3rd grade

CLASS - 3

MATHEMATICS

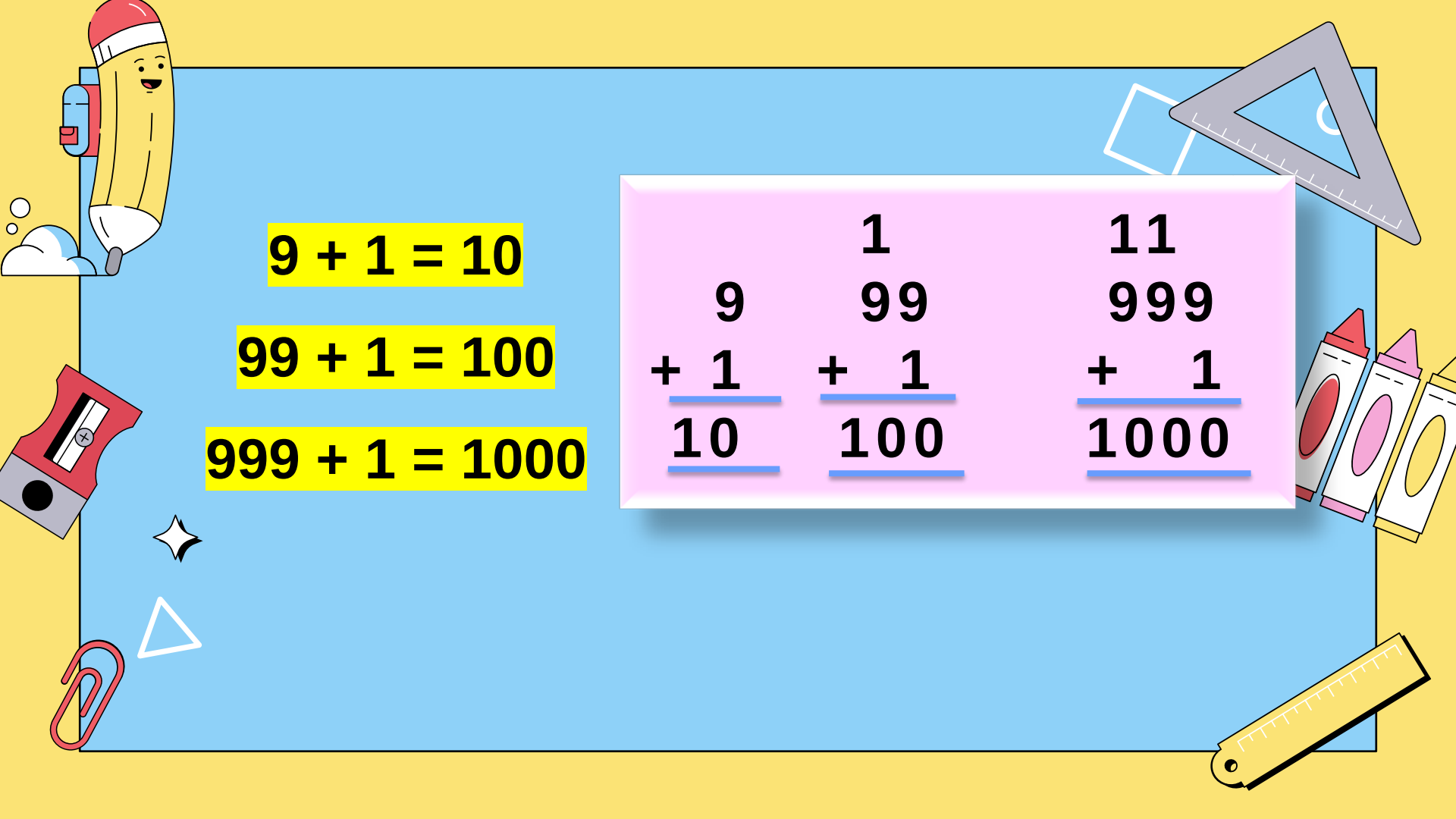
Chapter-1

NUMBERS UPTO TEN THOUSAND

Numbers upto ten thousand

We have already learnt to read and write the numbers upto 1000.

Let us recall how we get 10 from 9,100 from 99 and 1000 from 999.


9 + 1 = 10
99 + 1 = 100
999 + 1 = 1000
1
9
+ 1
10
1
99
+ 1
100
11
999
+ 1
1000

Thus, we get 1000 by adding 1 to 999.

1000 has four digits. We read it as “One thousand”.

From the above, do you observe any pattern ?

Yes, we observe a pattern. To write a number 1 more than 9, we open a second place called tens place, and write 1 in the tens place and 0 in the ones place.

T	O
1	0

To write a number 1 more than 99, we open a third place called hundreds place and write 1 in this place and 0 in the first and second places as shown alongside.

H	T	O
1	0	0

To write a number 1 more than 999, we open a fourth place called thousands place and write 1 in this place and 0 in the first, second and third places as shown alongside.

Th	H	T	O
1	0	0	0

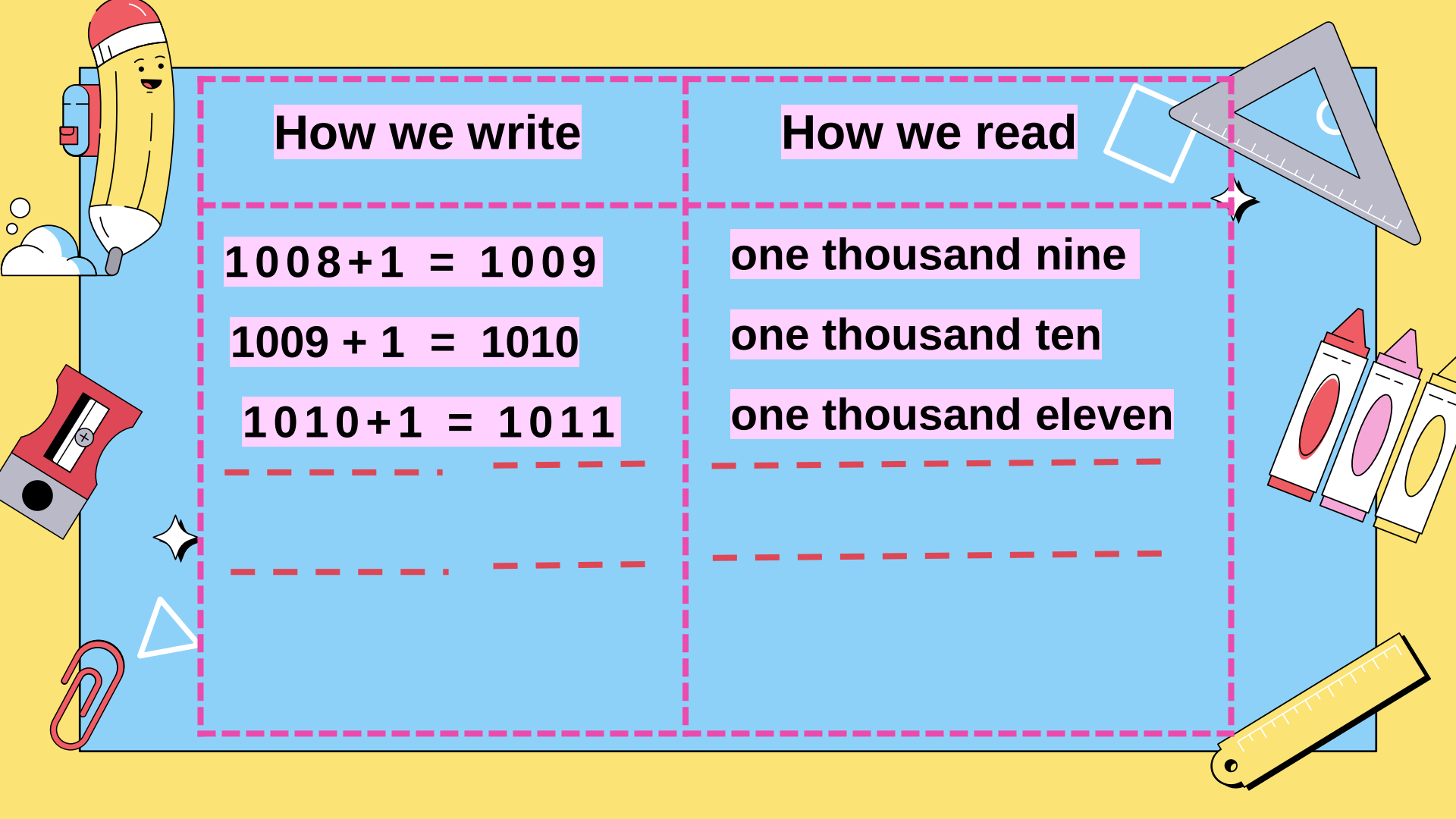
We can say that 999 is the largest 3 - digit number and 1000 is the smallest 4 - digit number.

FORMATION OF NUMBERS

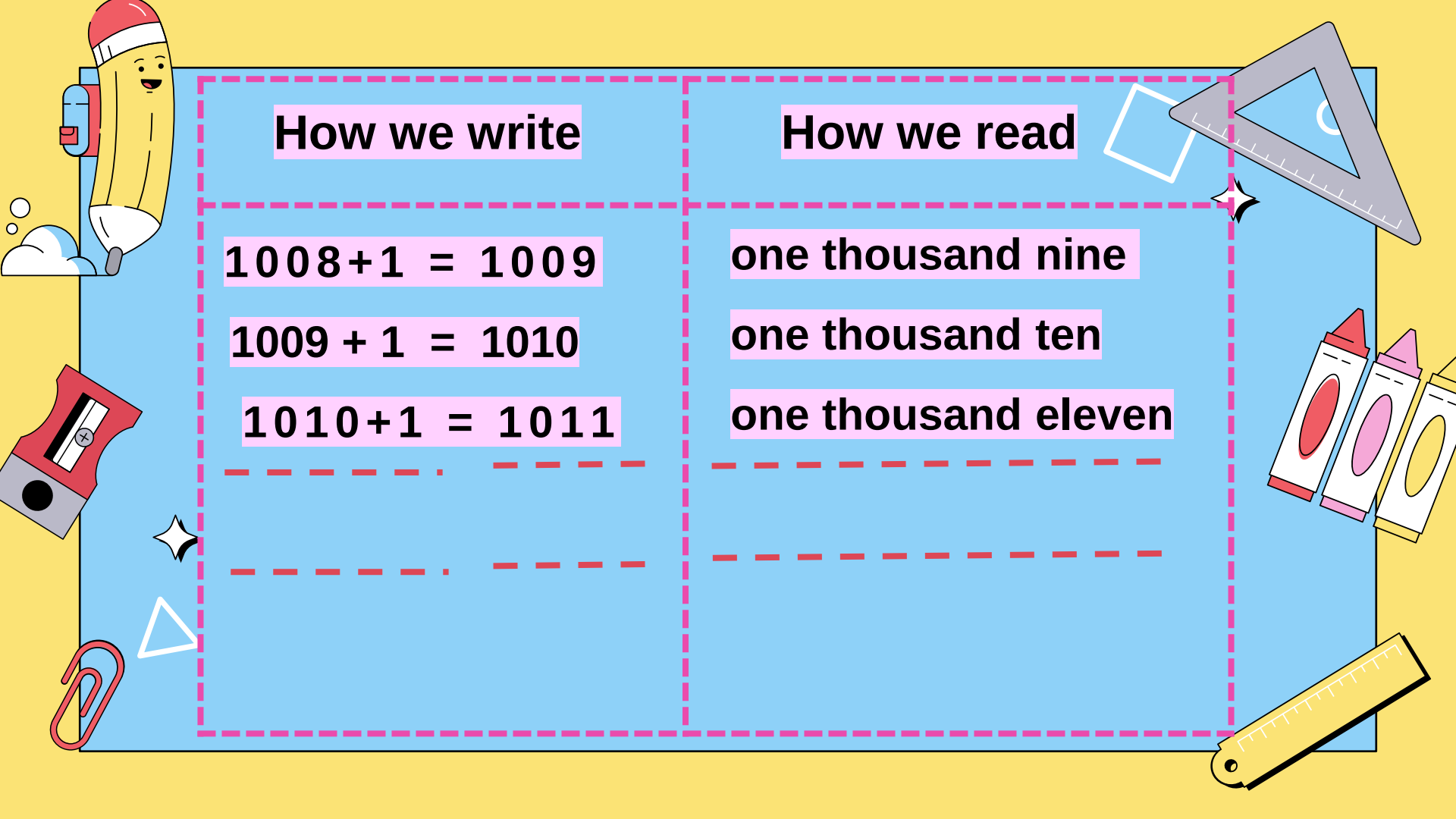
We know that 101 is formed by adding 1 to 100 and 102 is formed by adding 1 to 101 and so on. In the same way, we can form numbers beyond 999.

We can read and write numbers after 999 as follows :

How we write	How we read
999 + 1 = 1000	one thousand
1000 +1 = 1001	one thousand one
1001 +1 = 1002	one thousand two

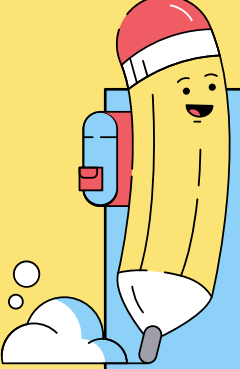
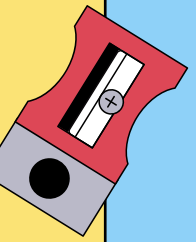
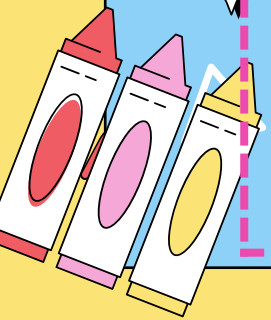
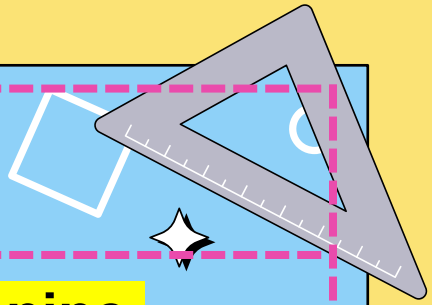
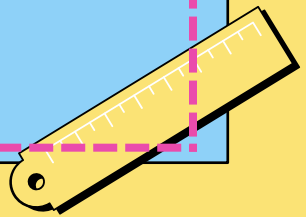


How we write	How we read
1008+1 = 1009	one thousand nine
1009 + 1 = 1010	one thousand ten
1010+1 = 1011	one thousand eleven



How we write	How we read
1008+1 = 1009	one thousand nine
1009 + 1 = 1010	one thousand ten
1010+1 = 1011	one thousand eleven

How we write	How we read
1098+1 = 1099	one thousand ninety-nine
1099 +1 = 1100	one thousand one hundred
1100+1 = 1101	one thousand one hundred one

How we write	How we read
1198 + 1 = 1199	one thousand one hundred ninety-nine
1999 + 1 = 2000	Two thousand
2000 + 1 = 2001	two thousand one
_____	_____
_____	_____

How we write	How we read
2998 + 1 = 2999	two thousand nine hundred ninety-nine
2999 + 1 = 3000	three thousand
3000 + 1 = 3001	three thousand one
3001 + 1 = 3002	three thousand two

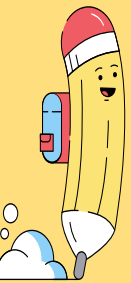
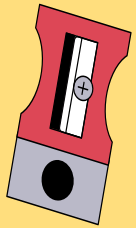
How we write	How we read
9998 + 1 = 9999	nine thousand nine hundred ninety-nine

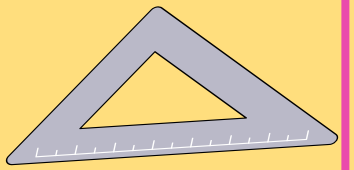
Read the following in thousands : One box represents 1000.

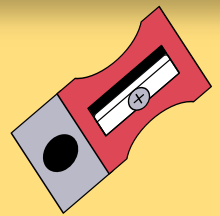
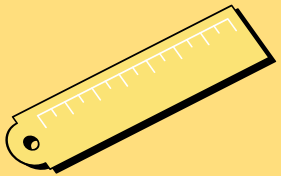
One thousand	1000	
Two thousand	2000	
Three thousand	3000	
Four thousand	4000	
Five thousand	5000	
Six thousnad	6000	

Read the following in thousands : One box represents 1000.

Seven thousand	7000
Eight thousand	8000
Nine thousand	9000
Ten thousand	10000

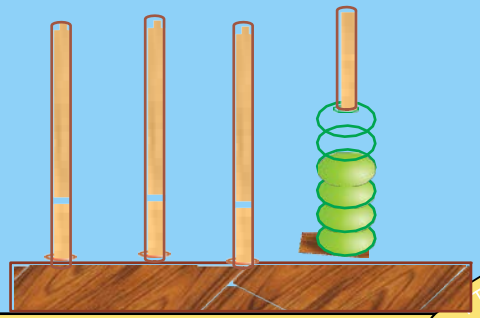


REPRESENTING 4-DIGIT NUMBERS ON THE ABACUS

EXAMPLE 1 : Represent 5624 on the abacus.

Step 1 : In the numeral 5624, 4 is in the ones place. So, we put 4 beads in the ones column in the abacus.



PLACE VALUE

Observe the place value table given below :

Thousand (Th)	Hundreds (H)	Tens (T)	Ones (O)
1000	100	10	1

Now, consider the numbers, say 4583 and 5609. Arrange the numbers in the place value table as follows :

	Thousands (Th)	Hundreds (H)	Tens (T)	Ones (O)
	1000	100	10	1
4583	4	5	8	3
5009	5	6	6	9

In 4 5 8 3, we have the following :

4 5 8 3

3 is in the ones column

∴ place value of 3 = 3 × 1 = 3

8 is in the tens column

∴ place value of 8 = 8 × 10 = 80

5 is in the hundreds column

∴ place value of 5 = 5 × 100 = 500

4 is in the thousands column

∴ place value of 4 = 4 × 1000 = 4000

4583

Similarly in 5609, we have the following :

5 6 0 9

Place value of 9 = 9 ones = 9

Place value of 0 = 0 tens = 00

Place value of 6 = 6 hundreds = 600

Place value of 5 = 5 thousands = 5000

5609

The place value of 0 is always zero (o)

Expanded Form of a Numeral

If a numeral is expressed as the sum of place values of its all digits, it is called its expanded form.

For example : 3475 = 3 thousands + 4 hundreds + 7 tens + 5 ones or 3475 = 3000 + 400 + 70 + 5.

EXAMPLE 2 : Write the place value of 8 in the numeral 7853.

SOLUTION : In the numeral 7853, 8 is at hundreds place.

$\therefore$ **Place value of 8 = 8 × 100 = 800.**

EXAMPLE 3 : Write the place values of 7 in the numeral 5707 and find the difference between them.

SOLUTION : The given numeral is 5707.

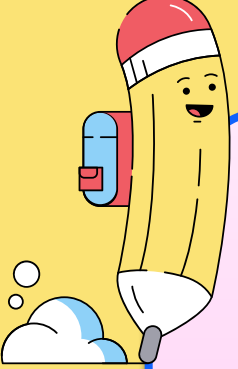
From right, the first 7 is at ones place.

∴ its place-value = 7 ones = 7 × 1 = 7.

From right, the second 7 is at hundreds place.

∴ its place-value = 7 hundreds = 7 × 100 = 700.

Now, the difference between the two place values of 7 = 700 – 7 = 693.



EXAMPLE 4 : Express in expanded form :

(a) 4050 **(b) 7324**

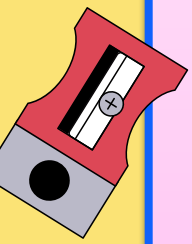
SOLUTION :

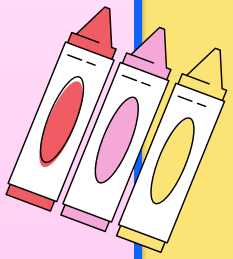
(a) 4050 = 4 thousands + 5 tens

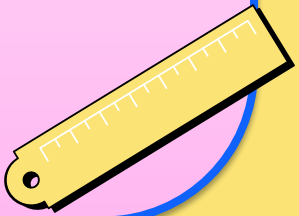
or 4050 = 4000 + 50

(b) 7324 = 7 thousands + 3 hundreds + 2 tens + 4 ones

or 7324 = 7000 + 300 + 20 + 4







EXAMPLE 5 : **Write in short form :**

(a) 5000 + 300 + 7

(b) 7 thousands + 2 hundreds + 5 tens + 5 ones

SOLUTION :

(a) 5000 + 300 + 7 = 5307

(b) 7 thousands + 2 hundreds + 5 tens + 5 ones = 7255

ORDERING OF NUMBERS

To compare 4-digit numbers, we follow the same rules as we used in class 2

Rule 1 : **Between the two numbers, the number containing more digits is the greater number.**

For Example

1245 > 945

2456 > 729

5025 > 796

Rule 2 : If two numbers contain the same number of digits, we compare them by their leftmost digits. If the leftmost digits are also the same, we compare them by their next digits from the left, and so on.

For Example

4325 > 3752

4325 > 4252

4325 > 4319

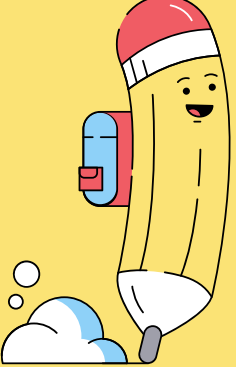
4325 > 4323

Successor

The number that comes just after particular number is called its successor.

For Example :

Number	Successor
9	10
99	100
3999	4000



Predecessor

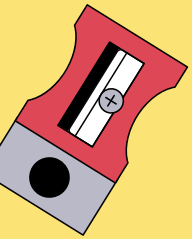
The number that comes just before a particular number is called its predecessor.

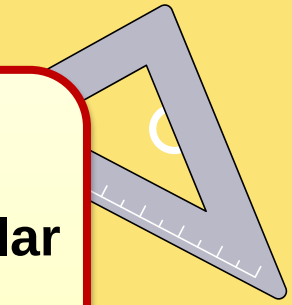
For Example :

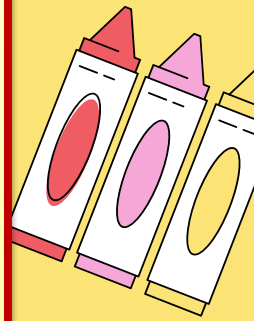
Note

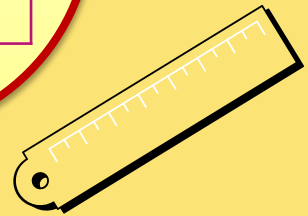
Zero has No predecessor

Number	Predecessor
10	9
100	99
1000	999



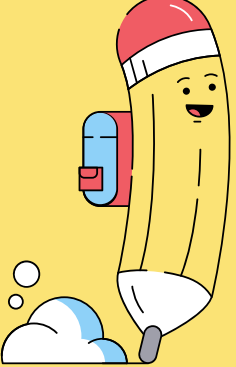






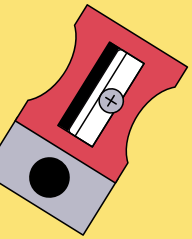
Thus, we have the following :

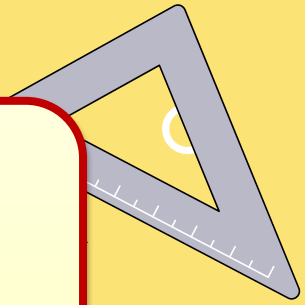
Predecessor	Number	Successor
9	10	11
99	100	101
999	1000	1001

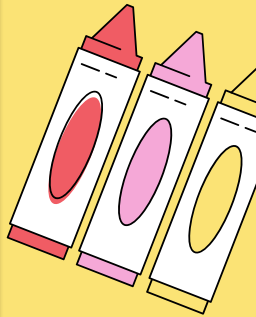


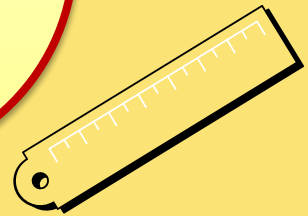
Ascending Order (Increasing Order)

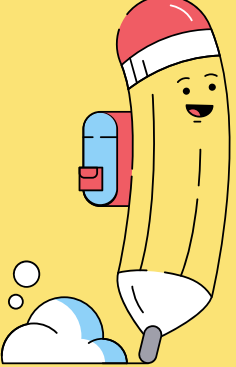
Numbers are said to be in ascending order when they are arranged from the smallest to the largest number.

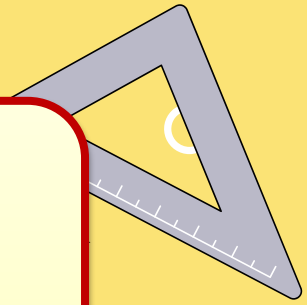








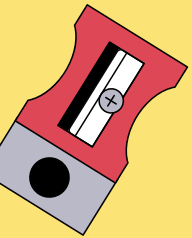


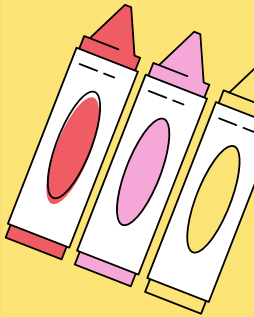


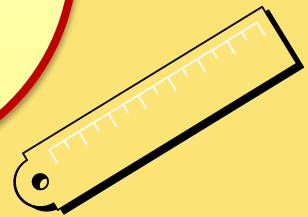
For Example : **299, 1005, 7690, 8503 and 9921 are arranged in ascending order.**

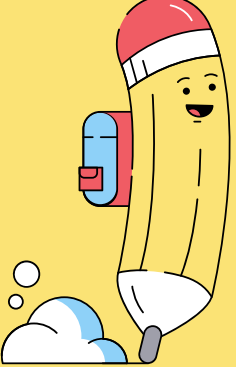
We can also write :

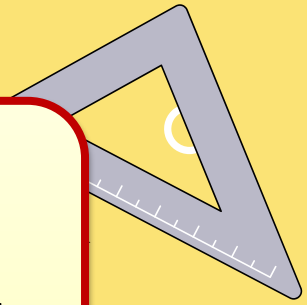
299 < 1005 < 7690 < 8503 < 9921.

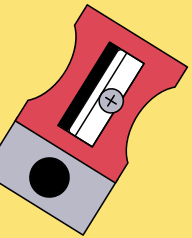


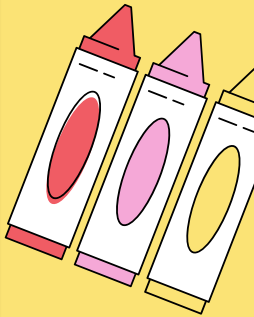


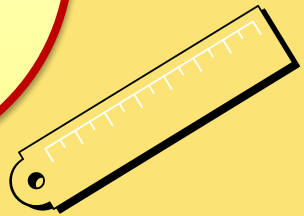






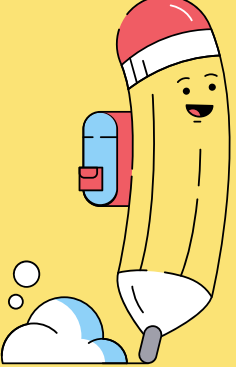


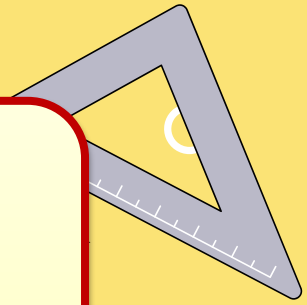




Descending Order (Decreasing Order)

Numbers are said to be in descending order when they are arranged from the largest to the smallest number.

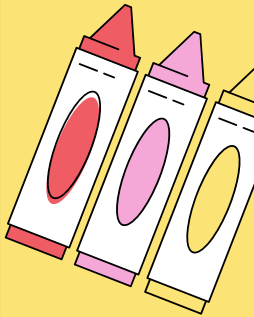


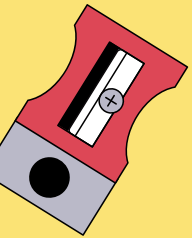


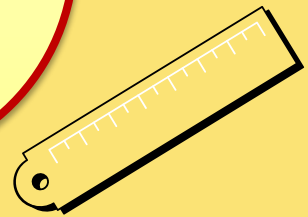
For Example : 8769, 6083, 5209, 4008 and 999 are arranged in descending order.

We can also write :

$$8769 < 6083 < 5209 < 4008 < 999.$$








Thank
You