



Core Focus

- Reviewing common fractions and mixed numbers (number line model, equivalent fractions with related and different denominators, and converting between mixed numbers and improper fractions)
- Reviewing decimal fractions (tenths and hundredths)
- Representing, reading, and writing decimal fractions (to thousandths)
- Locating decimal fractions on a number line and writing them in expanded form

Fractions and Mixed Numbers

- Students rewrite fractions so they have the same denominator. This is particularly important when they add, subtract, or compare fractions. To figure out a “common” denominator, students think about multiples of both denominators.

2.3 **Reviewing Equivalent Common Fractions (Related and Unrelated Denominators)**

Look at this multiplication chart.

Choose one row of numbers.
What do you notice about the numbers in the unshaded parts of that row?

Imagine the shaded parts were cut off the grid and the remaining parts were cut horizontally into 10 separate strips.

These two strips have been placed one above the other. What do you notice?

3	6	9	12	15	18	21	24	27	30
8	16	24	32	40	48	56	64	72	80

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

The first two numbers look like the fraction $\frac{3}{8}$ and the second two look like the fraction $\frac{6}{16}$.

In this lesson, students use a multiplication chart to help generate equivalent fractions.

- Students rewrite improper fractions as mixed numbers, and mixed numbers as improper fractions.

2.4 **Reviewing the Conversion of Improper Fractions to Mixed Numbers**

A recipe uses $\frac{3}{4}$ cup of milk to make one batch of 8 pancakes. Manuel wants to make 6 batches of pancakes so he will need $6 \times \frac{3}{4}$ or $\frac{18}{4}$ cups of milk.

How many whole cups of milk will he need?
How could you figure it out?

I know that 4 one-fourths makes one whole, and 8 one-fourths makes two wholes. I need to find out how many wholes I can make with 18 one-fourths.

I think there might be leftovers involved.

A proper fraction has a numerator that is less than or equal to its denominator. An improper fraction has a numerator that is greater than its denominator.

How do you write $\frac{18}{4}$ as a mixed number?

In this lesson, students think about how many unit fractions (fractions with a numerator of 1) are needed to make one whole to convert between improper fractions and mixed numbers.

Ideas for Home

- Cooking provides an opportunity to talk about and use equivalent fractions. If a recipe requires $1\frac{1}{2}$ cups of flour, ask your child about different ways to measure it. They might suggest using a 1-cup measure and half-cup measure, or as $\frac{3}{2}$ using a half-cup measure 3 times.
- Fractions are part of meal time, too. Say, “The pizza is cut into eighths, what fraction would you like?” Or, “How can I give one-half to your brother and one-fourth to you? How many slices would that be? How do you know?”

Glossary

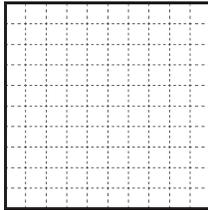
- Fractions where the top number (numerator) is larger than the bottom number (denominator), such as $\frac{8}{3}$, are always greater than one, and are known as **improper fractions**.
- **Mixed numbers** have a whole number plus a fraction. $2\frac{2}{3}$ is an example of a mixed number that is equivalent to the improper fraction $\frac{8}{3}$.

Decimal Fractions

- Students review how decimals involving tenths and hundredths are written, and how they can be represented on a numeral expander, on a number line, and by shading portions of a unit square divided into 100 parts.
- Students visualize how place value in our number system moves smaller and smaller (always by a factor of one-tenth) as we move to the right in writing numbers, and larger and larger (always by a factor of ten) as we move left in writing numbers.

2.7 **Reviewing Decimal Fractions (Tenths and Hundredths)**

This large square represents one whole. Color parts to match the number on the expander below.



0 ones 4 tenths 0 hundredths

0 ones 4 0 hundredths

What common fractions could you write to match 0.4? How do you know?

Color more parts to show a total of 0.75 shaded. What common fraction could you write to match?

On this number line, the distance between each whole number is one whole.



In this lesson, students use familiar models, such as the number line, numeral expanders, and the hundred grid, to work with decimal fractions

- Students break decimal fractions into parts by using tenths, hundredths, and thousandths.

2.12 **Decomposing Thousandths**

How do you say the decimal fraction on this closed expander?

What mixed number could you write to match?

Look at this open expander. How could you break 3.875 into parts?

3 ones 8 tenths 7 hundredths 5 thousandths

Kayla wrote this number sentence.

$$3.875 = 3 + 0.8 + 0.07 + \boxed{}$$

Victor wrote this number sentence.

$$3.875 = 3 + \frac{8}{10} + \frac{7}{100} + \boxed{}$$

Write the missing addend in each sentence.

How does each person break 3.875 into parts?

Can you think of another way to break 3.875 into parts?

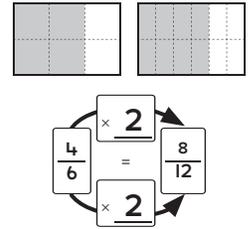
38 tenths + 75 thousandths.



In this lesson, students explore different ways to decompose decimal fractions involving thousandths.

Glossary

- **Equivalent fractions** is the name given to fractions that have different names but are equal, e.g. $\frac{4}{6}$ can also be named $\frac{8}{12}$.



Ideas for Home

- Talk about the price of items when shopping. Our monetary system gives your child real-world connections to decimal fractions with tenths and hundredths.
- Look up the batting averages of your child's favorite baseball team and compare the averages for players. Practice reading the averages out loud. An average of .314 is read as "three hundred fourteen thousandths".
- Race results from your local high school's swim and track meets are reported in decimal fractions. Ask your child to read and compare the athletes' times.

Glossary

- This table shows the different representations for **decimal fractions**.

Fraction Words	Ones	Tenths	Hundredths	Thousandths	Decimal	Common Fraction
one-tenth	0	1	0	0	0.1	$\frac{1}{10}$
one-hundredth	0	0	1	0	0.01	$\frac{1}{100}$
one-thousandth	0	0	0	1	0.001	$\frac{1}{1000}$