HICON SERIES

CLASS 3 LESSON 3

MATHEMATICS
SUBTRACTION

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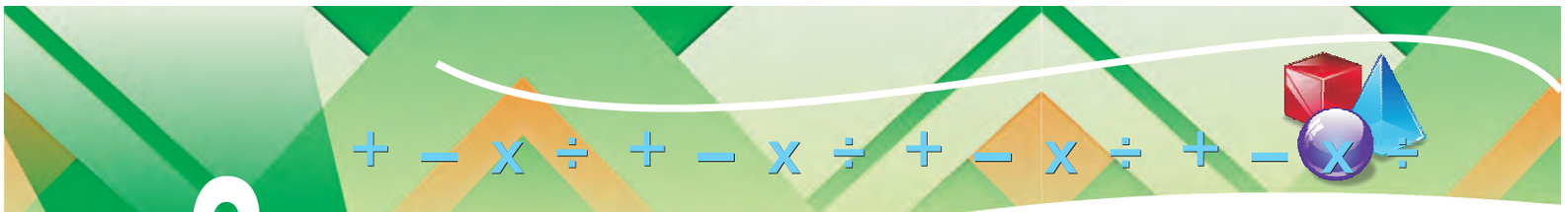
LESSON
PART 9



3 SUBTRACTION

READY ... STEADY

A. Subtract (without regrouping).

1.

	H	T	O
	4	2	5
–	3	1	4

2.

	H	T	O
	6	6	6
–	2	2	2

3.

	H	T	O
	8	4	2
–		4	0

B. Subtract (regrouping of tens).

1.

	H	T	O
	3	3	2
–	1	0	7

2.

	H	T	O
	4	5	3
–	1	4	9

3.

	H	T	O
	7	3	5
–	4	2	7

C. Subtract (regrouping of hundreds and tens).

1.

	H	T	O
	6	5	1
–	2	6	2

2.

	H	T	O
	5	8	3
–	3	9	5

3.

	H	T	O
	6	4	5
–		9	6

D. Subtract (numbers with zeros).

1.

	H	T	O
	7	0	0
–		4	7

2.

	H	T	O
	8	0	0
–	4	0	8

3.

	H	T	O
	9	0	0
–	8	6	5

E. Will you add or subtract to get the answer for the following ? Solve the problems where you have to subtract.

1. A book has 260 pages. Rita has read 87 pages. How many more pages does she have to read ? (Add / Subtract)
2. A baker made 500 cup cakes. He sold 264 cup cakes. How many cup cakes were not sold ? (Add / Subtract)
3. David read 225 pages of a book. He has to read 85 more pages to finish the book. How many pages does the book have ? (Add / Subtract)
4. Children counted flowers in their school garden. There were 262 roses and 325 lilies. How many more lilies than roses were there ? (Add / Subtract)

PROPERTIES OF SUBTRACTION

1. When a number is subtracted from itself, the difference is always 0.

$$\begin{array}{r} 2\ 0\ 9 \\ -\ 2\ 0\ 9 \\ \hline 0 \end{array}$$

Fill in the blanks.

282 – 282 = _____ 600 – 600 = _____ 888 – 888 = _____

2. When 0 is subtracted from a number, the difference is the number itself.

$$\begin{array}{r} 4\ 1\ 7 \\ -\ \ \ \ 0 \\ \hline 4\ 1\ 7 \end{array}$$

Fill in the blanks.

852 – 0 = _____ 777 – 0 = _____ 450 – 0 = _____

Exercise 3.1

Subtract the following.

1. 404 – 404 = _____
2. 600 – 600 = _____
3. 700 – 0 = _____
4. 905 – 905 = _____
5. 908 – _____ = 908
6. 614 – _____ = 614

SUBTRACTION WITHOUT REGROUPING

Example : Subtract 3245 from 7968.

Subtracting 4-digit numbers is just like subtracting 3-digit numbers.

Arrange the numbers one below the other, according to their place values. The greater number should be above the smaller number.

Subtract, starting from the ones.

Step 1 : Subtract the ones.

Step 2 : Subtract the tens.

Step 3 : Subtract the hundreds.

Step 4 : Subtract the thousands.

	Th	H	T	O
	7	9	6	8
–	3	2	4	5
	4	7	2	3

Exercise 3.2

A. Subtract these numbers.

1.

	Th	H	T	O
	8	7	8	0
–	2	0	5	0

2.

	Th	H	T	O
	5	5	4	8
–	4	0	2	7

3.

	Th	H	T	O
	9	8	3	6
–	5	2	0	3

4.

	Th	H	T	O
	7	7	9	5
–	2	2	7	5

5.

	Th	H	T	O
	4	3	8	6
–	1	3	7	4

6.

	Th	H	T	O
	3	8	2	9
–	1	5	1	8

7.

	Th	H	T	O
	4	5	0	0
–	1	3	0	0

8.

	Th	H	T	O
	9	9	9	9
–	2	2	2	2

9.

	Th	H	T	O
	7	2	5	4
–	5	0	1	2

10.

	Th	H	T	O
	9	3	6	4
–	3	1	4	2

11.

	Th	H	T	O
	8	6	7	9
–	4	5	3	4

12.

	Th	H	T	O
	7	4	6	5
–	2	4	2	3

B. Subtract these numbers.

1. 6726 – 2125
2. 7836 – 2124
3. 9385 – 3142
4. 8495 – 2144
5. 9678 – 5464
6. 9674 – 5541

SUBTRACTION WITH REGROUPING

	Th	H	T	O
			(15)	
		7	~~8~~	14
	7	~~8~~	~~6~~	~~4~~
–	3	7	8	6
	4	0	7	8

Example : Subtract 3786 from 7864.

Step 1 : Subtract the ones.

Since 6 > 4, regroup the tens.

You have 5 tens and 14 ones; 14 – 6 = 8. Put 8 in ones place.

Step 2 : Subtract the tens.

Since 8 > 5, regroup the hundreds.

You have 7 hundreds and 15 tens; 15 – 8 = 7. Put 7 in tens place.

Step 3 : Subtract the hundreds. 7 – 7 = 0

Step 4 : Subtract the thousands. 7 – 3 = 4

Exercise 3.3

A. Subtract the following numbers.

1.
	Th	H	T	O
	9	9	6	5
–	6	8	5	7

2.
	Th	H	T	O
	9	8	8	6
–	3	5	0	7

3.
	Th	H	T	O
	9	5	7	9
–	4	8	8	0

4.
	Th	H	T	O
	6	8	5	7
–	4	5	6	2

5.
	Th	H	T	O
	5	9	5	6
–	1	9	6	9

6.
	Th	H	T	O
	5	2	7	6
–	1	8	3	9

7.
	Th	H	T	O
	8	6	4	1
–		9	9	9

8.
	Th	H	T	O
	9	2	7	6
–	1	8	3	9

9.
	Th	H	T	O
	8	5	6	4
–	2	4	7	5

10.
	Th	H	T	O
	9	2	7	2
–	1	4	8	5

11.
	Th	H	T	O
	6	7	4	5
–	4	2	7	6

12.
	Th	H	T	O
	8	2	3	1
–	4	3	5	4

B. Subtract these numbers.

1. 7834 – 2659
2. 6532 – 4783
3. 8143 – 4574
4. 4156 – 3784
5. 4425 – 2342
6. 8253 – 4372
7. 9326 – 2749
8. 8135 – 4326
9. 3978 – 2467

SUBTRACT NUMBERS WITH ZEROS

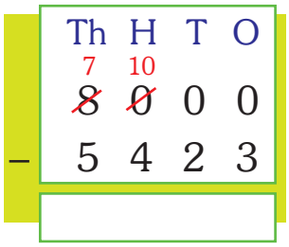
Example : Subtract 5423 from 8000.

Step 1 : Since 3 > 0, regroup the tens. But there are 0 tens.

So, regroup the hundreds. But there are 0 hundreds.

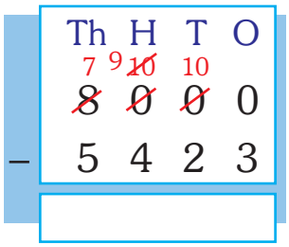
So, regroup the thousands.

You have 7 thousands and 10 hundreds.



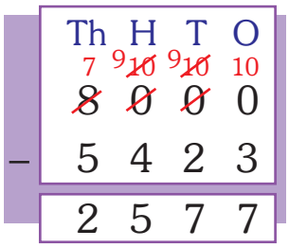
Step 2 : Now, regroup the 10 hundreds.

You have 9 hundreds and 10 tens.



Step 3 : Now, regroup the 10 tens.

You have 9 tens and 10 ones.



Step 4 : You finally have 7 thousands, 9 hundreds, 9 tens and 10 ones. Now, subtract 5423 from it in the usual way.

Exercise 3.4

Subtract these numbers.

1.

	Th	H	T	O
	5	0	3	0
–	2	5	1	8

2.

	Th	H	T	O
	6	2	0	0
–	2	4	5	5

3.

	Th	H	T	O
	5	0	0	5
–	2	3	4	5

4.

	Th	H	T	O
	7	1	0	0
–	3	2	6	8

5.

	Th	H	T	O
	8	0	0	0
–	3	4	6	7

6.

	Th	H	T	O
	9	0	0	0
–	4	3	6	5

7.

	Th	H	T	O
	8	0	0	0
–	5	5	5	5

8.

	Th	H	T	O
	8	0	1	0
–	6	3	5	3

ESTIMATING THE DIFFERENCE

We shall now learn to estimate the difference between the given numbers and compare it with another number.

Example : Estimate the difference of 728 and 445. Will it be more than 300 or less than 300 ?

Solution : We know that 700 – 400 = 300.

Here, 728 > 700 and 445 > 400,

but both are not equally greater.

So, we can estimate that 728 – 445 will be less than 300.

When we actually subtract, we get 283 as the difference, which is less than 300. So, our estimation is correct.

	H	T	O
	6	12	
	~~7~~	~~2~~	8
–	4	4	5
	2	8	3

Exercise 3.5

Estimate the difference and tick (✓) the appropriate option in each of the following. Check by actual subtraction.

1.

	H	T	O
	6	2	8
–	1	4	3

Less than 500

More than 500

Answer : _____

2.

	H	T	O
	7	4	5
–	3	6	0

Less than 400

More than 400

Answer : _____

3.

	H	T	O
	9	9	7
–	2	6	8

Less than 700

More than 700

Answer : _____

4.

	H	T	O
	8	2	9
–	6	3	4

Less than 200

More than 200

Answer : _____

5.

	Th	H	T	O
	6	4	4	5
–	3	2	2	8

Less than 3000

More than 3000

Answer : _____

6.

	Th	H	T	O
	9	7	7	9
–	2	6	8	3

Less than 7000

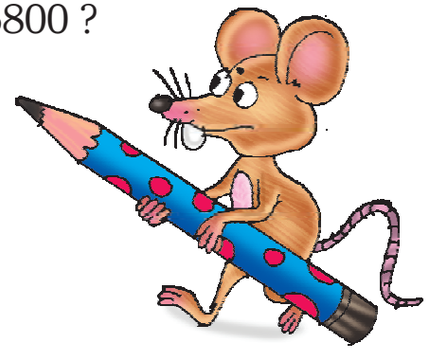
More than 7000

Answer : _____

PROBLEMS ON SUBTRACTION

Example 1 : What should be added to 3389 to get 5800 ?

Solution : We have to subtract 3389 from 5800.



	Th	H	T	O
	5	$^{7}\cancel{8}$	$^{9}\cancel{0}$	$^{10}\cancel{0}$
–	3	3	8	9
	2	4	1	1

Hence, 2411 should be added to 3389 to get 5800.

Example 2 : Find the difference between the largest and the smallest 4-digit numbers formed using the digits 4, 1, 2, 5. Each digit should be used once only.

Solution :

The digits are 4, 1, 2, 5.

The largest 4-digit number formed = 5421

The smallest 4-digit number formed = 1245

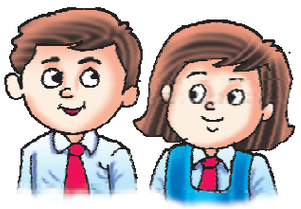
Their difference = 5421 – 1245 = 4176

	Th	H	T	O
	5	$^{3}\cancel{4}$	$^{1}\cancel{2}^{11}$	$\cancel{1}^{11}$
–	1	2	4	5
	4	1	7	6

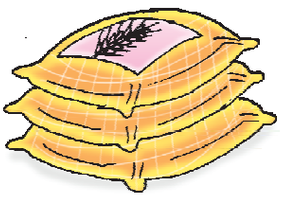
Exercise 3.6

1. What should be added to 1600 to get 2000 ?
2. The sum of two numbers is 2894. If one of them is 1750, find the other number.
3. Mohan's monthly income is ₹ 8007 and his monthly expenditure is ₹ 4690. How much does he save every month ?
4. There are 7339 books written in different languages in a bookshop. If 3588 of them are written in English, how many books are there written in other languages ?
5. Which number is smaller 7258 or 7285 and by how much ?
6. The sum of two numbers is 7889. If one of them is 2880, find the other number.
7. A factory produced 8550 bulbs. Out of them, 4599 bulbs were supplied to distributors. How many bulbs are left now ?

8. There are 7750 eggs in a poultry. Out of them, 3478 eggs are sold. How many eggs are left now ?
9. Two persons donated a total sum of ₹ 9000 for flood-relief fund. If one of them donated ₹ 6325, find the donation of the other person.
10. There are 4550 students in a school. If the number of boys is 2429, find the number of girls.



11. Find the difference between the largest and the smallest of 4-digit numbers formed using the digits 2, 5, 7, 0. Each digit should be used once only.
12. By how much is 3458 less than 7000 ?
13. From the largest 4-digit number, subtract the :
    (a) largest 3-digit number (b) smallest 3-digit number
14. There are 6400 bags of wheat in a godown. If 2948 bags are sold, how many bags are left in the godown ?



RELATION BETWEEN ADDITION AND SUBTRACTION

Addition means to put together. Subtraction means to take away.

If you put together 2 and 3 you get 5. $2 + 3 = 5$

If you take away 2 from 5 you get 3. $5 - 2 = 3$

If you take away 3 from 5 you get 2. $5 - 3 = 2$

Therefore, addition and subtraction are the opposite operations of each other.

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

	Th	H	T	O
	4	7	7	1
–	1	3	2	0
	3	4	5	1

Or

	Th	H	T	O
	4	7	7	1
–	3	4	5	1
	1	3	2	0

CHECKING SUBTRACTION BY ADDITION

The relationship between addition and subtraction helps us. Use addition to check the answer to a subtraction problem.

To check the answer to a subtraction problem, add the difference to the smaller number. You should get the greater number.

Example : Jack subtracted 231 from 354. His answer was 123. Is the answer correct ?

Solution :

	H	T	O
	3	5	4
–	2	3	1
	1	2	3

Check :

	H	T	O	
	1	2	3	⟶ difference
+	2	3	1	⟶ smaller number
	3	5	4	⟶ greater number

Therefore the answer is correct.

Exercise 3.7

This is Ankit's test paper. Check his subtractions using addition. Give him a ★ for every correct answer. One is done for you.

1.

	H	T	O
	3	7	9
–	2	2	3
	1	5	6

	H	T	O
	1	5	6
+	2	2	3
	3	7	9

★

2.

	H	T	O
	8	2	3
–	2	4	3
	6	8	0

	H	T	O
+			

3.

	H	T	O
	6	1	0
–	2	4	3
	3	6	7

	H	T	O
+			

4.

	H	T	O
	8	0	4
–	2	3	9
	4	6	5

	H	T	O
+			

5.

	H	T	O
	7	0	0
–	2	6	5
	4	4	5

	H	T	O
+			

6.

	H	T	O
	4	1	3
–	2	0	2
	2	1	5

	H	T	O
+			

ADDITION AND SUBTRACTION

	Th	H	T	O
		4	3	2
+	3	4	5	6
	3	8	8	8
	3	8	8	8
–	2	3	2	4
	1	5	6	4

Example 1 : Solve 432 + 3456 – 2324

Solution : Step 1 : Add the first number to the number with the '+' sign before it.

Step 2 : From the sum, subtract the number with the '–' sign before it.

Answer : 1564

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

Example 2 : Solve 3424 – 4321 + 3343

Solution :

Step 1 : Add the first number to the number with the '+' sign before it.

Step 2 : From the sum, subtract the number with the '–' sign before it.

Answer : 2446

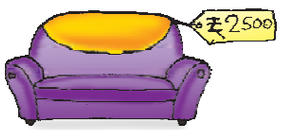
Exercise 3.8

Solve these sums.

1. 5231 – 3233 + 2168
2. 3231 + 4235 – 7231
3. 3888 – 4767 + 3003
4. 5323 – 2349 + 3234
5. 4261 – 2259 + 2467
6. 6234 + 2121 – 3343
7. 533 + 6829 – 323
8. 5234 – 3259 + 3031
9. 8888 + 1111 – 3333
10. 1234 – 2345 + 5432

WORD PROBLEMS ON ADDITION AND SUBTRACTION

Example : Vijay had ₹ 9000. He bought a sofa for ₹ 2500 and a scooter for ₹ 5800. How much money is left with him ?



Solution :

Cost of sofa = ₹ 2500

Cost of scooter = ₹ 5800

He spent = ₹ 2500 + ₹ 5800 = ₹ 8300

Money left with him = ₹ 9000 – ₹ 8300 = ₹ 700

Exercise 3.9

1. Mr Verma earns ₹ 6250 per month and Mrs Verma earns ₹ 3690 per month. If they spend ₹ 7550 per month, how much do they save ?
2. A school library had 7814 books. 986 books were added to the library during the year. 439 torn books were thrown away. How many books does the library have now ?
3. 4500 cold drink bottles were loaded in a truck. 1475 bottles were delivered in one shop and 1950 bottles in another shop. How many bottles were left in the truck ?

WORKSHEET

A. Work out these in your notebook.

1. 4610 – 1402	2. 6938 – 2008	3. 8426 – 1315
4. 8938 – 332	5. 7216 – 3678	6. 9255 – 6599
7. 3836 – 2699	8. 5603 – 365	9. 4125 – 256
10. 3010 – 666	11. 9000 – 666	12. 9000 – 499

B. Subtract and check the answer by addition.

1. 6798 from 8469
2. 4386 from 8243
3. 50 from 1000
4. 3121 from 9000
5. 5982 from 9291
6. 8999 from 9000

C. Solve the following word problems.

1. There are 2345 students in the junior section and 2812 students in the senior section of a school. In which section are there more children ? How many more ?
2. My mother earns ₹ 1455 less than my father. If my father earns ₹ 9100 per month, how much does my mother earn ?
3. Gopal spends ₹ 7900 on buying a racing bicycle. If he had ₹ 9000, how much money does he have left with ?
4. A shop has 6020 balloons. Of these 3099 are red balloons. How many balloons are not red ?
5. Kimi has 3000 stamps. Rohit has 2854 stamps. How many less stamps than Kimi does Rohit have ?
6. The sum of two numbers is 8546. If one of the numbers is 2399, find the other number.

D. Solve the following word problems involving addition and subtraction.

1. In a garment shop there are 7315 garments. Out of these 2500 are shirts, 2766 are skirts and the remaining are trousers. How many trousers are there in the shop ?
2. A flower shop had 2665 red flowers and 3500 yellow flowers. Bouquets were made using 4000 flowers in all. How many flowers are left in the shop ?

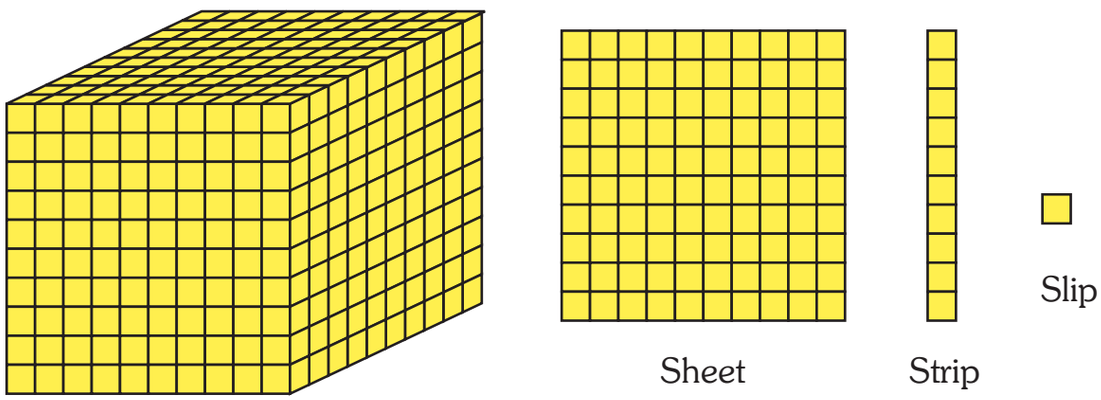
MATHS LAB

Objective : To subtract 2364 from 3518 using cubes (thousands), sheets (hundreds), strips (tens) and slips (ones)

Materials Required : Use cubes, sheets, strips and slips from your Math kit.

Steps :

1. Students make the bigger number using cubes, sheets, strips and slips.
2. Ask them what they have to do to subtract 2364 – take away 2 thousands, 3 hundreds, 6 tens and 4 ones. Ask them how they will proceed – will they begin from the ones or from the thousands ?
3. Let them take away the ones, tens, hundreds and thousands in order to get the answer. If the numbers of ones, tens or hundreds are not sufficient show them how to regroup by replacing 1 ten into 10 ones and / or 1 hundred into 10 tens.



4. Repeat the activity several times using different numbers.