



2



4

5

6



Addition

Expected Learning Outcomes

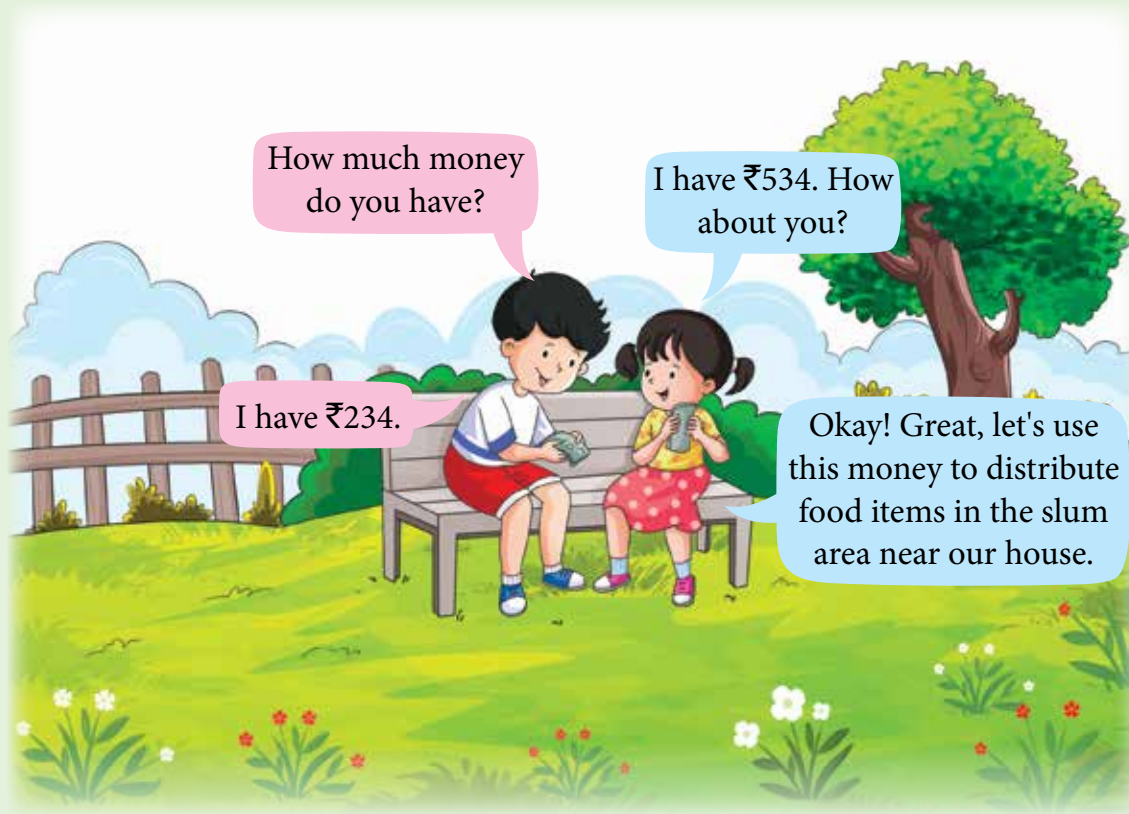
At the end of the chapter, learners will be able to:

- ❖ **add** 4-digit numbers without regrouping.
- ❖ **add** 4-digit numbers with regrouping.
- ❖ **understand** the properties of addition.
- ❖ **apply** addition of 4-digit numbers in real life.



Recap

Rahul and Priya decided to donate food items to needy people in the slum area near their home. They used their weekly pocket money to do so.



The total value of food items they donated together is ₹ _____.

ADDITION

Addition is when you put numbers or things together to find out how many are there in total.

Example:

	H	T	O	
	4	5	3	→ Addends
+	2	4	6	
	6	9	9	→ Sum



The number being added is called the **addends**, and the value we get is called the **sum**.

Try These

1.

	H	T	O
	4	5	3
+	2	4	6

2.

	H	T	O
	4	2	0
+	3	7	6

3.

	H	T	O
	3	5	4
+	1	4	7

4.

	H	T	O
	2	9	6
+	1	3	2

We have already understood the addition of 2-digit and 3-digit numbers in our previous class. We will use the same process to add 4-digit numbers.



Teacher's Note

Help students in solving the addition questions

Addition of 4-digit Numbers (Without Regrouping) Gender Equality

Shyam's grandfather visited the vegetable market to buy vegetables and fruits for the week.

He bought 3412 grams of apples and 1432 grams of mangoes. How much fruit did he buy in total?



Let's try to determine the total weight of the fruits he bought.

Step 1: Add the ones:

2 ones + 2 ones = 4 ones.
Write 4 in the ones column.

	Th	H	T	O
	3	4	1	2
+	1	4	3	2
				4

Step 2: Add the tens:

1 tens + 3 tens = 4 tens.
Write 4 in the tens column.

	Th	H	T	O
	3	4	1	2
+	1	4	3	2
			4	4

Step 3: Add the hundreds:

4 hundreds + 4 hundreds
= 8 hundreds.
Write 8 in the hundreds column.

	Th	H	T	O
	3	4	1	2
+	1	4	3	2
		8	4	4

Step 4: Add the thousands:

3 thousands + 1 thousand =
4 thousands.
Write 4 in the thousands column.
So, the sum of 3412 and 1432 is
4844; hence, he bought **4844** grams
of fruits.

	Th	H	T	O
	3	4	1	2
+	1	4	3	2
	4	8	4	4

Exercise 2.1

Computational Thinking,
Decision Making

1. Choose the correct option for the given sum.

a. $2400 + 1100 =$

- i. 3400 ☐ ii. 3500 ☐ iii. 2500 ☐ iv. 4300 ☐

b. $2100 + 2300 =$

- i. 4400 ☐ ii. 3600 ☐ iii. 4500 ☐ iv. 4800 ☐

c. $3280 + 200 =$

- i. 4480 ☐ ii. 4680 ☐ iii. 3240 ☐ iv. 3480 ☐

2. Add the following numbers.

a.

Th	H	T	O
2	4	5	1
+	2	3	1

b.

Th	H	T	O
2	0	0	1
+	7	3	1

c.

Th	H	T	O
1	4	5	0
+	7	3	2

d.

Th	H	T	O
5	5	5	5
+	2	2	1

e.

Th	H	T	O
3	4	6	1
+	2	3	1

f.

Th	H	T	O
7	4	6	1
+	2	5	1

3. Arrange the numbers in columns and add them.

a. $1672 + 2315$

b. $3921 + 1047$

c. $5768 + 1221$

d. $4332 + 2455$

e. $3490 + 1001$

f. $2741 + 1111$

g. $5103 + 2376$

h. $4108 + 3851$

4. Think and choose the number to fill in the blanks mentally. Discuss your findings with your peers.

Critical Thinking, Decision
Making, Peer Assessment

a. + 3412 = 4567

b. 4560 + = 7671

c. $7211 + 1000 =$

i. 8211

ii. 3111

iii. 1155



Fact Funda

Addends are always less than or equal to the sum.



Four-Digit Addition Relay

Form groups of four. Ask your teacher to assign each group a problem involving the addition of two 4-digit numbers. Each member of the group has to add numbers at one place value (thousands, hundreds, tens, ones). The team that completes the addition first, with all members correctly adding their designated place values, wins the round.



Addition of 4-digit Numbers (With Regrouping)

Students of two schools went on a trip to Ranthambore National Park. The first school had 3478 students, and the second had 4832 students. How many students visited it altogether?

Let's try to find the total number of students.

Step 1: Add the ones:

$$8 \text{ ones} + 2 \text{ ones} = 10 \text{ ones}$$

Write 0 in ones column, carry 1 to tens column.

Th	H	T	O
3	4	7 ^①	8
+	4	8	3
			0

Step 2: Add the tens:

$$1 \text{ tens} + 7 \text{ tens} + 3 \text{ tens} = 11 \text{ tens}$$

Write 1 in tens column, carry 1 to hundreds column.

Th	H	T	O
3	4 ^①	7 ^①	8
+	4	8	3
		1	0

Step 3: Add the hundreds:

$$1 \text{ hundreds} + 4 \text{ hundreds} + 8 \text{ hundreds} = 13 \text{ hundreds}$$

Write 3 in hundreds column, carry 1 to thousands column.

Th	H	T	O
3 ^①	4 ^①	7 ^①	8
+	4	8	3
	3	1	0

Step 4: Add the thousands:

1 thousands + 3 thousands + 4 thousands
= 8 thousands

Write 8 in the thousands column.

So, 8310 students visited altogether.

Th	H	T	O
3 ^①	4 ^①	7 ^①	8
4	8	3	2
8	3	1	0

Did You Know?

Ranthambore National Park is a really big and famous park in North India. It is in a place called Sawai Madhopur in Rajasthan, about 130 km from Jaipur. A long time ago, kings used to hunt there, but now it is a place where lots of tigers and other animals live. People love to visit and take pictures of the animals there.



Exploring India, Digital Literacy

Click the link: <https://www.youtube.com/@RanthamborePark>

Correct It

Th	H	T	O
5	3	6 ^①	7 ^①
+	2	8	3
	7	1	0
			16

Th	H	T	O
5 ^①	3 ^①	6 ^①	7
+	2	8	3
	8	2	0
			5

Exercise 2.2

1. Choose the correct option for the given sum.

Computational Thinking,
Decision Making

a. $2300 + 1700 =$

i. 5000

☐

ii. 6000

☐

iii. 4000

☐

iv. 3000

☐

b. $1500 + 2700 =$

i. 3200 ii. 4200 iii. 5200 iv. 6200

c. $1900 + 100 =$

i. 2000 ii. 2100 iii. 3000 iv. 2200

2. Add the following numbers. Regroup if required.

Th	H	T	O
5	0	9	7
+	3	8	3

Th	H	T	O
1	3	5	9
+	4	7	3

Th	H	T	O
2	9	3	7
+	3	8	7

Th	H	T	O
7	0	9	7
+	2	8	9

Th	H	T	O
5	7	9	7
+	1	8	0

Th	H	T	O
4	3	6	7
+	4	8	3

3. Arrange them in columns, and then find their sum. Regroup if necessary.

a. $3490 + 5789$ b. $6787 + 1967$ c. $2389 + 4505$
d. $4798 + 2401$ e. $3091 + 4211$ f. $5230 + 2456$

PROPERTIES OF ADDITION

- When 0 (zero) is added to a number, the sum remains the number itself.
For example: $6723 + 0 = 6723$; $3045 + 0 = 3045$
- When 1 is added to a number, the sum is the successor of the number.
For example: $3452 + 1 = 3453$; $4561 + 1 = 4562$
- A change in the order of the addends does not change the sum.
For example: $7012 + 1062 = 8074$; $1062 + 7012 = 8074$
- Adding 10 increases the tens place by 1; adding 100 increases the hundreds place by 1, and adding 1000 increases the thousands place by 1.
For example: $3023 + 10 = 3033$; $3023 + 100 = 3123$; $3023 + 1000 = 4023$

STORY SUMS

Life Skill

Example: John saved ₹ 3005 from his salary in July. He also saved ₹ 2500 received as a bonus from his company in the same month. How much money did John save in total in the month?

Solution: Salary saved = ₹ 3005

Bonus received = ₹ 2500

Total salary = ₹ 5505

Th	H	T	O
3	0	0	5
2	5	0	0
5	5	0	5

Example: A farmer harvested 5678 kilograms of potatoes and 3456 kilograms of tomatoes from his garden. How many kilograms of vegetables did he harvest in total?

Solution: Potatoes harvested = 5678 kilograms

Tomatoes harvested = 3456 kilograms

Total vegetables = 9134 kilograms

Th	H	T	O
5 ^①	6 ^①	7 ^①	8
3	4	5	6
9	1	3	4

Exercise 2.3

1. Fill in the blanks without actually adding them.

Computational Thinking

a. $3406 + 1 =$

b. $7891 + 0 =$

c. $4021 + 2134 = 2134 +$

d. $4921 + 1000 =$

e. $3048 + 100 =$

f. $2090 + 10 =$

2. A toy store sold 1856 dolls and 2987 action figures. How many toys did they sell in total?

Life skill

3. Mark received Rs. 8765 from his summer job and earned Rs. 1234 from selling handmade crafts. How much money did he earn in total?

Life skill

4. A farmer harvested 1234 kilograms of potatoes and 1567 kilograms of tomatoes from his garden. How many kilograms of vegetables did he harvest in total?

Life skill



5. A pet shelter rescued 2856 dogs and 5987 cats from the streets. How many animals did they rescue in total?

Life skill



Play Time

Play-based Learning, Collaboration, Communication

Birthdate Digit Sum Challenge

Find a classmate to pair up with. Each of you should write your date of birth in the format DD/MM (for example, 2805 for 28 May). Once you have both written down your numbers, work together to add them. One partner will handle the ones place while the other manages the tens place. If there is a hundreds digit, one partner will take care of that as well, and the leader will finalise the total in the thousands place. Remember to carry over if any total exceeds 9 in any place. After calculating your final sum, share it with the class. Enjoy the challenge and collaborate effectively!



Speed Up

If we have more than two 4-digit numbers, instead of just adding two at a time, we can line them up vertically. Then, we add the digits in the same columns together. If the sum in a column is more than 9, we carry over the extra to the next column.

For Example: $2307 + 2575 + 1221$

Th	H	T	O
2 ^①	3 ^①	0 ^①	7
2	5	7	5
1	2	2	1
6	1	0	3

Chapter Assessment

1. Choose the correct option.

Computational Thinking, Decision Making

a. $3491 + 0 =$

i. 3490

ii. 3500

iii. 0

iv. 3491

b. $1900 + 100 =$

i. 1800

ii. 2100

iii. 2200

iv. 2000

c. We can add number at hundreds with another number at:

i. tens

ii. hundreds

iii. thousands

iv. any

2. Add the following numbers. Regroup if required.

a.

	Th	H	T	O
	7	4	5	1
+	1	2	1	3

b.

	Th	H	T	O
	2	4	5	0
+	1	2	3	2

c.

	Th	H	T	O
	6	0	5	5
+	2	8	1	4

d.

	Th	H	T	O
	5	0	9	4
+	3	9	8	6

e.

	Th	H	T	O
	5	6	5	7
+	2	5	7	5

f.

	Th	H	T	O
	3	5	4	4
+	3	8	8	7

3. Arrange in columns and add. Regroup if required.

a. $2304 + 4567$

b. $5001 + 3412$

c. $1306 + 5234$

d. $2098 + 2356$

e. $6712 + 1111$

f. $3459 + 1201$

4. Fill in the blanks without actually adding them.

Critical Thinking

a. $1 + 4508 =$

b. $0 + 6120 =$

c. $6021 + 2034 = 2034 +$

d. $2901 + 1000 =$

e. $7048 + 100 =$

f. $3110 + 10 =$

5. Raju received an electricity bill of ₹ 3401 and a water bill of ₹ 2371 for this month. He decided to pay using an app to save time. How much does he need to pay for the total bill?

Life-Skill, Digital Literacy

6. Ravi spent ₹1500 on groceries and ₹2000 on transportation this month. What is the total amount he spent?

Life-Skill

7. In a survey, it was found that a village had 3278 people 10 years ago. Now, there are 1027 more people. What is the current total population of the village?

Life-Skill

8. Spot the errors and correct them.

Logical Thinking

a.

Th	H	T	O
①	①	①	
4	2	3	1
+	2	6	7
	7	9	1

b.

Th	H	T	O
6	2	0	1
+		1	0
	7	2	0

c.

Th	H	T	O
2	8	9	9
+			1
	2	8	9

HOTS

1. Fill the empty boxes.

Critical Thinking, Observation

a.

Th	H	T	O
5	0	9	3
	8	2	
8			2

+

b.

Th	H	T	O
5	0	3	7
8	9	1	9

+

c.

Th	H	T	O
2	4		1
	1	1	
4		1	8

2. Change the order of addition in the above problems and check if you get the same result.



Cross-Curricular

In a puzzle land, where numbers play,
 Let's find the sum in tricky way.
 Start with ones, just two and three,
 When added up, what will they be?
 In the tens, it gets quite tight,
 Three and nine, make sure they're right.
 Twelve tens come, with one to share,
 Write down two, and keep the spare.
 Now to hundreds, where one's the clue,
 Add the carry with three and seven, and a digit new.
 Eleven hundreds, with a carry to cope,
 Write down one, don't lose hope.
 Carrying on, to the thousands, grand
 Where Two and Three awaits carry, with an open hand.
 Add one more, get the result six, turn off the band.

	Th	H	T	O
+				



Mental Maths

Logical Thinking

1. What is the sum of 2000 and 3210? _____
2. What is the sum when 100 is added to 1000? _____
3. What are addends in: $3091 + 2180 = 5271$? _____



Project

Art Integration, Project-based Learning, Experiential Learning, Observation

Instructions:

Head to the school parking area and note down three different 4-digit numbers you spot on different vehicle plates. Add up the four-digit numbers you find and stick them onto your notebooks with sticky notes. Also, talk about why the letters on the plates are important, like how "WB" shows the vehicle is from West Bengal.



Lab Activity

Objective: To practise adding four-digit numbers

Materials Required:

Play-based Learning, Experiential Learning, Collaboration, Communication, Cross-curricular

- ❖ Open space (like a playground)
- ❖ Chalk or tape to draw hopscotch boxes
- ❖ Slips of paper with sum of four-digit numbers without regrouping

Instructions:

Get Ready: Get into groups of five. Each group has one leader and four players.

1. Set Up: Draw boxes on the ground with numbers 0 to 9 inside them.
2. Pick a Number: The leader picks a maths problem based on adding four-digit numbers.
3. Start Hopping: The leader starts at the beginning of the hopscotch course.
4. Guess the Sum: One player guesses the total of the digits the leader hops on. If they're wrong, they're out.
5. Hop & Guess: The leader moves to the next place value, and another player guesses. Repeat for tens, hundreds, and thousands.
6. Getting the Sum: The leader tells the answer to the teacher.
7. Keep Trying: If the group guesses wrong, they start over with a new number.
8. Winning Team: The team that guesses all four sums fastest wins!





Form small groups and select one animal from Ranthambore National Park, like tigers, deer, or birds. Find simple information about that animal's needs, like food and shelter from internet with the help of your parents.



Value Based Scenario

In math class, the teacher gave a problem about adding 3456 and 2789. Riya hesitated, unsure of what to do. Sensing her struggle, Rahul leaned over and quietly said, 'You're close, Riya. Need a hand?' Riya felt relieved by his offer and nodded eagerly. With Rahul's patient guidance, they worked through the problem together until they arrived at the correct answer.

What answer did they get? What values did Rahul show?

Self Assessment

Use ✓ or ✗ to assess your knowledge.

Now, I can

1. perform addition of 4-digit numbers without regrouping.
2. perform addition of 4-digit number with regrouping.
3. understand the properties of addition.
4. apply addition of 4-digit numbers in real life.

☐☐☐☐