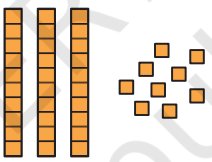
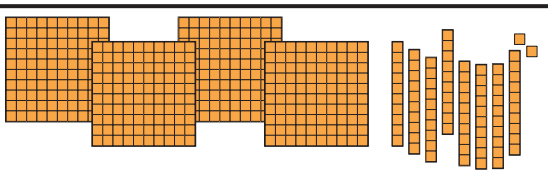
Chapter 4

Thousands Around Us

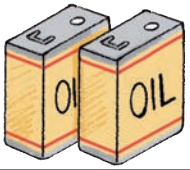
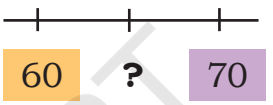
0433CH04

Jaspreet and Gulnaz are organising a *langar* (a community lunch) in their neighbourhood Gurudwara. They expect around one thousand (1000) people to be fed on that day. Fifty-five people volunteer to serve during this event. Jaspreet and Gulnaz receive many donations.

The donations are shown in the table below. Write the number in each case.

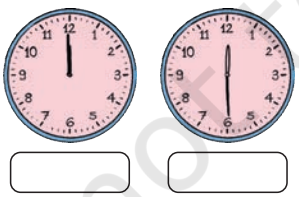
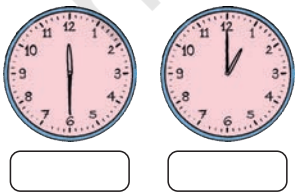
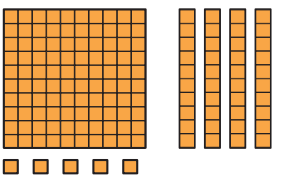
Donations	Quantity	Number
		
	4 Ones + 7 Tens	
		
	100 – 7	
		

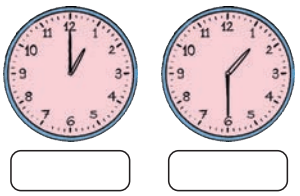
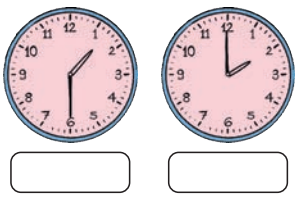
Note for Teachers: Support children in revising the different representations for 2- and 3-digit numbers through such tasks.

Donations	Quantity	Number
		
	Twelve	
	10+10+10+10+10	
		
	Ten more than three hundred twelve	

Jaspreet and Gulnaz record the number of people who come for the community lunch at different times.

Write the time and draw the number of people who had food at different time slots using HTO blocks as shown below.

	52 people	
	145 people	

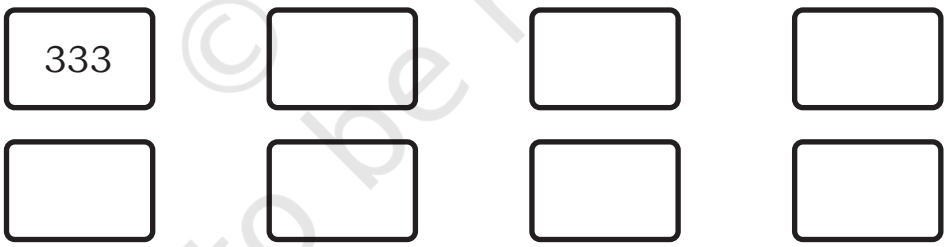
	325 people	
	508 people	

The time slot when the most number of people came for lunch is _____.

The time slot when the least number of people came for lunch is _____.

Let Us Do

1. (a) Make 3-digit numbers using the digits 3 and 7. Write the numbers in the boxes given below. Circle the smallest and cross out the largest.

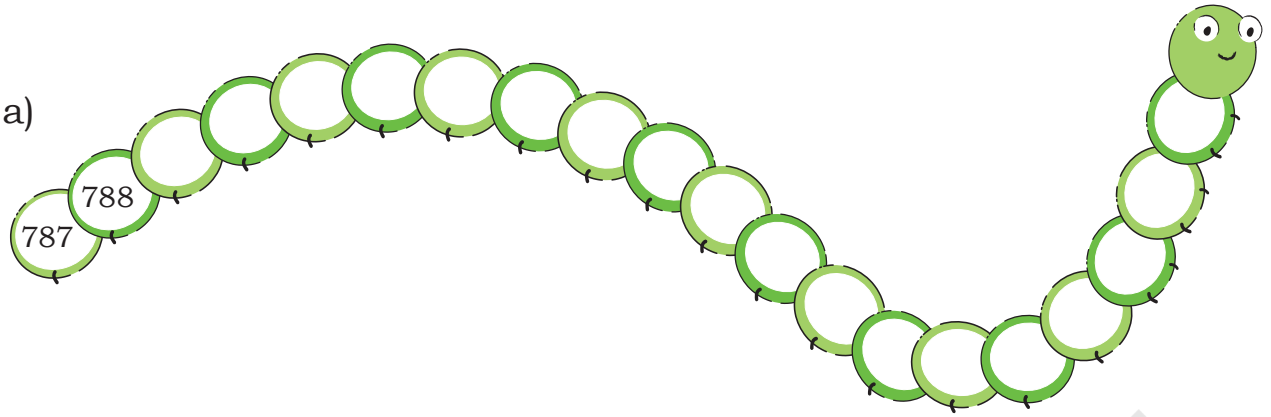


(b) Make six 3-digit numbers using the digits 3, 5, 0, 8 such that all numbers are less than 550. You can repeat the digits.

(c) Mark the numbers you made in 1(b) on the number line.

2. Fill in the blanks with appropriate numbers.

a)



b)

c)

d)

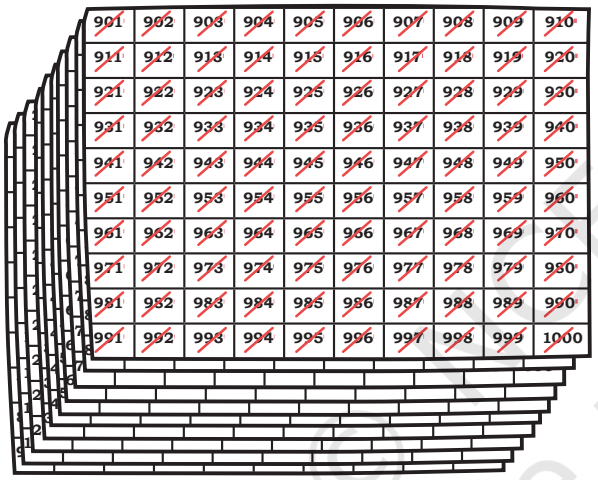
e)

As we have learnt in Grade 3, the Indian system of writing numbers, which we have been learning and practising in school to write and add and subtract numbers, was discovered in India around 2000 years ago, and is now used around the world. This system was designed so that we can write all numbers, no matter how large they are, using just the ten symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9.

Till now, we have learnt how to write all numbers from 1 to 999. Now let us explore how to write numbers one thousand and larger in the Indian number system!

You remember that Gulnaz and Jaspreet had kept track of the people who came for the community lunch.

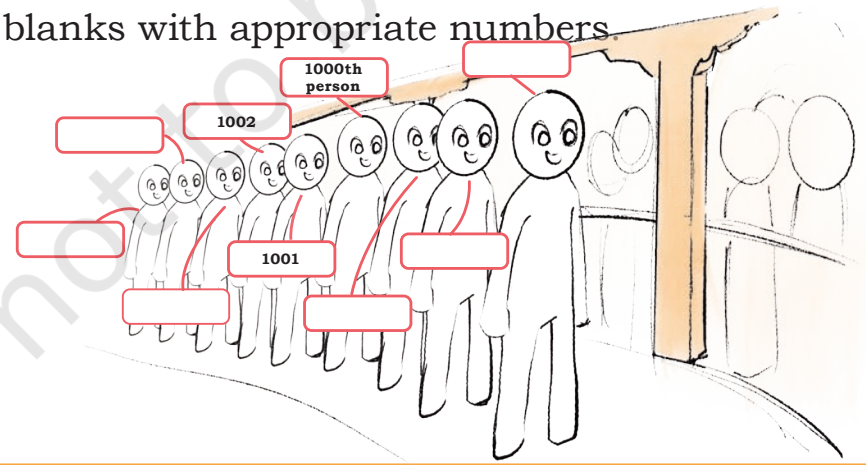
Let us see how they did it.



1001	1002	1003	1004	1005	1006	1007	1008	1009	1010
1011	1012	1013	1014	1015	1016	1017	1018	1019	1020
1021	1022	1023	1024	1025	1026	1027	1028	1029	1030
1031	1032	1033	1034	1035	1036	1037	1038	1039	1040
1041	1042	1043	1044	1045	1046	1047	1048	1049	1050
1051	1052	1053	1054	1055	1056	1057	1058	1059	1060
1061	1062	1063	1064	1065	1066	1067	1068	1069	1070
1071	1072	1073	1074	1075	1076	1077	1078	1079	1080
1081	1082	1083	1084	1085	1086	1087	1088	1089	1090
1091	1092	1093	1094	1095	1096	1097	1098	1099	1100

How many people came for the community lunch? _____

Fill in the blanks with appropriate numbers.



Note for Teachers: Let children notice how numbers beyond 1000 are written. Lead them to read these numbers and write the numbers.

3. Identify the range of numbers most suitable for the following situations. Share your thoughts.

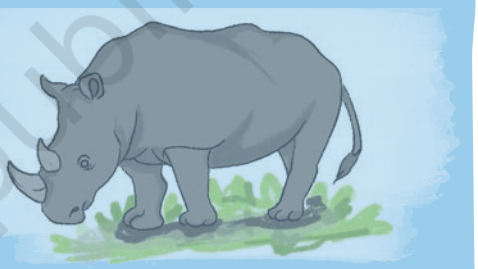
Number of children in your village	**Only 1**	Number of books in your classroom
Number of teachers in your school	**2 to 5**	Number of fingers in your classroom
Number of tables in your classroom	**10 to 50**	Number of leaves in a tree
Number of books in your library	**50 to 100**	Number of letters on this page
Number of leaves in a plant	**100 to 200**	Number of children in your school
Number of pages in your math textbook	**200 to 500**	Number of girls in your school
Number of ants in an anthill	**500 to 1000**	Number of steps to reach school
	More than 1000	

Identify things around you that are more than 1000 in number.

1000s AROUND US

The Thousand Pillars Temple, or Saavira Kambada Basadi, is the most famous among the 18 Jain temples in Moodubidiri town, Karnataka. Built in the 1500s by the local ruler Devaraya Wadiyar, each of its thousand pillars is decorated with unique rock carvings.

Did you know?



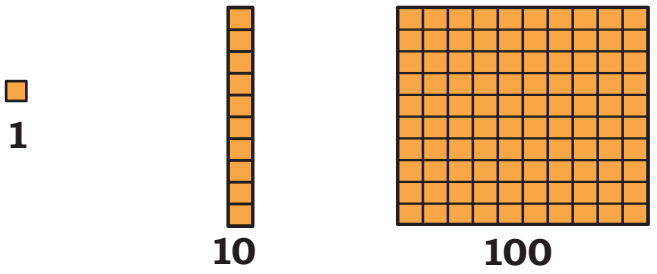
The Indian rhinoceros is found in the foothills of the Himalayas in Northeast India. Floods and medicinal value of their horns have led to a reduction in their population. In the early 1900s, their population was driven to near extinction with as little as 200 rhinoceroses. But with recent conservation measures, there are now around 4000 (four thousand) rhinoceroses.

My country

India is a country with a rich cultural heritage. It has 788 districts. These districts are divided into about six lakh villages, each with its own unique traditions and practices. India has over 7500 kilometres (Seven thousand five hundred) of coastline on three sides. Our country's history goes back over 5000 years (Five thousand), and we celebrate more than 1000 festivals.

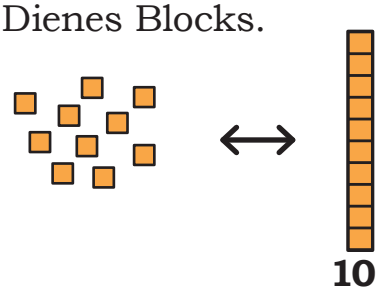
One Thousand (1000)

You have seen how to visualise one (1), ten (10) and one hundred (100) using Dienes Blocks.



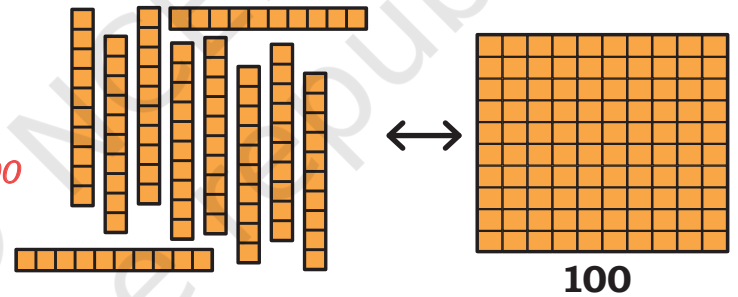
Let us now learn about one thousand (1000) using Dienes Blocks.

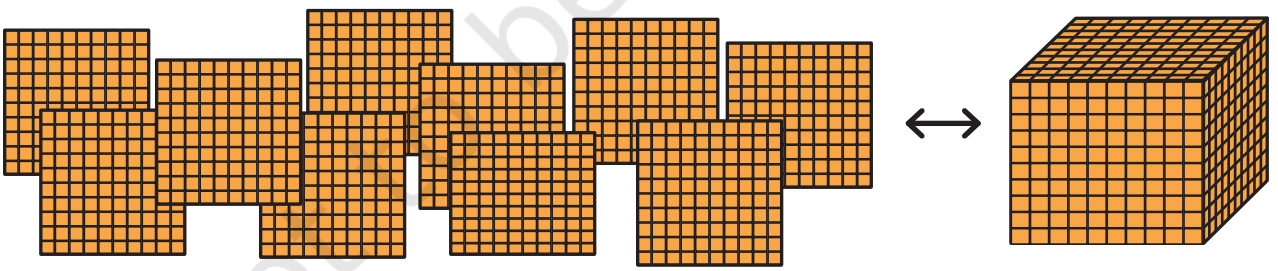
Counting is easy when we group in Tens



10 Ones = 1 Ten = 10

10 Tens = 1 Hundred = 100





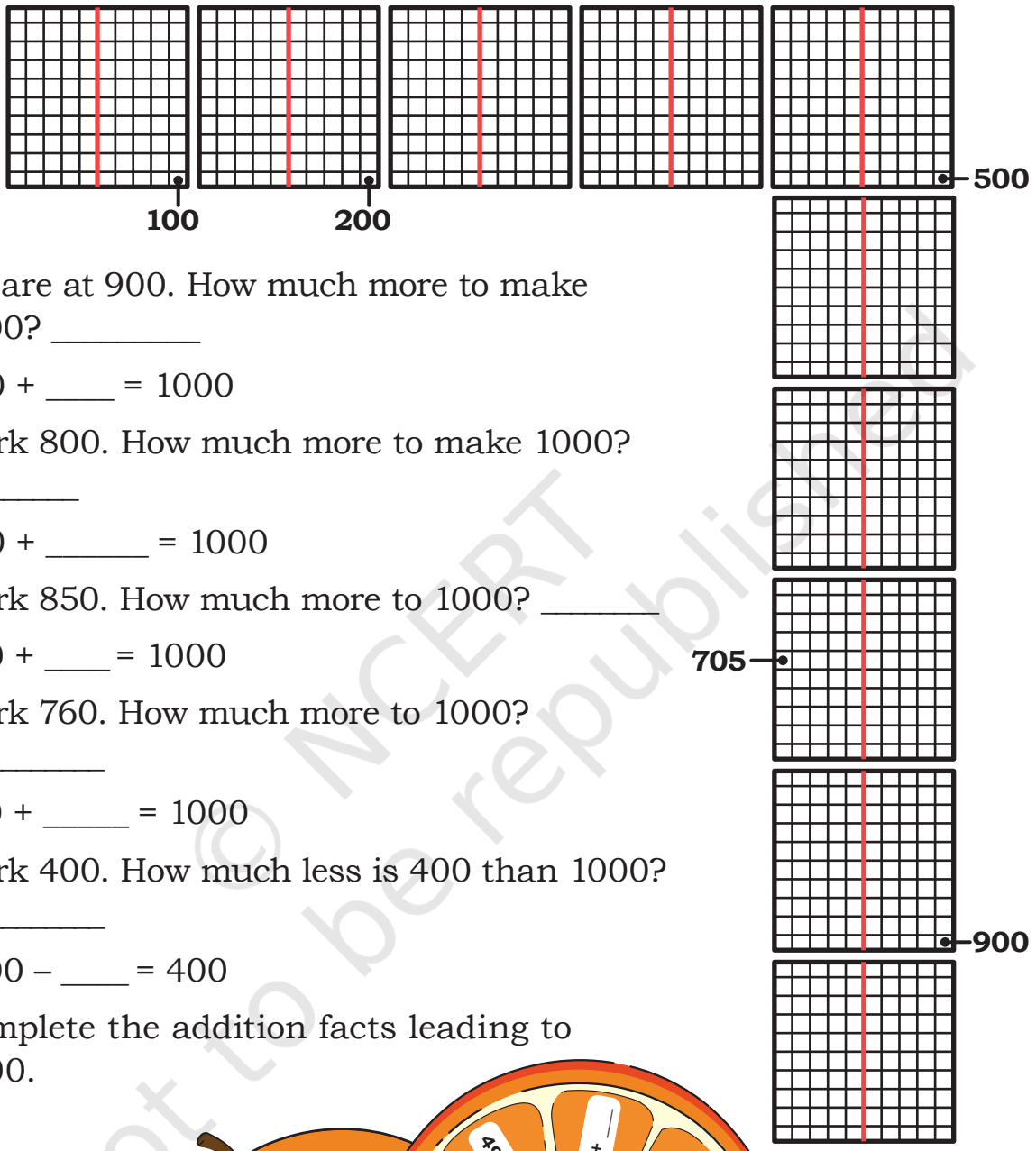
10 Hundreds = 1 Thousand = 1000

1000

Note for Teachers: Give learners the experience of grouping and regrouping in 1s, 10s, and 100s. The following pages have some examples of tasks to engage learners.

Zoltán Pál Dienes was a Hungarian mathematician and educator who developed Dienes blocks. These blocks represent different numerical values, and help students understand the idea of the Indian base-10 place value system of writing numbers and carrying out arithmetic operations on them.

Let Us Break Up One-Thousand



a) We are at 900. How much more to make 1000? _____

900 + ____ = 1000

b) Mark 800. How much more to make 1000?

_____

800 + _____ = 1000

c) Mark 850. How much more to 1000? _____

850 + ____ = 1000

d) Mark 760. How much more to 1000?

_____

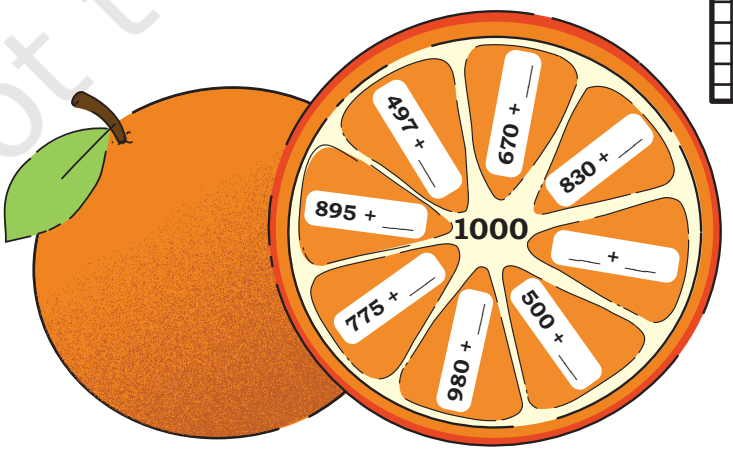
760 + _____ = 1000

e) Mark 400. How much less is 400 than 1000?

_____

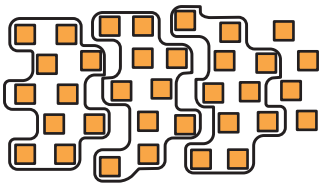
1000 – ____ = 400

f) Complete the addition facts leading to 1000.



Grouping and Regrouping

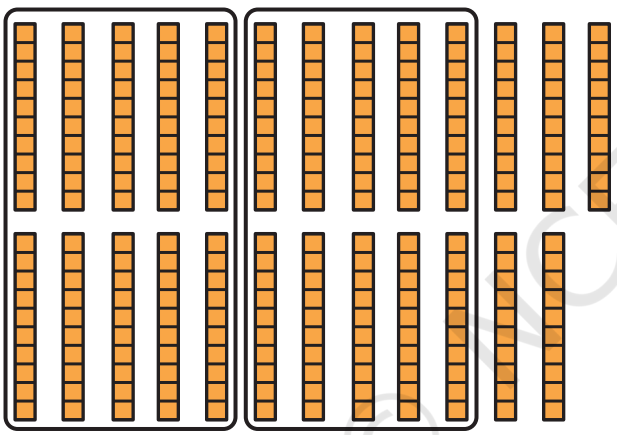
Look at the pictures below. Circle as many groups of 10 Ones or 10 Tens as possible. Write the final number against the following pictures.



30 + 4 = 34

3 Tens + 4 Ones

= 34

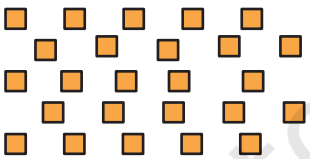


Notice that moving from right to left, digits of the number correspond to Ones, Tens, Hundreds.

200 + 50 = 250

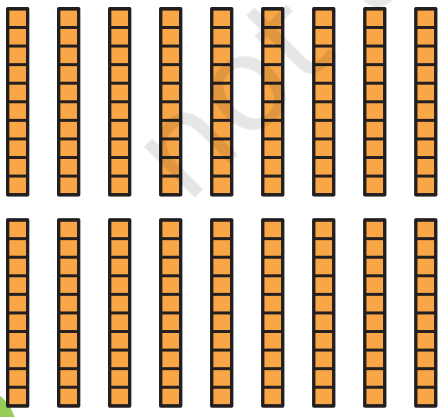
2 Hundreds + 5 Tens + 0 Ones

= 250



_____ + _____ = _____

____ Tens + ____ Ones = _____



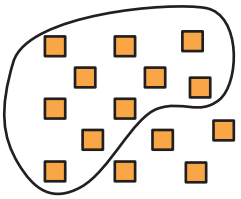
_____ + _____ = _____

_____ Hundreds + ____ Tens +

_____ Ones = _____

Circle groups of ten 1s, 10s, and 100s as many times as required in each of the following pictures. Fill in the empty boxes.

a)

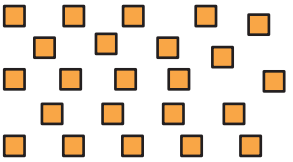


14 Ones

1 Ten + 4 Ones = 14

Tens	Ones
1	4
1 4	

b)

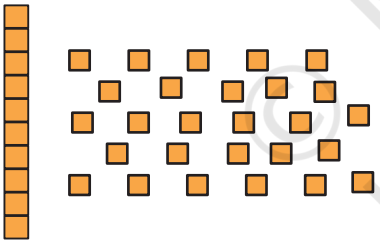


23 Ones

____ Tens + ____ Ones = _____

Tens	Ones

c)

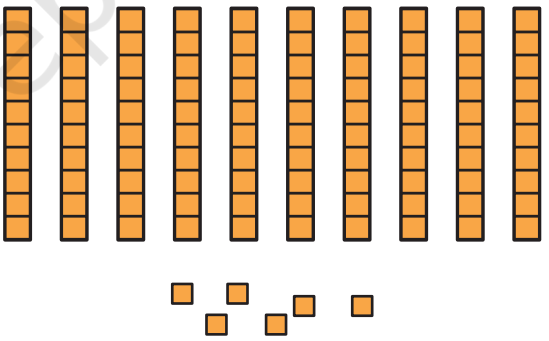


1 Ten and 27 Ones

____ Tens + ____ Ones = _____

Tens	Ones

d)

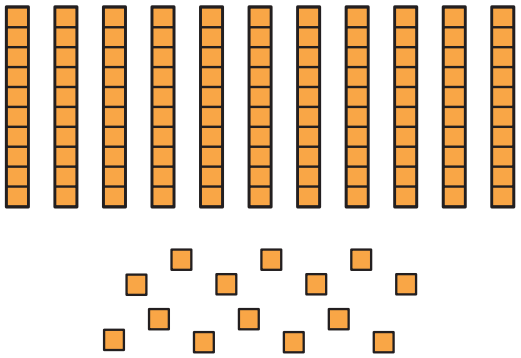


10 Tens and 6 Ones

__1__ Hundred + __0__ Tens + __6__ Ones = __106__

Hundreds	Tens	Ones
1	0	6
1 0 6		

e)

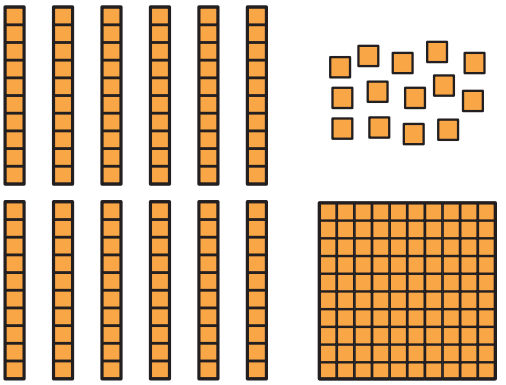


11 Tens and 14 Ones

_____ Hundred + _____ Tens + _____ Ones = _____

Hundreds	Tens	Ones

f)



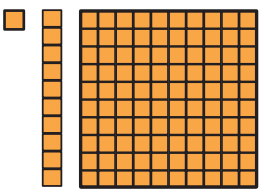
1 Hundred, 12 Tens and 14 Ones

_____ Hundreds + _____ Tens + _____ Ones = _____

Hundreds	Tens	Ones

Let Us Solve

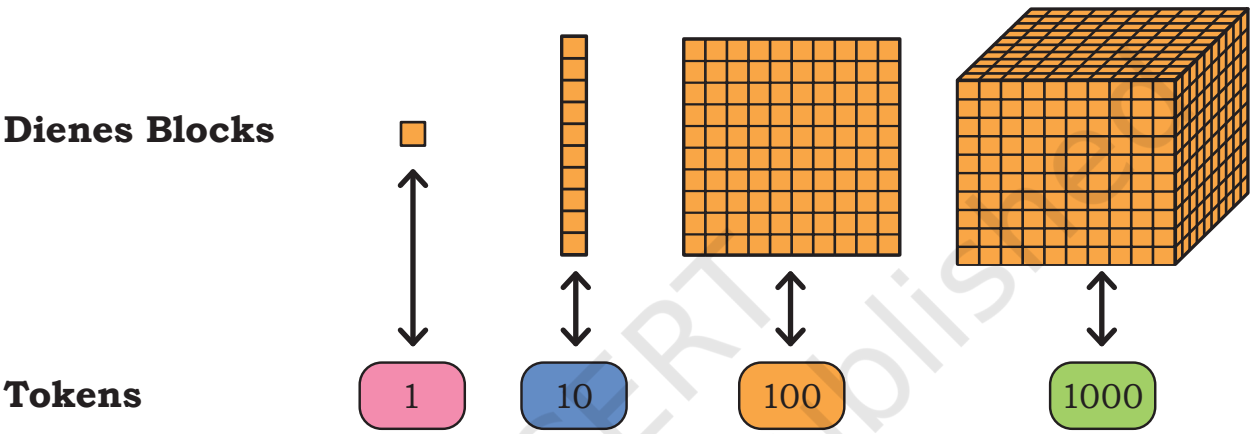
Identify and write the numbers for each of the following in your notebook. Draw pictures like these, if needed.



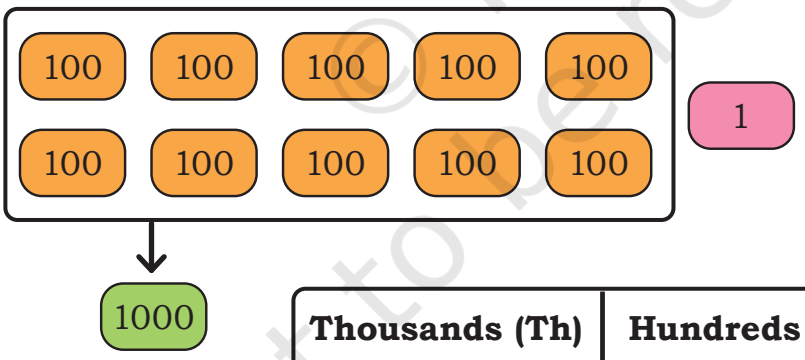
a) 45 Ones
b) 39 Ones
c) 35 Tens
d) 86 Tens
e) 10 Tens and 1 Ones
f) 15 Tens and 23 Ones
g) 34 Tens and 12 Ones
h) 19 Tens and 10 Ones
i) 2 Hundreds, 13 Tens and 7 Ones

Numbers Beyond 1000 (One Thousand)

Thousands	Hundreds	Tens	Ones
1	0	0	0
1000			



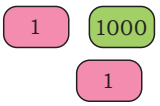
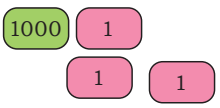
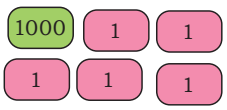
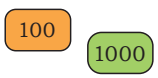
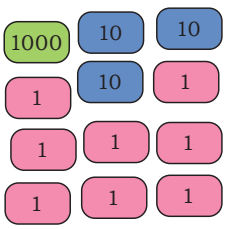
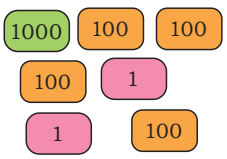
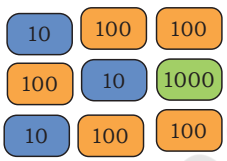
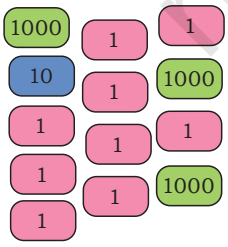
We will use tokens in place of Dienes blocks for larger numbers.



Thousands (Th)	Hundreds (H)	Tens (T)	Ones (O)
1	0	0	1
1001			
One thousand one			

1 Thousand + 0 Hundred + 0 Tens + 1 Ones = 1001

Look at the table below and fill in the blanks.

Tokens	Expanded Form	Th	H	T	O	Number	Number Name
	1000 + 1					1001	
						1002	
						1003	
		1	0	0	5		
							
	1000 + 100					1100	One Thousand One Hundred
						1038	
							
							
	3000 + 0 + 10 + 9						

Tokens	Expanded Form	Th	H	T	O	Number	Number Name
1000 100 100 10 1000 100 10 1000 10 100 100 1000 100 1 10 1000 1 1000 1 10 1 10 1 1							
1000 10 1000 10 10 1000 10 1000 10 10 1000 1000 10 10 1000 1000 10 1000							

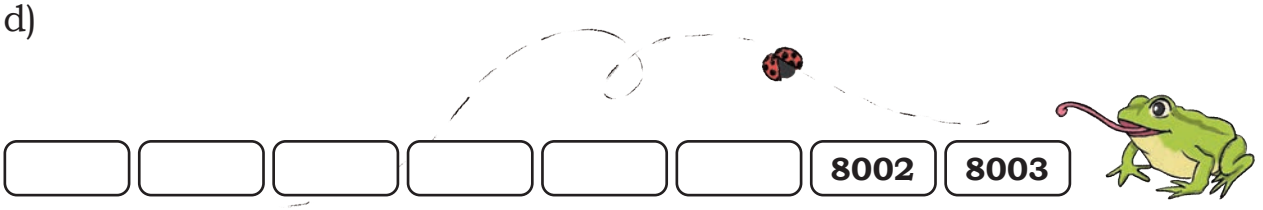
1. Write the numbers in a sequence—forward and backward as indicated.

a)

b)

c)

d)



Let Us Play

Make the place value slider. Children can take turns to increase or decrease the number as told.

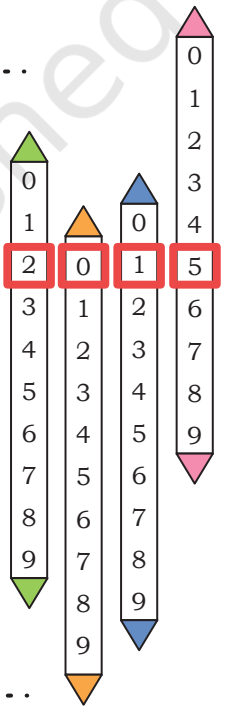
a) 1895—increase the number by 1

b) 2785—increase the number by 10

c) 3369—decrease the number by 2

d) 5648—decrease the number by 10

e) 6487—increase the number by 20



Let Us Think

1. Ram wrote 7 Thousand 0 Hundreds 2 Tens 4 Ones as 724.

   Is this correct? _____

   Write the correct number _____

2. Richa wrote 5 Thousand 6 Hundreds 0 Tens 3 Ones as 563.

   Is this correct? _____

   Write the correct number _____

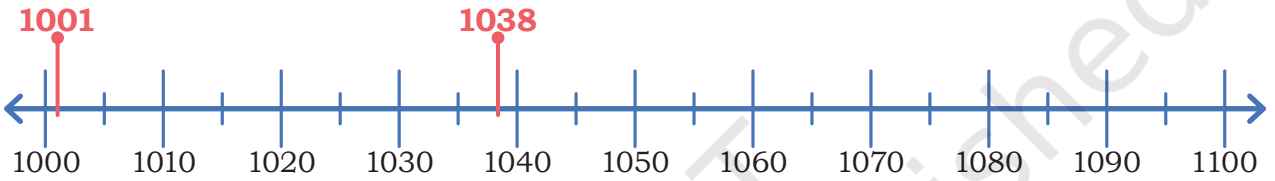
Number Line

1. Which of these numbers lie between 2226 and 3226? Circle the correct answers.

   3316 3236 2236 2216 3126 3216

2. Do as instructed.

   a) 1001 and 1038 are marked on the number line. Try to mark 1043, 1069, and 1084 on the same number line.



   b) Mark the following numbers on the number line below.

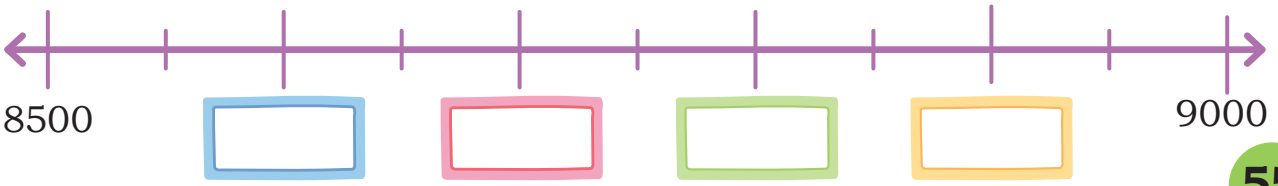
   2025, 2080, 2175, 2245, 2295, 2310, 2390, 2430, 2460

   c) Mark the following numbers on the number line below.

   5512, 5548, 5590, 5636, 5673, 5695

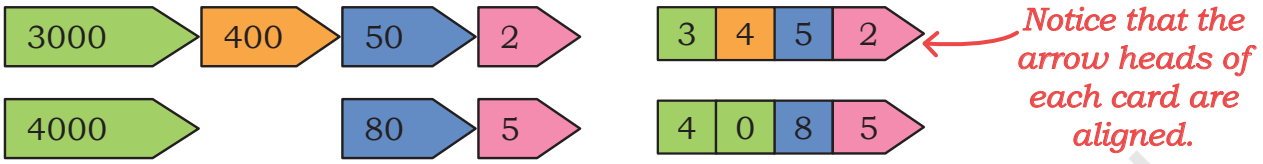
   d) Mark the following numbers on the number line below.

   8679, 8990, 8923, 8763



Let Us Play

Use the arrow cards (given at the end of the book) to make different numbers. Take turns giving a number for the grade to make using the arrow cards. Read aloud the number and express them in expanded form and in words.



3452 is made up of the cards 3000, 400, 50 and 2.

The expanded form of 3452 is 3000 + 400 + 50 + 2.

In words, 3452 is three thousand four hundred fifty two.

What cards are used to make 4085? Write it in expanded form and in words.

Find Me! Read aloud the numbers and locate them in the grid.

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

1. The number 3782.
2. Two thousand five hundred and seventy six.
3. A 4-digit number with all digits the same.
4. The smallest 4-digit number in this table.
5. The largest 4-digit number in this table.
6. A number more than 5000 and less than 5200.
7. A number between 5600 and 6300.
8. A 4-digit number all of whose digits can be found on a die.

Note for Teachers: Ensure that children use the appropriate cards and that the arrows of each card overlap. They should not pick up individual digits, but appropriate Thousands, Hundreds, Tens and Ones. Teacher to point out the place-holder use of '0' in writing numbers in the Indian place value system.

Let Us Solve

1. Use tokens of 1s, 10s, 100s, 1000s to identify the numbers and write them in the table.

   a) 6 Tens and 22 Ones
   b) 4 Tens and 12 Ones
   c) 3 Hundreds, 14 Tens, and 8 Ones
   d) 12 Hundreds, 18 Tens, and 2 Ones
   e) 1 Thousand, 5 Hundreds, 10 Tens, and 17 Ones

	Th	H	T	O	Number
a	0	0	8	2	82
b					
c					
d					
e					

2A. Circle the number that is bigger.

30 or 300
6000 or 600
6000 or 3000

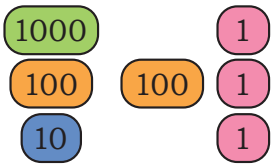
2B. Circle the number that is smaller.

2 Ones or 2 Hundreds
5 Tens or 2 Thousands
7 Tens or 4 Hundreds

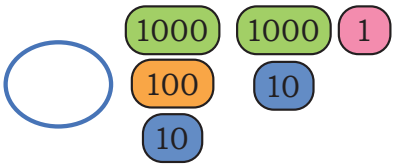
Note for Teachers: (1) Draw attention of children to the use of only ten digits 0–9 for writing all numbers, however large. Also, draw their attention to the order in which we read and write—first Thousand, then Hundred, then Tens, and finally Ones. (2A&2B). This exercise is to check that students understand the importance of units. 2 Hundreds is always more than 2 Tens or 2 Hundreds is more than 9 Tens.

COMPARING NUMBERS

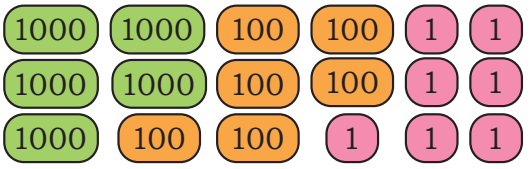
Jaspreet and Gulnaz help to keep a record of the number of plates used in the Gurudwara every month. Use the signs <and> to find the month when a larger number of plates were used.



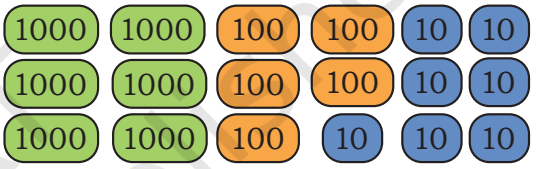
February: 1213



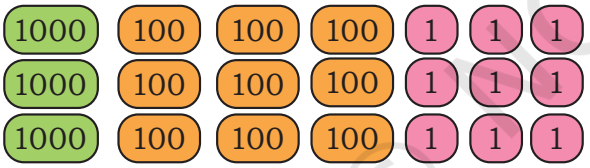
March: 2121



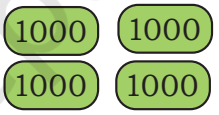
September: _____



October: _____



November: _____



December: _____

Compare the numbers using the signs <and>.

Why is 3102 bigger than 3012?

3012			
Th	H	T	O
3	0	1	2

3102			
Th	H	T	O
3	1	0	2

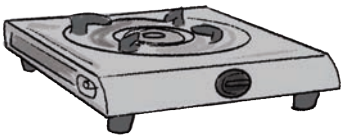
Describe how you decided which number is the bigger one. Which position (Th, H, T, O) helped you to decide this?

Let Us Do

1. Compare the following pairs of numbers using < and >. Make a Th, H, T, O table, if necessary. Share your thoughts with the class.

a)	2190		2910	c) 1009		9001
b)	7087		7088	d) 982		1024

2. Order the prices of the following objects from smallest to biggest (increasing order).



₹ 1986

₹ 1099

₹ 1899

[ ] < [ ] < [ ]

3. The following women international cricketers have played 200 ODIs (One-Day International Matches). Listed below are their scores. Arrange the runs scored by them in increasing order (from lowest to highest).

Debbie Hockley	4064
Suzie Bates	5114
Karen Rolton	4814
Mithali Raj	7805
Charlotte	6002

4. Arrange the following mountain ranges in decreasing order of height (from highest to lowest).

Mountain Range	Height (in meters)
Kangchenjunga	8586
Mullayanagiri	1930
Chaukhamba I	7138
Bailadila Range	1276
Nanda Devi	7816
K2	8611
Kalsubai	1646

5. Use the signs <, =, > to compare the following.

a) 2 Tens + 4 Thousands + 3 Hundreds ◯ 2043

b) 2 Tens + 4 Thousands + 3 Hundreds ◯ 4320

c) 2 Thousands + 9 Hundreds + 9 Tens + 9 Ones ◯ 3000

d) 15 Ones + 9 Tens + 3 Hundreds ◯ 1593

e) 5000 + 30 + 4 ◯ 5034

f) 5000 + 300 + 4 ◯ 5340

6. Fill the blanks with digits 0–9 such that the numbers meet the condition.

a) 7__3 < 768__ b) 853__ < 8__3__

c) __2__1 < 5__2__

CHALLENGE!

There are 99 numbers strictly between 700 and 800 excluding 700 and 800. How many numbers are there strictly between 7000 and 8000?

Circle the correct answer:

900 999 1000

Let Us Explore

1. Make as many four-digit numbers as possible using the digits 2, 3, 4, 7 without repetition. There are 24 different numbers possible. Find as many as you can and arrange the numbers in decreasing order in your notebook.
2. Compare with your friends to find what other numbers they have made. See if all of you together can come up with all the 24 numbers. How do you know that you have all possible such numbers?