LESSON 4 ⌜Addition and Subtraction - II⌝

Read and Understand:

$$74 + 8 = 70 + 4 + 8$$
$$= 70 + (4 + 8)$$
$$= 70 + (12)$$
$$= 82$$

$$= 70 + 10 + 2$$
$$= 80 + 2$$
$$= 82$$

$$35 + 29 = (30+5) + (20+9)$$
$$= 30 + 5 + 20 + 9$$
$$= (30+ 20) + (5+9)$$
$$= 50 + 14$$
$$= 64$$

$$= 50 + 10 + 4$$
$$= 60 + 4$$
$$= 64$$

Add

(1) $17 + 9 = (10+7) + 9$

(2) $23 + 18 = (20+ ......) + (........+8)$

$= $ ————————————

$= $ ————————————

$= $ ————————————

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$= $ ————————————

(3)   26 + 37   =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

(4)   52 + 29

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

(5)   30 + 57   =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

(6)   48 + 49

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

                =   ————————

Read and Understand:

Add 553 and 424

$$
\begin{array}{r}
5\ 5\ 3 \\
+\ 4\ 2\ 4 \\
\hline

\end{array}
\rightarrow
\begin{array}{r}
5\ 5\ 3 \\
+\ 4\ 2\ 4 \\
\hline
7
\end{array}
\rightarrow
\begin{array}{r}
5\ 5\ 3 \\
+\ 4\ 2\ 4 \\
\hline
7\ 7
\end{array}
\rightarrow
\begin{array}{r}
5\ 5\ 3 \\
+\ 4\ 2\ 4 \\
\hline
9\ 7\ 7
\end{array}
$$

Hence, 553 + 424 = 977

Solve these.

(1) 789 and 210	(2) 648 and 301	(3) 457 and 242
(4) 667 and 230	(5) 245 and 102	(6) 246 and 33
(7) 528 and 230	(8) 365 and 4	(9) 49 and 200

Read and Understand:

Subtract 217 from 849

$$
\begin{array}{r}
8\ 4\ 9 \\
-\ 2\ 1\ 7 \\
\hline
\end{array}
\qquad
\begin{array}{r}
8\ 4\ 9 \\
-\ 2\ 1\ 7 \\
\hline
2
\end{array}
\qquad
\begin{array}{r}
8\ 4\ 9 \\
-\ 2\ 1\ 7 \\
\hline
3\ 2
\end{array}
\qquad
\begin{array}{r}
8\ 4\ 9 \\
-\ 2\ 1\ 7 \\
\hline
6\ 3\ 2
\end{array}
$$

Hence, $849 - 217 = 632$

Subtract

1. 244 from 375	2. 215 from 625
3. 303 from 938	4. 604 from 625
5. 556 from 876	6. 5 from 198

Addition with carry over.

497 and 268 Add −

Step−1

	H	T	O
	4	9	7
+	2	6	8

Write the numbers in such away that the ones digit comes is below ones place ten's digit is below ten's place and hundred's digit is below hundred's place.

Step−2

	H	T	O
		①	
	4	9	7
+	2	6	8
			5

Add the one's digits first.
7 ones + 8 ones = 15 ones
But 15 ones = 1 ten + 5 one's
Therefore write 5 in the one's place as a result of addition and write the 1 ten is the ten's column.
This is 1 carried to the ten's place.

Step−3

	H	T	O
	①	①	
	4	9	7
+	2	6	8
		6	5

Now add the digits in the ten place.
1 ten + 9 tens + 6 tens = 16 tens
However 16 tens = 1 hundred + 6 tens
So write the 6 in the column of ten's addition and carry 1 to the hundreds place.

Step−4

	H	T	O
	①	①	
	4	9	7
+	2	6	8
	7	6	5

Finally the addition of hundred's digits
1 hundred + 4 hundred + 2 hundred = 7 hundreds
Write 7 in the column of hundred's addition
497 + 268 = 765

Exercise

Solve:

(1)
```
    3  1  8
+   2  3  4
_____
```

(2)
```
    2  2  7
+   4  3  4
_____
```

(3)
```
    3  0  9
+   2  6  6
_____
```

(4)
```
    1  9  2
+   2  2  3
_____
```

(5)
```
    3  8  1
+   2  4  4
_____
```

(6)
```
    3  8  0
+   2  6  6
_____
```

(7)
```
    4  6  7
+   3  3  4
_____
```

(8)
```
    3  5  7
+      7  7
_____
```

(9)
```
       5  8
+   2  6  6
_____
```

Add the given numbers.

(1) 446 and 139

(2) 207 and 505

(3) 373 and 163

(4) 657 and 243

(5) 304 and 217

(6) 73 and 566

Read and Understand:

321+142+438

```
            ①                    ① ①                   ① ①
  3  2  1           3  2  1             3  2  1             3  2  1
  1  4  2    ⟶      1  4  2     ⟶       1  4  2     ⟶       1  4  2
+ 4  3  8         + 4  3  8           + 4  3  8           + 4  3  8
─────────         ─────────           ─────────           ─────────
                           1                  0  1           9  0  1
```

Hence, 321 + 142 + 438 = 901

(1)
```
    2  3  4
    1  3  0
 +     4  8
───────────
```

(2)
```
    3  3  5
       4  5
 +     7  9
───────────
```

(3)
```
       4  5
    2  5  6
 +  3  6  7
───────────
```

(4)
```
    2  5  7
    1  3  3
 +     9  7
───────────
```

(5)
```
  3  4  8
  2  0  4
+ 1  5  5
──────────
```

(6)
```
  4  5  7
  3  4  8
+ 1  0  2
──────────
```

(7)
```
  2  4  6
     9  0
+ 3  3  5
──────────
```

(8)
```
  6  3  5
     8  0
+ 1  4  8
──────────
```

Let's Learn

We have learnt how to subtract two digit numbers. Now let us learn how to subtract three digit number.

Let us try subtracting 284 from 352.

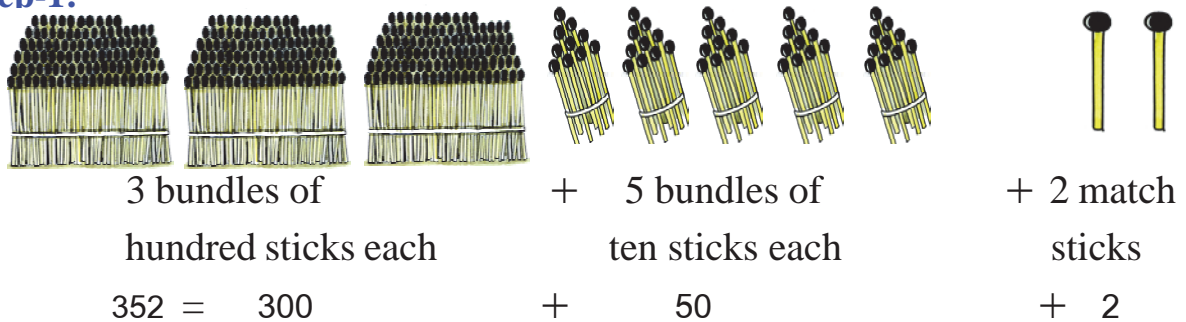First we have to subtract 4 from 2.

We can not do that, then what do you do in such situation?
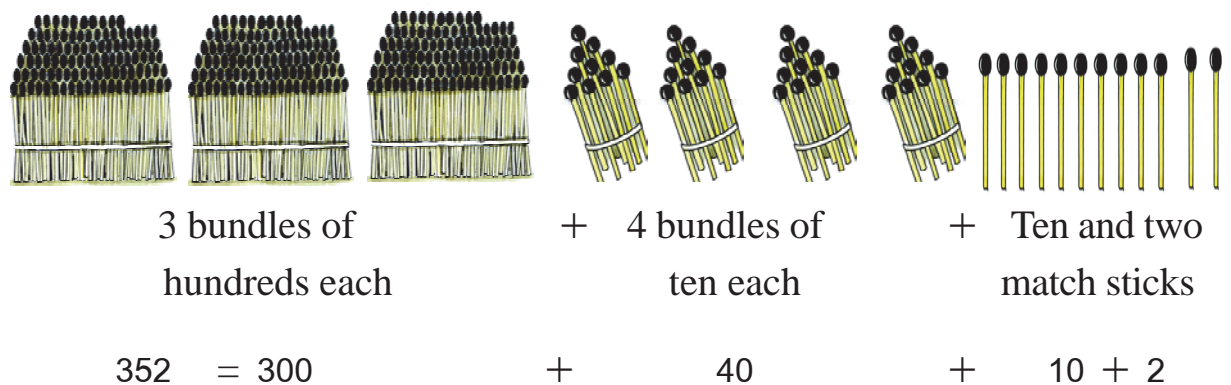
You convert tens in to ones

Lets do this with the help of pictures.

	H	T	O
	3	5	2
−	2	8	4

Step-1:

3 bundles of hundred sticks each	+	5 bundles of ten sticks each	+ 2 match sticks

352 = 300 + 50 + 2

When you open a bundle of ten

3 bundles of hundreds each	+	4 bundles of ten each	+	Ten and two match sticks

352 = 300 + 40 + 10 + 2

Now in one's place we have 12 one's instead of 2 one's. We can therefore subtract 4 from 12 to get 8 one's.

We can write what we have done as follows:

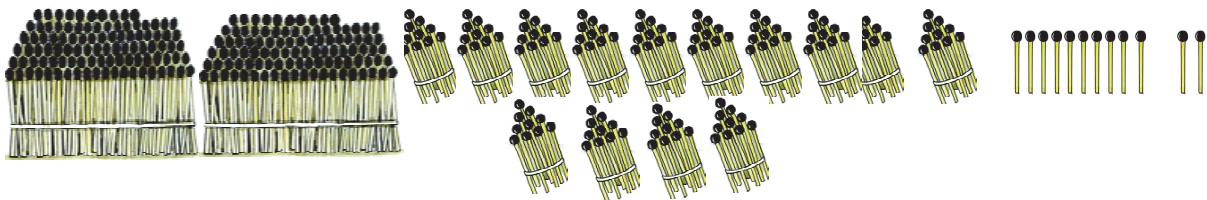|	H	T	O
		④	⑫
	3	5̸	2̸
−	2	8	4
			8

Step-2:

Now consider the ten's digits.

We need to subtract 8 tens from 4 tens. We need to break a bundle of 100 and change it to tens.

3 bundles of hundreds each   4 bundles of   12 loose
                                   ten each   matchsticks
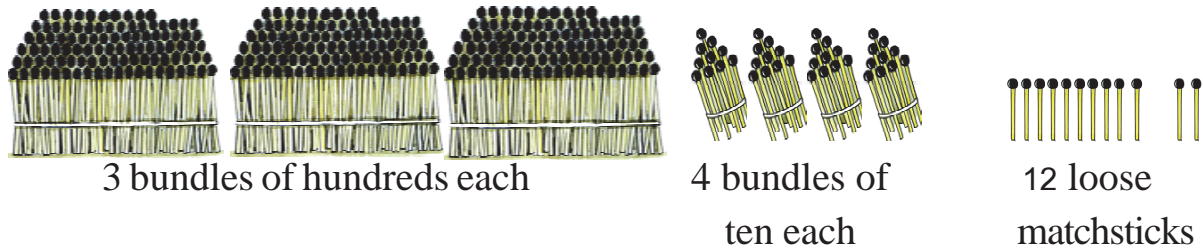
When you open a bundle of hundred

352 = 2 bundles of   +   10 bundles of Matchsticks   +   12 loose
       hundred each   and 4 bundles   match sticks

We can also write it as

200   +   140   +   12
2 hundreds   +   14 tens   +   12 Units

Now from the 14 tens
we take away 8 tens
giving us 6 tens.

H	T	O
2	14 4̶	12
3̶	5̶	2̶
− 1	8	4
	6	8

Step-3:

H	T	O
2	14 4̶	12
3̶	5̶	2̶
− 1	8	4
1	6	8

Look at the digits in the hundred's place.
Can you subtract
1 hundred from 2 hundred?
We shall get 1 hundred.
Hence, $352 - 184 = 168$

Subtract

185 from 275	295 from 412	69 from 729
195 from 364	8 from 154	258 from 642
172 from 302	90 from 130	204 from 510
457 from 946	346 from 816	

Discuss one of the above questions with your friend. Find out how he/she did it?

Let us solve $500 - 225$

Look at their one's digits. What are the digits?	—————————
Can you subtract 5 ones from 0?	—————————
Now look at the ten's digits. What are the digits?	—————————
Can you subtract 2 tens from 0?	—————————

Let us see how we can do such sums

	H	T	O
	5	0	0
−	2	2	5

5 bundles of hundred match-sticks each $= 500 + 0 + 0$

5 hundreds + 0 tens + 0 ones

Step-1:

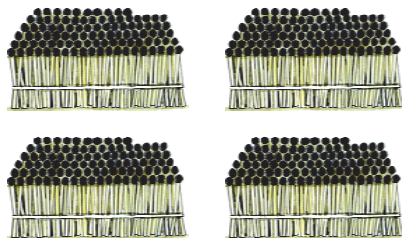One bundle of hundred opened
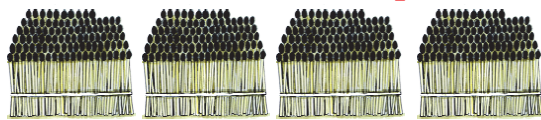
4 bundles of hundred each   and   10 bundles of 10 match sticks each
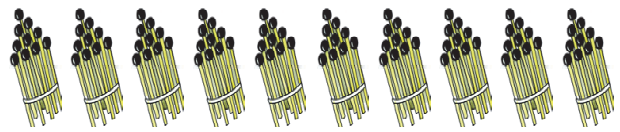
$500 = 400 + 100$
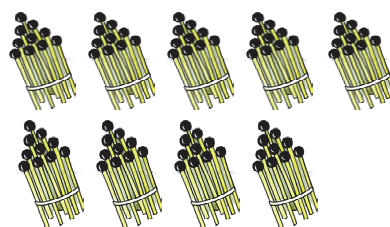
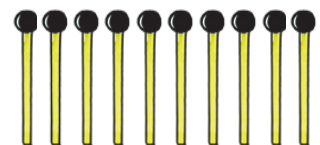|	H	T	O
	4	10	
	5̶	0̶	0
−	2	2	5

Step-2:

However as we also need to open one of these for the one's subtraction

| 4 bundles of hundreds each | 9 bundles of tens each | and 10 loose match-sticks |

Step-3:

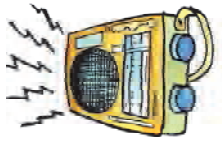500 = 400 + 90 + 10

Now subtract 225

Hence, 500 − 225 = 275

H	T	O
4	$^9\cancel{10}$	10
$\cancel{5}$	$\cancel{0}$	$\cancel{0}$
− 2	2	5
2	7	5

Let us Subtract some more

174 from 400	36 from 105	305 from 600
70 from 403	154 from 253	336 from 804
380 from 700	275 from 410	
296 from 805	471 from 800	

Take any 3 digits and make two numbers. Subtract the smaller from the greater number and show your friends.

Rs. 350　　　　　　Rs. 175　　　　　　Rs. 135

Rs. 775　　　　　　Rs. 82　　　　　　Rs. 235

1. Seema bought a radio, a watch and a pair of spectacles. How much amount would she have to give to the shopkeeper?

2. Harish initially bought a radio. Later he needed a fan. He returned the radio and took the fan. How much more money did he have to give to the shopkeeper?

3. By how much is the watch cheaper than the spectacles?

4. Sonali bought a frock and a pair of pants. How much money did he spend?

Magic Square

Look at the 3 × 3 square. There are 1 to 9 numbers written in it.

4	9	2
3	5	7
8	1	6

Find the sum of the digits in each row.

Find the sum of the digits in each column.

Find the sum of the digits along the diagonals.

What do you find?

Now check and find which of the following is a Magic Square?

5	10	3
4	6	8
9	2	7

7	1	9
3	8	6
4	5	2

11	16	15
18	14	10
13	12	17

16	11	15
18	14	10
17	12	13

Find the missing numbers in the following Magic Square

Digits 4 to 12   Digits 3 to 11   Digits 2 to 10

		5
6		10
		9

6		4
	7	
		8

9	2	7
	6	

Can you make more Magic Squares? Take different numbers and make your own Magic Sqaure and show your friends.

Now Solve these

1.   In a cricket match Sachin made 52, Rahul made 135 and Dinesh made 93 runs. How many runs did they make together?

2.   In an orchard there are 125 Mango trees, 100 Neem trees and 160 Lemon trees. How many trees are there in all?

3.   In a train compartment there are 72 seats. If there are 112 travellers, then how many did not get seats?

4.   Boodru sold 132 coconuts on the first day of the Narayanpur Fair and 96 coconuts on the second day. If he still had 54 coconuts left with him, can you say how many coconuts he had taken to the Fair?

5.   There are 350 children in a school. If there are 162 girls in the school, what is the number of boys?

6.   The Environmental Science book belonging to Poonam has 136 pages.
       She read 107 pages out of these how many pages are left for her to read?

Let us help in calculation at home

Roshni and her father bought certain things from the fair. After they returned home her father said "Lets calculate the expenditure".

Roshni said, "I will calculate the expenditure." We had Rs. 300 in the begining. We bought a frock for Rs. 110, a pair of slipper for Rs. 40, a doll for Rs. 20 and sweets for Rs. 30. Roshni wrote it in this way :-

Frock   —   Rs.110

Slippers —   Rs. 40

Doll   —   Rs. 20

Sweets   —   Rs. 30
_____

                Rs.200
_____

Balance amount

300 Rs. — 200 Rs. = 100 Rs.

Whenever you go to the market, you can also calculate the expenditure in the same way.

How much money did you have when you went to the market?

What did you buy?

How much quantity of each items did you buy ?

How much money did you spend?

How much money was left after purchasing?

✦✦✦