whole into $\frac{12}{12}$: $4\frac{15}{12} - 2\frac{8}{12}$

Subtract the whole numbers and the fractions:

$5\frac{1}{4} - 2\frac{2}{3} = 4\frac{15}{12} - 2\frac{8}{12} = 2\frac{7}{12}$
So there are $2\frac{7}{12}$ pounds of apples left.