



## **Unit 6**

**Name:** \_\_\_\_\_

**Lesson 6.1**

**Grade 5A**

**Date:** \_\_\_\_\_

**Understanding Fractions**

**Study sheet**

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### **What is a fraction?**

A **fraction** represents a part of a whole. Think of a pizza cut into equal slices — if you take 3 slices out of 8 total slices, that's the fraction  $\frac{3}{8}$ .

### **Every fraction has two parts:**

1. Numerator → The top number (It tells how many parts we have).
2. Denominator → The bottom number (It tells how many equal parts the whole is divided into).

### **Example:**

In  $\frac{3}{5}$

- Numerator = 3 → We have 3 parts.
- Denominator = 5 → The whole is divided into 5 equal parts.

### **There are two main types of fractions.**

Type	Rule	Value	Example
Proper fraction	Numerator < Denominator	Less than 1	$\frac{3}{4}$
Improper fraction	Numerator $\geq$ Denominator	1 or more	$\frac{4}{4}, \frac{5}{4}$

### Quick check:

If the top number < bottom number → Proper fraction (less than 1).

If the top number  $\geq$  bottom number → Improper fraction (1 or more).

### Improper fractions can be written as mixed numbers.

To convert improper fraction to mixed number:

1. Divide numerator by denominator
2. Quotient = whole number part
3. Remainder = numerator of fraction
4. Denominator stays the same

“DRAW” (Divide, Remainder on top, As a fraction, Whole number first).

For example:  $13 \div 5$

Ask yourself: "How many times does 5 fit completely into 13?"

Count in fives:

- $5 \times 1 = 5$
- $5 \times 2 = 10$
- $5 \times 3 = 15 \leftarrow \text{Too big!}$  (15 is more than 13)

So 5 fits 2 complete times into 13.

Write as a mixed number

- Whole number part: 2 (from Step 2)
- Fraction part:  $\frac{3}{5}$  (remainder over denominator)

$$\frac{13}{5} = 2 \frac{3}{5}$$

## Converting Mixed Numbers into Improper Fractions

How to convert:

**Step 1:** Multiply the **whole number** by the **denominator**.

**Step 2:** Add the **numerator**.

**Step 3:** Write the total over the **same denominator**.

Example:

$$2\frac{3}{4}$$

1. Whole number  $\times$  denominator =  $2 \times 4 = 8$

2. Add numerator:  $8 + 3 = 11$

3. Write over denominator:  $\frac{11}{4}$

**Rule:** Denominator stays the same!

**Tip:** Think: “Multiply, Add, Keep bottom same.”

## Converting Fractions into Decimals

A fraction is just a **division problem** waiting to be solved!

To change a fraction to a decimal, **divide the numerator by the denominator**.

How to convert:

**Step 1:** Set up the division: numerator  $\div$  denominator.

**Step 2:** Divide (you may need to add a decimal point and zeros).

**Step 3:** Write the answer as a decimal.

**Example:**

$\frac{3}{8}$  means  $3 \div 8$ .

8 doesn't go into 3, so write 0. and add a zero: 30

8 goes into 30 three times ( $8 \times 3 = 24$ ), remainder 6, add zero, continue...

$3 \div 8 = 0.375$

**Quick decimals to know:**

$$\frac{1}{2} = 0.5$$

$$\frac{1}{4} = 0.25$$

$$\frac{3}{4} = 0.75$$

$$\frac{1}{5} = 0.2$$

## Representing Proper & Improper Fractions as Division

A fraction is just another way to write division!

**Rule:**

$$\frac{\text{numerator}}{\text{denominator}} = \text{numerator} \div \text{denominator}$$

**Example (proper fraction):**

$\frac{3}{4}$  means  $3 \div 4$

Think: "3 things shared among 4 people."

**Example (improper fraction):**

$\frac{9}{4}$  means  $9 \div 4$

This gives 2 remainder 1, or 2.25 as a decimal.

'9 divided by 11' is  $\frac{9}{11}$

## Representing Fractions as Operators

A fraction can act like an **instruction** or **operation** – telling us to take a **part of** a number or quantity.

“Of” means multiply!

**Rule:**

To find  $\frac{3}{5}$  of 20, you do:  $\frac{3}{5} \times 20$

Which is the same as:

1. Divide 20 by the denominator 5:  $20 \div 5 = 4$
2. Multiply result by numerator 3:  $4 \times 3 = 12$

**Think of it this way:**

- Denominator: tells you how many equal groups to split the whole into.
- Numerator: tells you how many of those groups to take.