2

ADDITION OF 1 DIGIT NUMBERS :

In class 1st, we have learnt the simple addition of 1 digit and 2 digit numbers.

Let us review the idea.

Count on your fingers and add :

2	6	4	9	7
+ 3	+ 5	+ 3	+ 1	+ 2

Add by drawing line :

3	4	6
+ 2	+ 6	+ 9

3	2	7
+ 5	+ 7	+ 6

3	6	7
+ 3	+ 6	+ 3

Adding ones :

To add tens to a number on a 10 × 10 grid, we move to the right and downwards from that number.

To add 1 to a number, we move 1 step to the right from that number 1 to add 2, we move 2 steps to the right, and so on.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

See the arrow and read the following addition :

$41 + 4 = 45$	$52 + 2 = 54$	$71 + \_ =$

Add using 10 × 10 grid :

6 2	5 4	7 1	2 3
+ 3	+ 2	+ 5	+ 1

Adding tens :

To add tens to a number on a 10 × 10 grid, we move downwards from that number.

To add 10, we move 1 step to downward.

To add 20, (2 tens), we move 2 steps downward.

To add 30, (3 tens), we move 3 steps downward and so on .

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

See the arrow and read the following addition :

$$25 + 10 = 35 \qquad 32 + 20 = 52 \qquad 54 + 30 = 84$$

Add using 10 × 10 grid :

T	O
1	4
+ 2	0
3	4

T	O
2	3
+ 3	0

T	O
3	2
+ 4	0

T	O
4	5
+ 5	0

Adding tens and ones :

To add two-digit number to another number on a 10 × 10 grid.

Split the two digit number into tens and ones.

Move as many steps downward as is the number of tens .

Move as many steps to the right as is the number ones.

Let us add 13 and 24.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

We have to add 13 to 24.

Step 1 : 13 = 10 + 3 = 1 ten + 3 ones

Step 2 : Start from 24 and move 1 steps downward to add 1 ten.

we get, 24 + 10 = 34

Step 3 : From 34, move 3 steps to right to add 3 ones.

we get, 34 + 3 = 37

Using a 10 × 10 grid, add the given numbers and fill in the placeholders :

14 + 23 = ◯   12 + 21 = ◯   18 + 27 = ◯

37 + 52 = ◯	28 + 43 = ◯	17 + 38 = ◯
35 + 43 = ◯	29 + 48 = ◯	40 + 53 = ◯
33 + 42 = ◯	44 + 46 = ◯	51 + 64 = ◯
13 + 22 = ◯	53 + 12 = ◯	30 + 47 = ◯
53 + 12 = ◯	43 + 50 = ◯	15 + 24 = ◯
36 + 51 = ◯	32 + 41 = ◯	16 + 25 = ◯
19 + 23 = ◯	20 + 26 = ◯	31 + 39 = ◯

ADDITION OF 2 DIGIT NUMBER WITH REGROUPING :

Suppose we have to add 43 and 28.

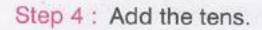We proceed stepwise as shown below :
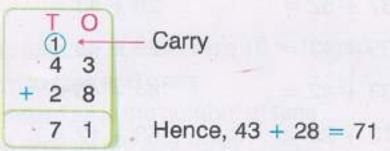
Step 1 : Write the given numbers in column form.

```
  T  O
  4  3
+ 2  8
```

Step 2 : Add the ones.

```
  T  O
  4  3
+ 2  8
  1  1
```

Step 3 : Regroup the sum in the ones column.

```
  ①  ← Carry
  T  O
  4  3
+ 2  8
     1
```

3 ones + 8 ones = 11 ones

= 10 ones + 1 one

= 1 ten + 1 one

Write 1 under ones column.

Carry over 1 to tens column.

Step 4 : Add the tens.

```
    T O
    ①
    4 3
  + 2 8
  ───────
    7 1
```
— Carry

Hence, 43 + 28 = 71

Now, let us add 29 and 57.

We may add them by the above steps as shown below :

Step 1 :
```
  T O
  2 9
+ 5 7
─────
```

Step 2 :
```
  T O
  2 9
+ 5 7
─────
  1 6
```

Step 3 :
```
  T O
  ①
  2 9
+ 5 7
─────
    6
```
— Carry

Step 4 :
```
  T O
  ①
  2 9
+ 5 7
─────
  8 6
```
— Carry

Add :

```
H T O
○ ○
  2 4
+ 5 6
─────
```

```
H T O
○ ○
  9 3
+ 2 8
─────
```

```
H T O
○ ○
  7 8
+ 1 9
─────
```

```
H T O
○ ○
  2 7
+ 4 6
─────
```

```
H T O
○ ○
  4 3
+ 2 8
─────
```

```
H T O
○ ○
  8 4
+ 5 6
─────
```
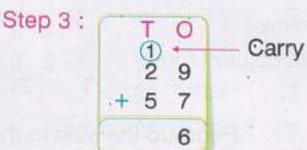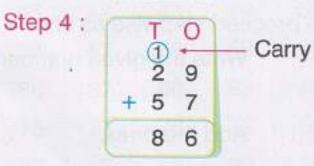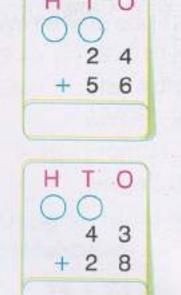
```
H T O
○ ○
  5 4
+ 9 6
─────
```

```
H T O
○ ○
  6 8
+ 1 3
─────
```

ADDITION BY SHORT METHOD :

Let us add 38 and 49.

We write the given numbers in column form and add columnwise.

```
  T O
  1 8
+ 4 9
  6 7
```

ADDITION OF 3 NUMBER :

We can add 3 numbers also by the same method.

Let us add 28, 35, and 18.

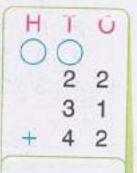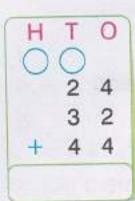We write the numbers in column form and add columnwise.

```
  T O
  ○
  2 8
  3 5
+ 1 8
  8 1
```

Hence, 28 + 35 + 18 = 81

🌼 *Exercise*

Add the sum :

```
  H T O
  ○ ○
    2 1
    4 0
+   6 4
```

```
  H T O
  ○ ○
    3 0
    3 9
+   5 1
```

```
  H T O
  ○ ○
    3 7
    2 8
+   4 9
```

```
  H T O
  ○ ○
    3 8
    2 9
+   5 0
```

```
  H T O
  ○ ○
    2 3
    3 5
+   4 7
```

```
  H T O
  ○ ○
    3 3
    4 3
+   2 5
```

```
  H T O
  ○ ○
    4 8
    3 6
+   2 7
```

```
  H T O
  ○ ○
    2 2
    3 1
+   4 2
```

H T O	H T O	H T O	H T O
◯ ◯	◯ ◯	◯ ◯	◯ ◯
2 4	2 5	8 1	3 4
3 2	1 5	1 5	2 5
+ 4 4	4 2	2 4	+ 4 6

ADDITION OF 3 DIGIT NUMBERS WITHOUT REGROUPING :

Let us add 415 and 342.

We follow the steps shown below :

Step 1	Step 2	Step 3	Step 4
H T O	H T O	H T O	H T O
4 3 2	4 3 2	4 3 2	4 3 2
+ 5 4 7	+ 5 4 7	+ 5 4 7	+ 5 4 7
	9	7 9	9 7 9

So, 432 + 547 = 979.

Now, let us add 201, 243 and 432.

We proceed stepwise as shown below.

Step 1	Step 2	Step 3	Step 4
H T O	H T O	H T O	H T O
2 0 1	2 0 1	2 0 1	2 0 1
2 4 3	2 4 3	2 4 3	2 4 3
+ 4 3 2	+ 4 3 2	+ 4 3 2	+ 4 3 2
	6	7 6	8 7 6

Add :

H	T	O
1	1	0
1	1	4
+ 3	6	3

H	T	O
1	2	0
1	1	6
+ 3	4	3

H	T	O
1	0	1
1	1	5
+ 3	8	3

H	T	O
1	1	6
1	1	3
+ 4	5	0

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

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

H	T	O
1	1	9
1	0	0
+ 3	4	0

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

ADDITION OF 3 DIGIT NUMBERS WITH REGROUPING :

Let us add 436 and 577.

We follow the steps shown below :

step 1 : Write the given numbers in column form.

H	T	O
○	○	
4	3	6
+ 5	7	7

Step 2 : Add the ones.

6 ones + 7 ones = 13 ones.

H	T	O
○	○	
4	3	6
+ 5	7	7
	1	3

Step 3 : Regrouping the sum in the ones column.

13 ones = 10 ones + 3 ones

= 1 ten   3 ones

Write 3 under ones column.

Carry over 1 to tens column.

H	T	O	
◯	①		Carry
4	3	6	
5	7	7	
1	1	3	

Step 4 : Add the tens.

1 ten (carried over) + 3 tens + 7 tens

= 11 tens

H	T	O	
◯	①		Carry
4	3	6	
+ 5	7	7	
1	1	3	

Step 5 : Regroup the sum in the tens column.

11 tens = 10 tens + 1 ten

= 1 hundred + 1 ten.

Write 1 under tens column.

Carry over 1 to hundreds column.

H	T	O	
◯	①		Carry
4	3	6	
+ 5	7	7	
1	1	3	

Step 6 : Add the hundreds.

1 hundred (carried over) + 4 hundreds + 5 hundreds

= 10 hundreds

H	T	O	
◯	①		Car
4	3	6	
+ 5	7	7	
1	0	1	3

So, 436 + 577 = 1013

SHORT METHOD

Step 1

H	T	O
4	3	6
+ 5	7	7

Step 2

H	T	O
4	3	6
+ 5	7	7
	①	3

Step 3

H	T	O
	①	
4	3	6
+ 5	7	7
	① 1	3

Step 4

H	T	O
①	①	
4	3	6
+ 5	7	7
1	0	1	3

Now, let us add 432, 307 and 244.

Step 1

H	T	O
4	3	2
3	3	7
+ 2	4	4

Step 2

H	T	O
4	3	2
3	3	7
+ 2	4	4
	①	3

Step 3

H	T	O
	①	
4	3	2
3	3	7
+ 2	4	4
	① 1	3

Step 4

H	T	O
①		
4	3	2
3	3	7
+ 2	4	4
1	0	1	3

Exercise

Add :

H	T	O
○	○	
2	4	2
+ 4	0	1

H	T	O
○	○	
2	4	7
+ 4	3	3

H	T	O
○	○	
3	3	2
+ 4	8	1

H	T	O
○	○	
3	7	8
+ 2	4	3

H	T	O
○	○	
3	4	6
+ 3	4	2

H	T	O
○	○	
3	7	9
+ 4	3	0

H	T	O
○	○	
2	4	3
+ 4	2	7

H	T	O
○	○	
3	3	3
+ 3	8	2

Add :

H	T	O
	◯	◯
2	4	2
3	8	3
+ 6	7	2

H	T	O
	◯	◯
3	8	4
2	5	2
+ 7	0	9

H	T	O
	◯	◯
5	2	4
6	8	2
+ 2	4	9

H	T	O
	◯	◯
2	5	1
3	0	0
+ 8	2	2

H	T	O
	◯	◯
2	5	0
3	8	2
+ 6	9	2

H	T	O
	◯	◯
2	4	3
3	8	1
+ 4	9	2

H	T	O
	◯	◯
5	1	0
2	4	7
+ 3	8	5

H	T	O
	◯	◯
5	1	1
4	7	2
+ 2	4	8

WORD PROBLEM :

1. Sunny went to 48 baseball games this year. He went to 34 games last year. How many baseball games did Sunny go to altogether?

H	T	O
	◯	◯
+		

2. Kartik solved 37 problems during the math contest. Lalita solved 99 more problems than Kartik. How many math problems did Lalita solve?

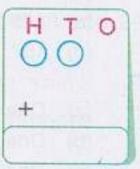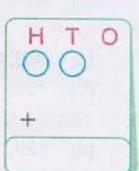| H	T	O
	◯	◯
+		

3. Karan had 68 magic marine sticker. He take 23 other sticker from his younger brother. How many stickers did Karan have?
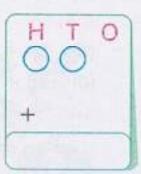
H T O
○ ○
+

4. Era and Leena decide to order collect tickets for their classmates. Era ordered 78 tickets. Leena ordered 54 tickets. How many tickets did they order in all?
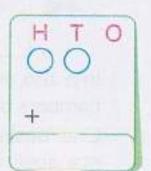
H T O
○ ○
+

5. Sonia and Renu like to collect comic books. Sonia found 91 comic books at a garage sale. Renu found 54 comic books in a local shop. How many comic books did they find in all?

H T O
○ ○
+

6. Suhani and Veena kept track of how many e-mails they each received last year. Suhani received 23 emails, and Veena received 49 e-mails. How many emails did they receive in all?

H T O
○ ○
+

7. The cafetaria has 36 cartons of chocolate milk and 43 cartons of regular milk. How many cartoons of milk one there in all?

H T O
○ ○
+

1. Write the number name :
   (a) 108 = _____
   (b) 119 = _____
   (c) 145 = _____
   (d) 157 = _____

2. Write in numerals :
   (a) One hundred twelve = _____
   (b) One hundred thirty four = _____
   (c) One hundred fifty = _____

3. Arrange the following numbers in decreasing order :
   (a) 868, 209, 508, 337, 458 = _____
   (b) 150, 160, 105, 189, 145 = _____

4. Arrange the following numbers in increasing order :
   (a) 129, 200, 119, 105, 108 = _____
   (b) 150, 160, 105, 180, 145 = _____

5. Addition :
   (a) 39 + 53 = ☐   (b) 15 + 25 = ☐
   (c) 28 + 45 = ☐   (d) 32 + 18 = ☐

6. Add :

1 8 8	2 7 6	3 4 0	1 8 8
+ 2 9 5	+ 3 1 5	+ 1 8 2	+ 2 9 5

7. In a zoo, there are 47 lions, 18 bears and 95 monkeys. Find the total numbers of animals in the zoo.

8. One basket contains 425 mangoes. Another basket contains 218 mangoes. How many mangoes are there in all?