



Addition of 2-Digit Numbers

Learning Outcomes

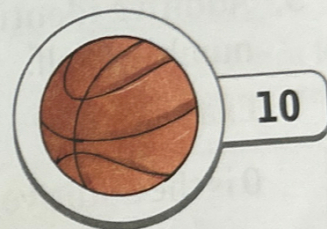
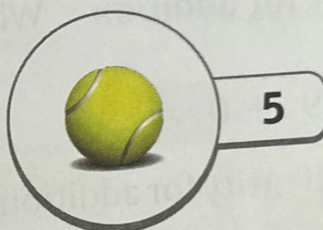
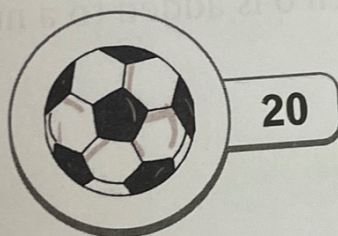
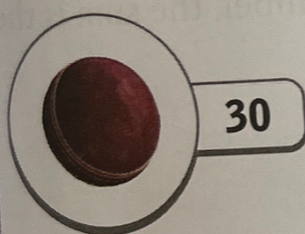
After completing this chapter, the students will be able to :

- ☐ apply the properties of addition.
- ☐ add 2-digit numbers with regrouping.
- ☐ solve daily life problems related to addition.

Warm Up



Each ball has some value as shown in the boxes below. Write the total of each horizontal and vertical lines of balls.



45

65

75

75

55 65 65 85

PROPERTIES OF ADDITION

Addition means putting things together. The numbers to be added are called the **addends**. The answer in addition is called the **sum**.

Example: $13 + 11 = 24$

Here, 13 and 11 are addends and 24 is the sum.

1. **Commutative property of addition:** Two numbers can be added in any order. The sum will be same in both the cases.

Example:

$$3 + 5 = 8$$

$$5 + 3 = 8$$

2. **Associative property of addition:** Three numbers can be added in any order. The sum will remain the same in all the cases.

Example: $1 + 5 + 2 = 6 + 2 = 8$

$$1 + 5 + 2 = 1 + 7 = 8$$

$$1 + 2 + 5 = 3 + 5 = 8$$

3. **Additive identity for addition:** When 0 is added to a number, the sum is the number itself.

Example:

$$9 + 0 = 9$$

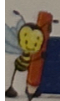
0 is the **additive identity** for addition.

4. **Adding 1:** When 1 is added to a number, the sum is the number just after it.

Example:

$$5 + 1 = 6$$

Use Cordova Smart Class Software on the smart board in class to do all the Exercises.



EXERCISE-1

(According to NEP Guidelines)
(Understanding)

Fill in the boxes:

1. $5 + 4 = 4 + 5$

2. $24 + 26 = 26 + 24$

3. $18 + 0 = 18$

4. $29 + 0 = 29$

5. $56 + 0 = 56$

6. $95 + 1 = 96$

7. $23 + 16 + 10 = 23 + 10 + 16$

8. $9 + 12 + 15 = 12 + 9 + 15$

REGROUPING OF NUMBERS

When we add, sometimes we may have more than 9 ones.

We use regrouping in this case.

We regroup 10 ones as 1 ten.

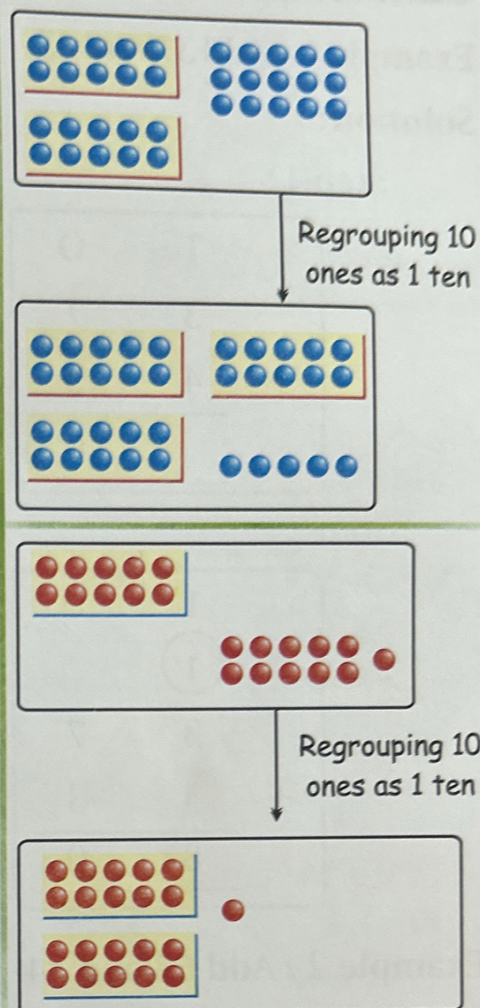
Examples:

$$\begin{aligned} 1. \quad 2 \text{ tens} + 15 \text{ ones} &= 2 \text{ tens} + 10 \text{ ones} + 5 \text{ ones} \\ &= 2 \text{ tens} + 1 \text{ ten} + 5 \text{ ones} \\ &= 3 \text{ tens} + 5 \text{ ones} \end{aligned}$$

So, $2 \text{ tens} + 15 \text{ ones} = 3 \text{ tens} + 5 \text{ ones}$

$$\begin{aligned} 2. \quad 1 \text{ ten} + 11 \text{ ones} &= 1 \text{ ten} + 10 \text{ ones} + 1 \text{ one} \\ &= 1 \text{ ten} + 1 \text{ ten} + 1 \text{ one} \\ &= 2 \text{ tens} + 1 \text{ one} \end{aligned}$$

So, $1 \text{ ten} + 11 \text{ ones} = 2 \text{ tens} + 1 \text{ one}$



(According to NEP Guidelines)
(Understanding)

EXERCISE-2

Fill in the blanks :

1. $3 \text{ tens} + 14 \text{ ones} = \boxed{4} \text{ tens} + 4 \text{ ones}$
2. $7 \text{ tens} + 18 \text{ ones} = 8 \text{ tens} + \boxed{8} \text{ ones}$
3. $8 \text{ tens} + 16 \text{ ones} = \boxed{9} \text{ tens} + 6 \text{ ones}$
4. $6 \text{ tens} + 19 \text{ ones} = 7 \text{ tens} + \boxed{9} \text{ ones}$

Quick Maths



To add 9 to a number, we simply add 10 to the number and then subtract 1 from the result.

For example:

To add 9 to 84, we add 10 to 84 and then subtract 1.

$$84 + 10 = 94,$$

$$94 - 1 = 93$$

So,

$$84 + 9 = 93$$



EXERCISE-3

(According to NEP Guidelines)
(Understanding, Applying)

1. Add :

a

T	O
(1)	
5	9
+	3 2
9	1

b

T	O
(1)	
4	3
+	3 7
8	0

c

T	O
(1)	
5	7
+	2 6
8	3

Key words
total
altogether
sum
more
in all

d

T	O
(1)	
4	9
+	2 2
7	1

e

T	O
(1)	
5	3
+	1 9
7	2

f

T	O
(1)	
4	6
+	2 4
7	0

g

T	O
(1)	
5	5
+	3 5
9	0

h

T	O
(1)	
4	8
+	3 2
8	0

i

T	O
(1)	
4	6
+	3 8
8	4

j

T	O
(1)	
7	2
+	1 9
9	1

k

T	O
(1)	
6	3
+	1 7
8	0

ADDITION OF 2-DIGIT NUMBERS WITH REGROUPING

Sum Exceeding 99

Example : Add 49 and 74.

Solution :

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

10 tens = 1 hundred



Step 1 : Add the ones.

$$9 \text{ ones} + 4 \text{ ones} = 13 \text{ ones}$$

Regroup 13 ones.

$$13 \text{ ones} = 10 \text{ ones} + 3 \text{ ones} = 1 \text{ ten} + 3 \text{ ones}$$

Write 3 in the ones place and carry over 1 to the tens place.

Step 2 : Add the tens.

$$1 \text{ ten} + 4 \text{ tens} + 7 \text{ tens} = 12 \text{ tens}$$

Regroup 12 tens.

$$12 \text{ tens} = 10 \text{ tens} + 2 \text{ tens}$$

$$= 1 \text{ hundred} + 2 \text{ tens}$$

Write 2 in the tens place and 1 in the hundreds place.

So, $49 + 74 = 123$



EXERCISE-4

(According to NEP Guidelines)
(Understanding, Applying)

1. Add :

a

H	T	O
1	1	
	8	5
+	5	9
1	4	4

b

H	T	O
1	1	
	2	6
+	9	8
1	2	4

c

H	T	O
1	1	
	6	3
+	5	7
1	2	0

d

H	T	O
1	1	
	8	4
+	4	7
1	3	1

e

H	T	O
1	1	
	8	9
+	4	8
1	3	7

f

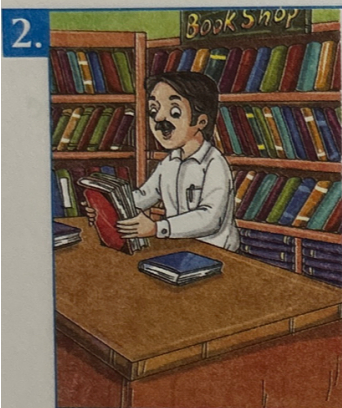
H	T	O
1	1	
	5	6
+	5	6
1	1	2

g

H	T	O
1	1	
	4	8
+	8	5
1	3	3

h

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



A bookseller sells 72 books and 58 notebooks in a day. How many books and notebooks does he sell in total?

Ans. The bookseller sells books and notebooks in total.

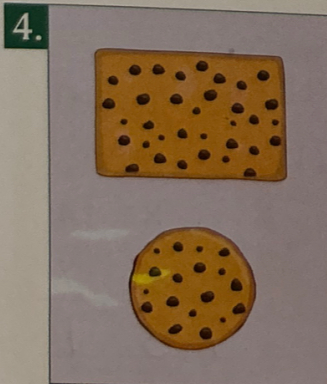
H	T	O



Raman has 66 marbles. His brother Amit has 56 marbles. How many marbles do they have in total?

Ans. They have marbles in total.

H	T	O



Shyam sells 45 rectangular cookies and 58 circular cookies in a day. How many cookies does he sell in all?

Ans. Shyam sells cookies in all.

H	T	O