

Collegedunia NCERT Notes

NCERT Notes for Class 6 Mathematics (Ganita Prakash) (2026-27 Syllabus)

Chapter 7: Fractions

Fractions Class 6 notes revise equal shares, unit fractions, number lines, mixed numbers, equivalent fractions, comparison, addition, and subtraction from NCERT Ganita Prakash Chapter 7 for the 2026-27 syllabus.

Also see for this chapter: [NCERT Solutions](#) | [Book PDF](#) | [Handwritten Notes](#)

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1 Fractional Units and Equal Shares

This section follows the NCERT chapter sequence. Draw the whole first, split it into equal parts, then write the fraction name.

1.1 Equal sharing creates fractions

A fraction names an equal share. If one roti is shared equally by two children, each child gets one half. If the same roti is shared by four children, each child gets one fourth.

Equal sharing creates fractions Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

one half of a whole



1 out of 2 equal parts = $\frac{1}{2}$

Where It Appears

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.

Count

How many unit parts are used?

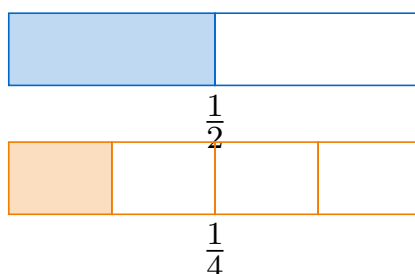
Count shaded or taken parts slowly.

1.2 Unit fractions

A unit fraction has numerator 1. The denominator tells how many equal parts make the whole. A larger denominator can mean a smaller unit when the whole is unchanged.

Unit fractions Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



$$\frac{1}{2} > \frac{1}{4}$$

same whole, more equal parts means a smaller unit

Fast Check

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

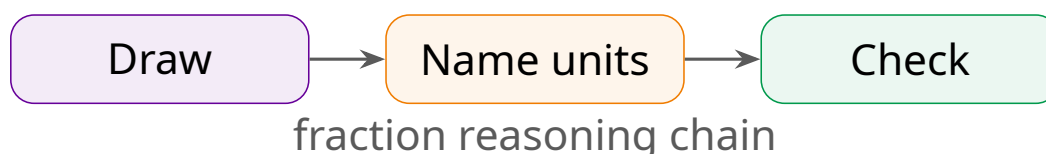
Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

1.3 Language of fractions

The chapter connects school symbols with words used at home, such as half, quarter, one and a half, and three quarters. These words help students estimate size before writing numbers.

Language of fractions Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

**Memory Hook**

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

2 Parts of a Whole

This section follows the NCERT chapter sequence. Draw the whole first, split it into equal parts, then write the fraction name.

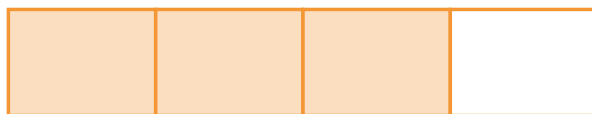
2.1 Same whole rule

Fractions can be compared only when the whole is the same. One half of a small chikki is not the same quantity as one half of a large chikki.

Same whole rule Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

three fourths of the same whole



$$3 \text{ out of } 4 \text{ equal parts} = \frac{3}{4}$$

Fast Check

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

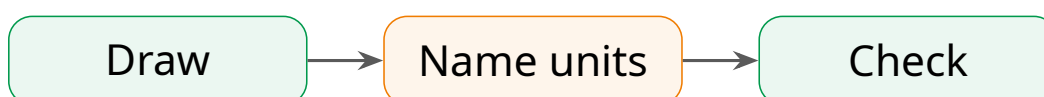
Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

2.2 Different shapes, same share

Equal parts need not have identical shapes if their areas are equal. NCERT uses chikki pieces to show that shape can change while fraction size remains the same.

Different shapes, same share Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



fraction reasoning chain

Memory Hook

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

2.3 Naming a marked part

To name a shaded part, first count the total equal parts in the whole. Then count how many of those equal parts are taken.

Naming a marked part Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

five eighths of a strip

5 out of 8 equal parts = $\frac{5}{8}$

Common Error

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
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Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

3 Measuring with Fractional Units

This section follows the NCERT chapter sequence. Draw the whole first, split it into equal parts, then write the fraction name.

3.1 Paper strip model

A paper strip can be folded into equal parts. Two equal parts give halves, four equal parts give fourths, and eight equal parts give eighths.

Paper strip model Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

four equal parts



1 out of 4 equal parts = $\frac{1}{4}$

Memory Hook

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

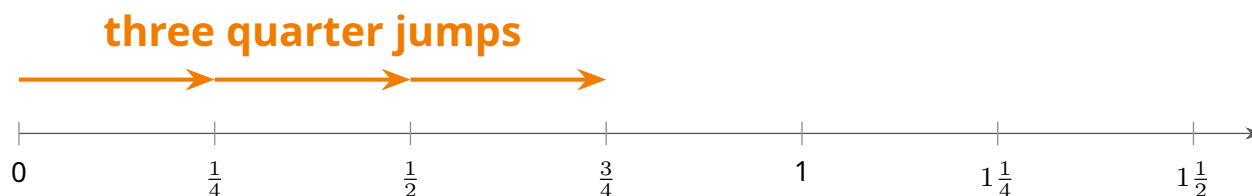
Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

3.2 Counting repeated units

A length of three fourths means three copies of one fourth. The denominator names the unit and the numerator counts the copies.

Counting repeated units Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



Common Error

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

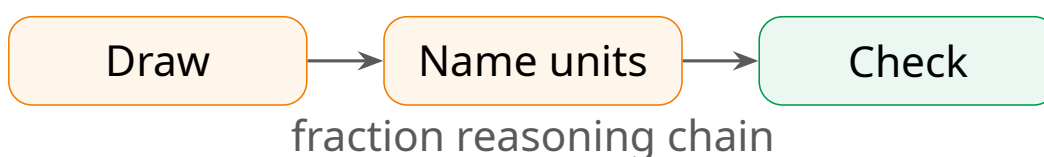
Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

3.3 Reading fractions

In a fraction such as five sixths, 5 is the numerator and 6 is the denominator. The denominator names the fractional unit, while the numerator tells how many units are present.

Reading fractions Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



Where It Appears

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

4 Fractions on the Number Line

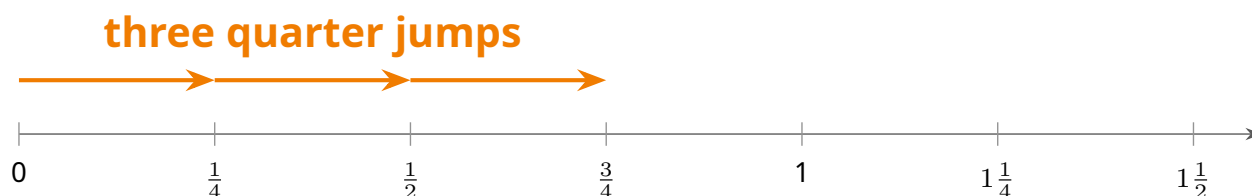
This section follows the NCERT chapter sequence. Draw the whole first, split it into equal parts, then write the fraction name.

4.1 Partition each unit interval

On a number line, first mark 0 and 1. Then split the interval into equal parts according to the denominator.

Partition each unit interval Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

**Common Error**

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

4.2 Fractions greater than one

Fractions can lie beyond 1. Five fourths is one full unit and one more fourth, so it is written as the mixed number one and one fourth.

Fractions greater than one Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

five fourths as one plus one fourth



$$4 \text{ out of } 4 \text{ equal parts} = \frac{4}{4}$$

Where It Appears

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

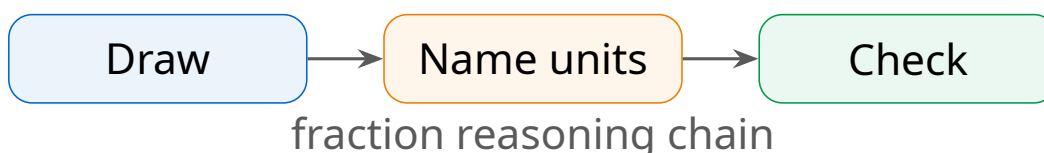
Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

4.3 Avoid spacing errors

The marks must be equally spaced. A fraction line with unequal gaps gives a wrong visual answer even if the labels look familiar.

Avoid spacing errors Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



Fast Check

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

5 Mixed Fractions and Improper Fractions

This section follows the NCERT chapter sequence. Draw the whole first, split it into equal parts, then write the fraction name.

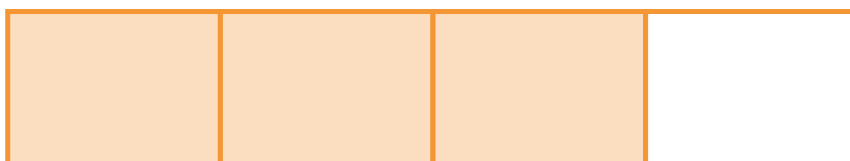
5.1 Meaning of mixed numbers

A mixed number has a whole number part and a fractional part. For example, one and three fourths means one full whole plus three fourths of another whole.

Meaning of mixed numbers Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

one and three fourths



3 out of 4 equal parts = $\frac{3}{4}$

Where It Appears

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

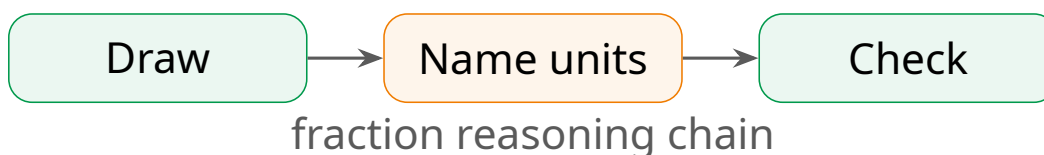
Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

5.2 Improper fraction form

An improper fraction has a numerator greater than or equal to the denominator. Seven fourths means seven pieces of size one fourth.

Improper fraction form Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

**Fast Check**

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.

Count	How many unit parts are used?	Count shaded or taken parts slowly.
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5.3 Changing forms

To change one and three fourths into fourths, count four fourths in the whole and three more fourths. The answer is seven fourths.

Changing forms Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

Mixed form	Count of unit parts	Improper form
1 and 1/2	2 halves plus 1 half	3/2
1 and 3/4	4 fourths plus 3 fourths	7/4
2 and 1/3	6 thirds plus 1 third	7/3

Common Error

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

6 Equivalent Fractions

This section follows the NCERT chapter sequence. Draw the whole first, split it into equal parts, then write the fraction name.

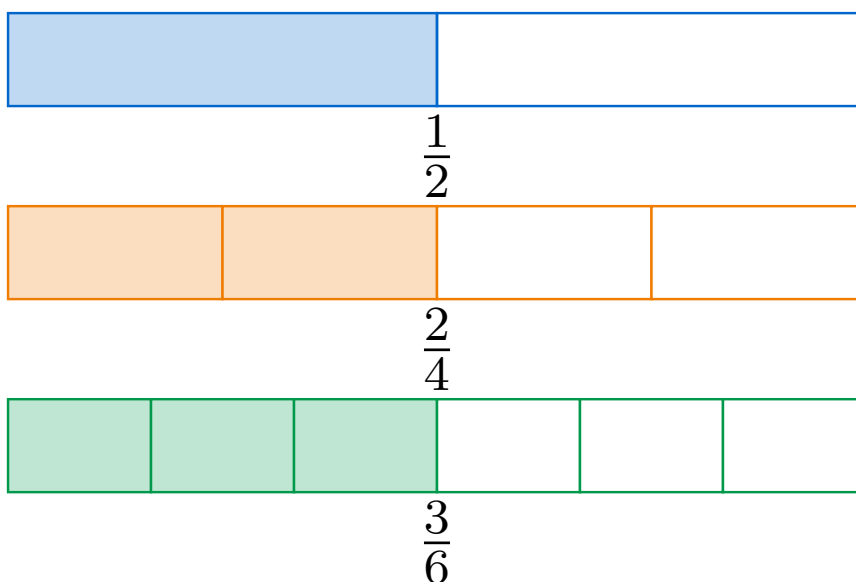
6.1 Same value, different names

Equivalent fractions represent the same amount. One half, two fourths, and three sixths cover the same length when the whole is unchanged.

Same value, different names Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

same amount, different names



Fast Check

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

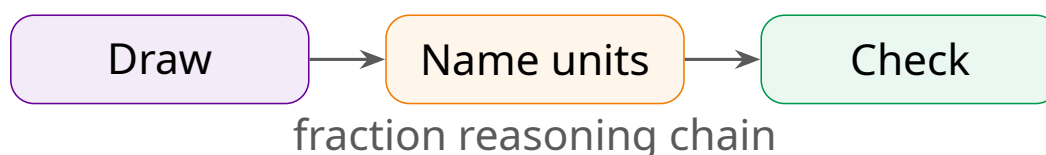
Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

6.2 Multiplying numerator and denominator

Multiplying the numerator and denominator by the same non-zero number gives an equivalent fraction. The value stays the same because the parts are split equally again.

Multiplying numerator and denominator Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



Common Error

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

6.3 Finding a common fractional unit

When fractions have different denominators, equivalent fractions help express them in one common unit. This prepares students for comparison, addition, and subtraction.

Finding a common fractional unit Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

Fraction	Equivalent form	Use
$\frac{1}{2}$	$\frac{2}{4}$ or $\frac{3}{6}$	Compare with fourths or sixths
$\frac{2}{3}$	$\frac{4}{6}$ or $\frac{8}{12}$	Compare with sixths or twelfths
$\frac{3}{5}$	$\frac{6}{10}$ or $\frac{9}{15}$	Compare with tenths or fifteenths

Where It Appears

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

7 Comparing Fractions

This section follows the NCERT chapter sequence. Draw the whole first, split it into equal parts, then write the fraction name.

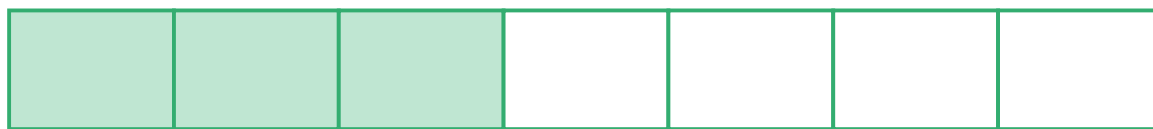
7.1 Same denominator comparison

When denominators are the same, compare numerators. Three sevenths is greater than two sevenths because it has one extra unit of one seventh.

Same denominator comparison Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

three sevenths



3 out of 7 equal parts = $\frac{3}{7}$

Key Idea

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

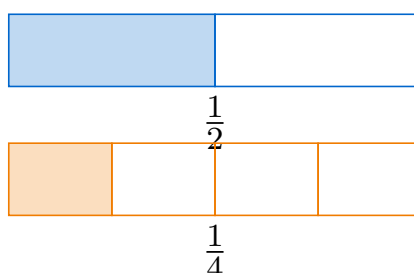
Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

7.2 Same numerator comparison

When numerators are the same, the fraction with the smaller denominator is greater. One fifth is greater than one ninth because each fifth is a larger part.

Same numerator comparison Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



$$\frac{1}{2} > \frac{1}{4}$$

same whole, more equal parts means a smaller unit

Key Idea

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

7.3 Using equivalent fractions

For fractions with different numerators and denominators, change both to equivalent fractions with a common denominator. Then compare the numerators.

Using equivalent fractions Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

Compare	Common denominator	Decision
$\frac{2}{3}$ and $\frac{3}{4}$	$\frac{8}{12}$ and $\frac{9}{12}$	$\frac{3}{4}$ is greater
$\frac{3}{5}$ and $\frac{2}{3}$	$\frac{9}{15}$ and $\frac{10}{15}$	$\frac{2}{3}$ is greater
$\frac{5}{6}$ and $\frac{7}{9}$	$\frac{15}{18}$ and $\frac{14}{18}$	$\frac{5}{6}$ is greater

Fast Check

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.

Count

How many unit parts are used?

Count shaded or taken parts slowly.

8 Addition and Subtraction of Fractions

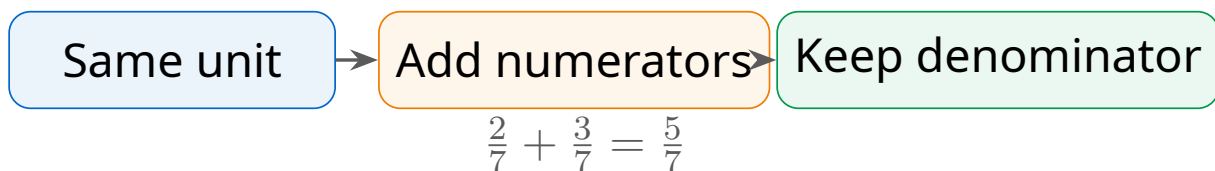
This section follows the NCERT chapter sequence. Draw the whole first, split it into equal parts, then write the fraction name.

8.1 Same denominator operations

Fractions with the same denominator have the same fractional unit. Add or subtract only the numerators and keep the denominator unchanged.

Same denominator operations Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



Key Idea

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

8.2 Different denominators

When denominators differ, first rewrite the fractions as equivalent fractions with a common denominator. Then add or subtract the numerators.

Different denominators Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

Operation	Common unit	Result
$\frac{1}{2} + \frac{1}{4}$	$\frac{2}{4} + \frac{1}{4}$	$\frac{3}{4}$
$\frac{2}{3} + \frac{1}{6}$	$\frac{4}{6} + \frac{1}{6}$	$\frac{5}{6}$
$\frac{5}{6} - \frac{1}{3}$	$\frac{5}{6} - \frac{2}{6}$	$\frac{3}{6}$ or $\frac{1}{2}$

Key Idea

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

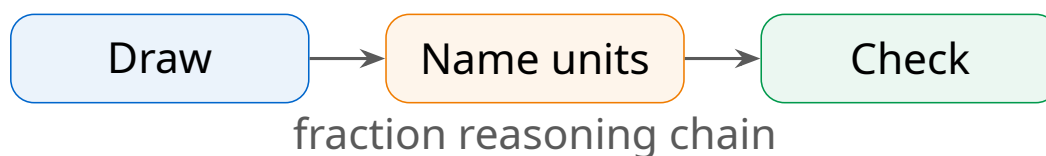
Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

8.3 Brahmagupta method idea

The chapter introduces a historical method for adding fractions. It follows the same logic: make a common fractional unit before combining shares.

Brahmagupta method idea Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



Memory Hook

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

9 History and Revision Strategy

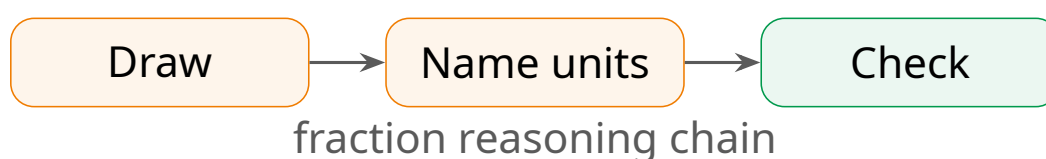
This section follows the NCERT chapter sequence. Draw the whole first, split it into equal parts, then write the fraction name.

9.1 Indian fraction words

NCERT connects fractions with old and present Indian words for half, quarter, three quarters, and mixed quantities. This shows that fractions have long been part of daily life.

Indian fraction words Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



Key Idea

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

9.2 Where fractions appear

Fractions appear in food sharing, recipes, money, distance, time, and measurement. The same rule holds everywhere: the parts must be equal.

Where fractions appear Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.

Situation	Fraction idea	Check
Sharing food	equal share	same whole
Measuring length	unit fraction	equal gaps
Combining quantities	addition	same denominator first

Key Idea

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.

Count

How many unit parts are used?

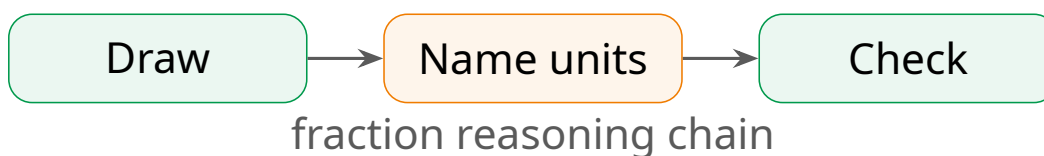
Count shaded or taken parts slowly.

9.3 Exam-style revision

Before solving a problem, identify whether it asks for naming, comparing, converting, adding, or subtracting. Then choose the matching model.

Exam-style revision Rule

A fraction is reliable only when the whole is fixed and the parts are equal. Check these two conditions before comparing or operating.



Key Idea

Write one sentence explaining the unit fraction. It prevents most numerator and denominator mistakes.

Step	Question to ask	Safe answer habit
Whole	What is one complete unit?	Mark or draw it first.
Parts	Are the parts equal?	Do not name unequal parts as a fraction.
Count	How many unit parts are used?	Count shaded or taken parts slowly.

10 Quick Reference Summary

Use this section for last-minute revision before a class test. It gathers the chapter into rules students can apply quickly.

Core Rules

- A fraction names one or more equal parts of a whole.
- The denominator names the fractional unit.
- The numerator counts how many such units are taken.
- Equivalent fractions show the same quantity with different names.
- To add or subtract unlike fractions, first make a common fractional unit.

Need	Best model	Common check
Naming	strip or area model	same whole and equal parts
Comparing	number line or equivalent fractions	common denominator if needed
Mixed number	whole plus part	count all unit parts
Addition	same fractional unit	add numerators only
Subtraction	same fractional unit	subtract numerators only

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