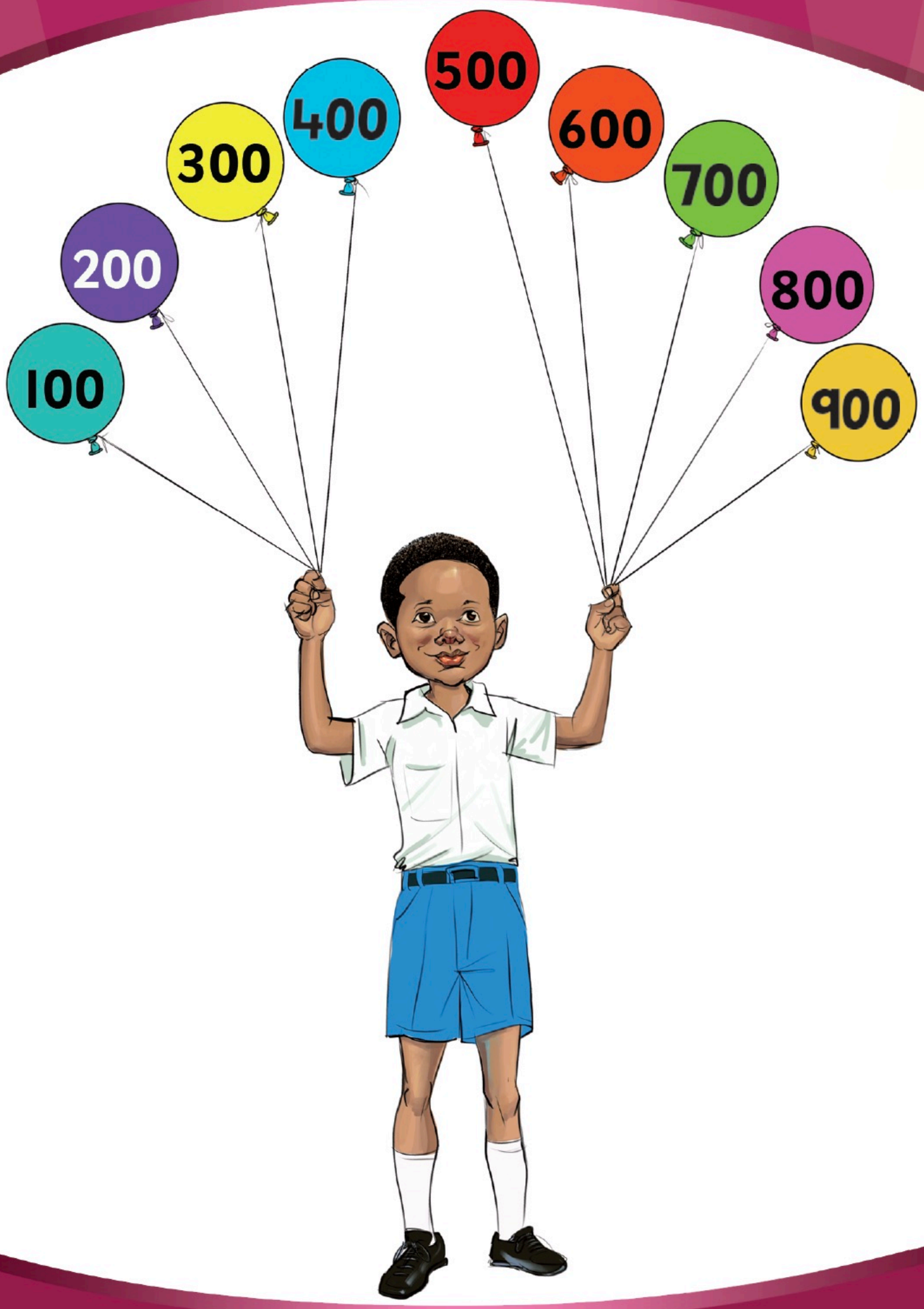
Arithmetic

Standard Two

Pupil's Book



Tanzania Institute of Education

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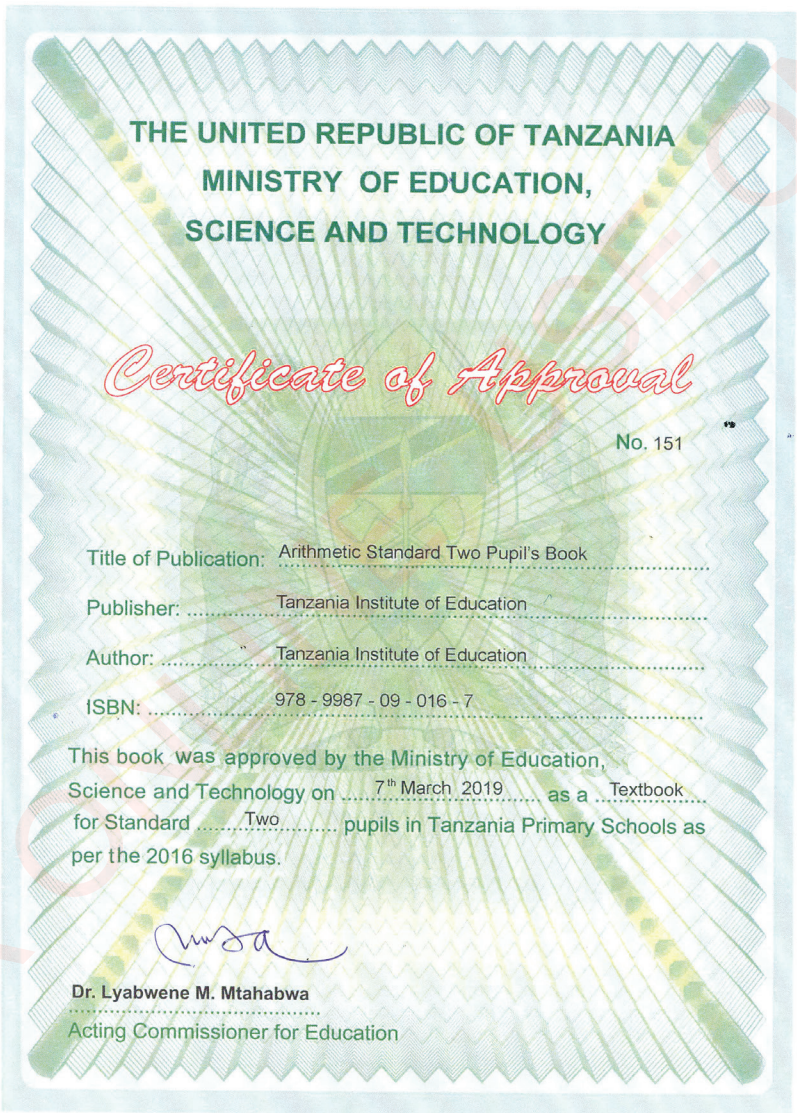

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Dr Aneth A. Komba
Director General
Tanzania Institute of Education

Introduction

This is the second book in a series of two books for Arithmetic in Primary Schools. In Standard One, you learnt some arithmetic such as counting, reading and writing. This book enables you further to learn about numeracy and its application to real life situations. The book contains several examples, activities and exercises. These will help you to understand the concepts learnt. You are advised to read the instructions and do all exercises. When you experience difficulties, you are encouraged to ask for help from friends, teachers and parents or guardians.

Chapter One

Revision exercises

Exercise 1

Write the following numbers in words.

	Number	In words		Number	In words
1.	59		7.	30	
2.	95		8.	27	
3.	89		9.	16	
4.	99		10.	75	
5.	72		11.	43	
6.	0		12.	61	

Exercise 2

Write the following numbers in numerals.

1.	Thirty-five	_____	7.	Seventy-one	_____
2.	Zero	_____	8.	Fifty-two	_____
3.	Eleven	_____	9.	Eighty	_____
4.	Forty-five	_____	10.	Twenty-five	_____
5.	Sixty-eight	_____	11.	Fifty	_____
6.	Ninety-nine	_____	12.	Forty-nine	_____

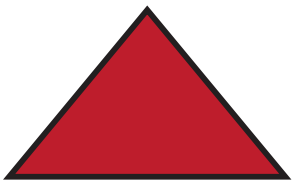
Exercise 3

Answer the following questions.

1.	36 + 45 =		9.	33 + 25 =	
2.	86 − 45 =		10.	92 − 52 =	
3.	18 + 9 =		11.	20 + 45 =	
4.	49 + 28 =		12.	18 − 6 =	
5.	45 + 45 =		13.	42 + 39 =	
6.	99 − 58 =		14.	89 − 48 =	
7.	23 + 42 =		15.	45 − 15 =	
8.	69 − 35 =				

Exercise 4

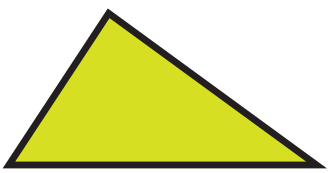
Name the shapes in questions 1, 2, 3, 4 and 5.

1. 

2. 

3. 

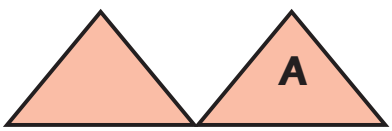
4. 

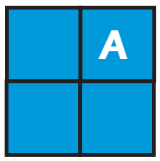
5. 

Name the fractions of the region labelled A in questions 6, 7, 8, 9, 10 and 11.

6. 

7. 

8. 

9. 

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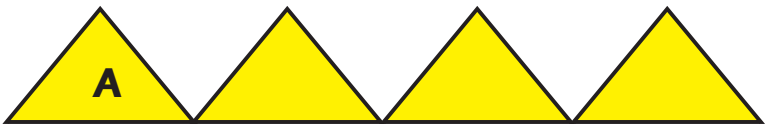
11. 

Exercise 5

Answer the following questions.

1.	26 + 12	7.	30 + 60	13.	26 + 23
2.	44 + 35	8.	28 − 7	14.	72 − 30
3.	20 + 4	9.	88 − 1	15.	56 + 22
4.	63 + 12	10.	99 − 19	16.	50 + 46
5.	8 + 3	11.	9 − 5	17.	8 − 5
6.	33 + 21	12.	54 − 11	18.	32 − 21

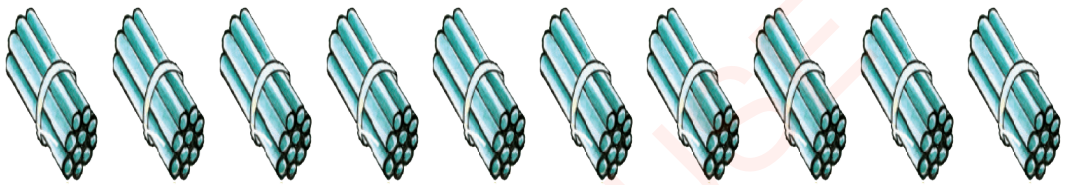
Chapter Two

Recognizing the number 100

In Standard One you learned numbers up to 99. In this Chapter you will learn the number 100. You will add and subtract numbers which do not exceed 100.

Counting 100 objects

Count 10 bundles which have 10 objects each.
The sum of all the objects is one hundred in words, or 100 in numeral.



10	Ten	100	One hundred
10 bundles of ten objects each = one hundred objects			

Exercise 1

Write the missing numbers in the blank spaces of the table below.

60	70	80	90	
96	97	98	99	
	99	98	97	96
	90	80	70	60

Exercise 2

Circle the number 100 in the table below.

10	99	100	36	66
75	95	45	15	100
80	20	90	100	60
52	100	93	37	100

Adding numbers horizontally to get 100

Example 1

20 + 80 =

Solution

Tens	Ones		Tens	Ones		Hundreds	Tens	Ones
2	0	+	8	0	=	1	0	0

Steps

1. Add ones, 0 + 0 = 0. Write 0 in the ones place.

Tens	Ones		Tens	Ones		Hundreds	Tens	Ones
2	0	+	8	0	=			0

2. Add tens, $2 + 8 = 10$. This means 10 tens equals to 1 hundreds and 0 tens.
Write 0 in the tens place and 1 in the hundreds place.

Tens	Ones		Tens	Ones		Hundreds	Tens	Ones
2	0	+	8	0	=	1	0	0

Therefore, the answer is 100.

Example 2

$37 + 63 =$

Solution

Tens	Ones		Tens	Ones		Hundreds	Tens	Ones
3	7	+	6	3	=	1	0	0

Steps

1. Add the digits in the ones place, $7 + 3 = 10$. Write 0 in the ones place and write 1 in the tens place.

Tens	Ones		Tens	Ones		Hundreds	Tens	Ones
1								
3	7	+	6	3	=			0

2. Add the tens, 1 + 3 + 6 = 10. This means 10 tens equals to 1 hundreds and 0 tens. Write 0 in the tens place and 1 in the hundreds place.

Tens	Ones		Tens	One		Hundreds	Tens	Ones
1								
3	7	+	6	3	=	1	0	0

Therefore, the answer is 100.

Exercise 3

Answer the following addition questions.

1.	10 + 90 =	**10.**	60 + 40 =
2.	70 + 30 =	**11.**	50 + 50 =
3.	100 + 0 =	**12.**	55 + 45 =
4.	60 + 40 =	**13.**	25 + 75 =
5.	85 + 15 =	**14.**	26 + 74 =
6.	29 + 71 =	**15.**	14 + 86 =
7.	46 + 54 =	**16.**	52 + 48 =
8.	65 + 35 =	**17.**	58 + 42 =
9.	47 + 53 =	**18.**	33 + 67 =

Adding numbers vertically to obtain a sum not exceeding 100

Example 1

$$\begin{array}{r} 5\ 0 \\ +\ 5\ 0 \\ \hline \\ \hline \end{array}$$

Solution

	Hundreds	Tens	Ones
		5	0
+		5	0
	1	0	0

Steps

1. Add ones, 0 + 0 = 0.
Write 0 in the ones place.

	Tens	Ones
	5	0
+	5	0
		0

2. Add tens, 5 + 5 = 10. This means, 10 tens equals to 1 hundreds and 0 tens. Write 0 in the tens place and 1 in the hundreds place.

	Hundreds	Tens	Ones
		5	0
+		5	0
	1	0	0

Therefore, the answer is 100.

Example 2

$$\begin{array}{r} 3\ 4 \\ +\ 4\ 6 \\ \hline \\ \hline \end{array}$$

Solution

	Tens	Ones
	1	
	3	4
+	4	6
	8	0

Steps

1. Add the ones, 4 + 6 = 10.
Write 0 in the ones place and write 1 in the tens place.

	Tens	Ones
	1	
	3	4
+	4	6
		0

2. Add groups of tens, 1 + 3 + 4 = 8.
Write 8 in the tens place.

	Tens	Ones
	1	
	3	4
+	4	6
	8	0

Therefore, the answer is 80.

Exercise 4

Answer the following addition questions.

1.	90 + 10 =	8.	30 + 10 =	15.	70 + 20 =
2.	40 + 50 =	9.	80 + 20 =	16.	82 + 13 =
3.	65 + 35 =	10.	79 + 11 =	17.	85 + 15 =
4.	44 + 56 =	11.	10 + 90 =	18.	25 + 75 =
5.	63 + 27 =	12.	15 + 81 =	19.	42 + 35 =
6.	80 + 18 =	13.	54 + 46 =	20.	36 + 63 =
7.	58 + 42 =	14.	49 + 31 =	21.	44 + 33 =

Horizontal subtraction of numbers not exceeding 100

Example 1

100 – 20 =

Solution

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
1	0	0	–	2	0	=	8	0

Steps

1. Subtract the ones, 0 – 0 = 0. Write 0 in the ones place.

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
1	0	0	–	2	0	=		0

2. Subtract the tens, 0 – 2 =

2 can not be subtracted from 0.

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
1	0	0	–	2	0	=		0

3. Take 1 hundreds from the hundreds place and change it to tens to get 10 tens. Write 10 in the tens place and 0 in the hundreds place.

Hundreds	Tens	ones		Tens	Ones		Tens	Ones
0	10							
~~1~~	~~0~~	0	–	2	0	=		0

4. Subtract the tens,

10 – 2 = 8. Write 8 in the tens place.

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
0	10							
~~1~~	~~0~~	0	–	2	0	=	8	0

Therefore, the answer is 80.

Example 2

100 – 47 =

Solution

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
1	0	0	–	4	7	=	5	3

Steps

1. Subtract the ones,
0 -7 =

7 can not be subracted from 0.

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
1	0	0	–	4	7	=		

2. Try to take 1 tens from the tens place. However, the tens place has 0 tens so it is impossible. Take 1 hundreds from the hundreds place and change it to tens to get 10 tens. There are 0 hundreds remaining. Cross out the 1 in hundreds place and write 0, and cross out the 0 in the tens place and write 10.

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
0	10							
~~1~~	~~0~~	0	–	4	7	=		

3. Take 1 tens from the 10 tens and change to 10 ones. There 9 tens remaining. Cross out the 10 in the tens place and write 9, and cross out the 0 in the ones place and write 10.

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
	9	10						
0	~~10~~							
~~1~~	~~0~~	~~0~~	–	4	7	=		

4. Subtract the Ones, 10 - 7 = 3. Write 3 in the ones place.

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
	9	10						
0	~~1~~0							
~~1~~	~~0~~	~~0~~	–	4	7	=		3

5. Subtract the tens, 9 - 4 = 5. Write 5 in the tens place.

Hundreds	Tens	Ones		Tens	Ones		Tens	Ones
	9	10						
0	~~1~~0							
~~1~~	~~0~~	~~0~~	–	4	7	=	5	3

Therefore, the answer is 53.

Exercise 5

Subtract the numbers in the following questions.

1.	100 – 80 =		**5.**	100 – 30 =	
2.	100 – 50 =		**6.**	100 – 90 =	
3.	100 – 60 =		**7.**	100 – 10 =	
4.	100 – 40 =		**8.**	100 – 70 =	

9.	100 – 100 =	**15.**	100 – 0 =
10.	100 – 25 =	**16.**	100 – 95 =
11.	100 – 45 =	**17.**	100 – 66 =
12.	100 – 21 =	**18.**	100 – 12 =
13.	100 – 56 =	**19.**	100 – 99 =
14.	100 – 29 =	**20.**	100 – 34 =

Vertical subtraction of numbers not exceeding 100

Example

$$\begin{array}{r} 100 \\ -\ 56 \\ \hline \\ \hline \end{array}$$

Solution

	Hundreds	Tens	Ones
	1	0	0
–		5	6
		4	4

Steps

1. Subtract the ones, 0 – 6 =
6 can not be subtracted from 0.

	Hundreds	Tens	Ones
	1	0	0
–		5	6

2. Try to take 1 tens from the 0 tens, 0 - 1. However, 1 can not be subtracted from 0.

	Hundreds	Tens	Ones
	1	0	0
–		5	6

3. Take 1 hundreds from the hundreds place, change it to tens to get 10 tens. Hundreds become 0 hundreds and the tens become 10 tens. Write 10 in the tens place and 0 in the hundreds place.

	Hundreds	Tens	ones
	0	10	
	~~1~~	0	0
–		5	6

4. Take 1 tens from 10 tens and change it to 10 ones. Place 10 ones in the ones place. The tens become 9 tens. Write 9 in the tens place.

	Hundreds	Tens	Ones
	0	9	10
	0	~~10~~	
	~~1~~	~~0~~	~~0~~
−		5	6

5. Subtract the ones, 10 − 6 = 4. Write 4 in the ones place.

	Hundreds	Tens	Ones
	0	9	10
	0	~~10~~	
	~~1~~	~~0~~	~~0~~
−		5	6
			4

6. Subtract the tens, 9 − 5 = 4. Write 4 in the tens place.

	Hundreds	Tens	Ones
	0	9	10
	0	~~10~~	
	~~1~~	~~0~~	~~0~~
−		5	6
		4	4

Therefore, the answer is 44.

Exercise 6

Answer the following subtraction questions.

1.	100 − 10 =	8.	100 − 90 =	15.	100 − 34 =
2.	100 − 30 =	9.	100 − 70 =	16.	100 − 98 =
3.	100 − 80 =	10.	100 − 55 =	17.	100 − 88 =
4.	100 − 20 =	11.	100 − 100 =	18.	100 − 5 =
5.	100 − 60 =	12.	100 − 0 =	19.	100 − 41 =
6.	100 − 42 =	13.	100 − 12 =	20.	100 − 19 =
7.	100 − 71 =	14.	100 − 49 =	21.	100 − 37 =

Chapter Three

Counting, reading and writing numbers from 101 to 999

Sing this Song

Who has my lost bag?
Let us count numbers
One hundred and one, one hundred and two
One hundred and three, one hundred and four
One hundred and five
Who has my lost bag? x 2.

Let us count numbers
One hundred and six, one hundred and seven
One hundred and eight, one hundred and nine
One hundred and ten
Who has my lost bag? x 2.

Let us count numbers
One hundred and eleven
One hundred and twelve
One hundred and thirteen
One hundred and fourteen
One hundred and fifteen.

Exercise 1

Write all the numbers mentioned in the song above in numerals.

Reading numbers from 101 to 200

1. Read all the numbers from 101 to 150 in the Table below.

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150

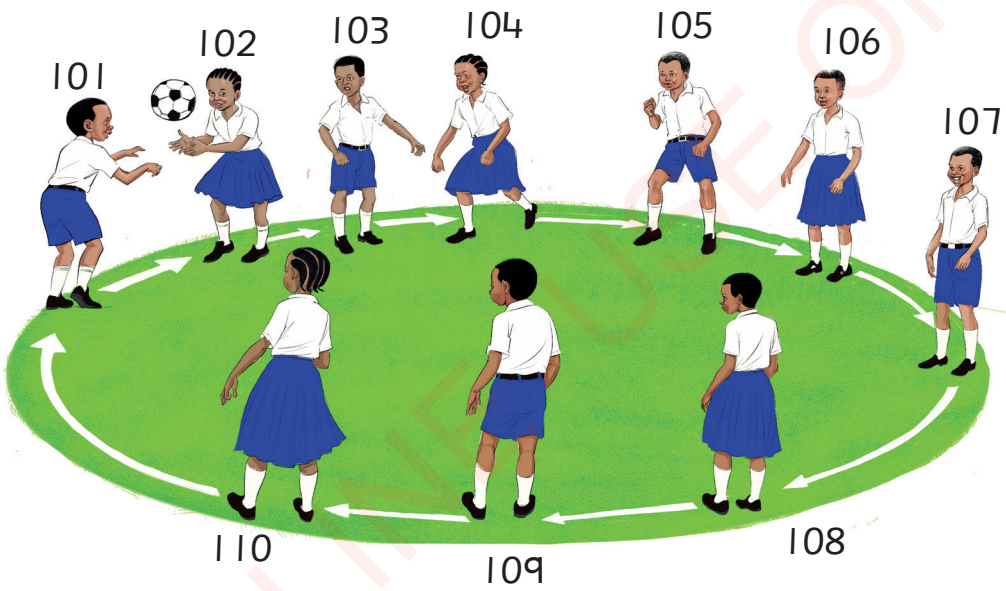
2. Read all the numbers from 151 to 200 in the Table below.

151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Activity 1

Let us play a counting game

Stand in a circle at reasonable distances apart. The first personal should throw a ball and say 101. The person who catches the ball should say 102 when they throw it. The game goes on like that until everyone is involved. This game is played by ten pupils standing in a circle.



Exercise 2

Write all the mentioned numbers in words.

Reading numbers from 201 to 500

1. Read all the numbers from 201 to 300 in the table below.

201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290
291	292	293	294	295	296	297	298	299	300

2. Read all numbers from 301 to 400 in the table below.

301	302	303	304	305	306	307	308	309	310
311	312	313	314	315	316	317	318	319	320
321	322	323	324	325	326	327	328	329	330
331	332	333	334	335	336	337	338	339	340
341	342	343	344	345	346	347	348	349	350
351	352	353	354	355	356	357	358	359	360
361	362	363	364	365	366	367	368	369	370
371	372	373	374	375	376	377	378	379	380
381	382	383	384	385	386	387	388	389	390
391	392	393	394	395	396	397	398	399	400

3. Read all numbers from 401 to 500 in the table below.

401	402	403	404	405	406	407	408	409	410
411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430
431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450
451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470
471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490
491	492	493	494	495	496	497	498	499	500

Exercise 3

Write the following numbers in words.

1. 100 _____
2. 201 _____
3. 301 _____
4. 401 _____
5. 302 _____
6. 402 _____
7. 307 _____
8. 300 _____
9. 500 _____
10. 109 _____
11. 112 _____
12. 220 _____
13. 213 _____
14. 204 _____
15. 306 _____
16. 140 _____
17. 320 _____
18. 114 _____
19. 240 _____
20. 155 _____
21. 130 _____
22. 310 _____
23. 221 _____
24. 108 _____
25. 188 _____

Exercise 4

Write the following numbers in numerals.

1. One hundred and two _____
2. Two hundred and five _____
3. Five hundred _____
4. Four hundred and twenty-seven _____
5. Three hundred and three _____
6. Two hundred and twenty _____
7. One hundred and fifteen _____
8. Four hundred and ninety _____

9. One hundred and nine _____
10. Three hundred and thirty _____
11. Two hundred and twenty-two _____
12. One hundred and one _____
13. Three hundred _____
14. Four hundred and one _____
15. Two hundred and twenty-five _____

Exercise 5

Fill in the missing numbers in the following questions.

1. 263, 264, _____, 266, _____
2. 109, 110, 111 _____, _____
3. 346, 347, _____, _____, 350
4. 488, 489, 490, _____, _____
5. _____, _____ 203, 204, 205

Write the next number in the following questions.

1. 409 _____
2. 467 _____
3. 259 _____
4. 199 _____
5. 206 _____
6. 419 _____
7. 350 _____
8. 262 _____
9. 319 _____
10. 375 _____

Write the number in between in the following questions.

1. 198, _____, 200
2. 449, _____, 451
3. 222, _____, 224
4. 378, _____, 380
5. 201, _____, 203
6. 113, _____, 315

Write the number before.

Examples

331, 332

405, 406

Exercise 6

Write the number before in the following questions.

1. _____, 159
2. _____, 313
3. _____, 400
4. _____, 210
5. _____, 355
6. _____, 407
7. _____, 333
8. _____, 179
9. _____, 164
10. _____, 220

Ascending order

An ascending order is an arrangement of numbers from smallest to largest.

Example

You can arrange the following numbers in ascending order, as shown below.

Mixed numbers	107	103	109	106	101
Arranged numbers	101	103	106	107	109

Exercise 7

Arrange the following numbers in ascending order.

1. 245 237 220 253 212
   ____ ____ ____ ____ ____

2. 483 464 433 344 423
   ____ ____ ____ ____ ____

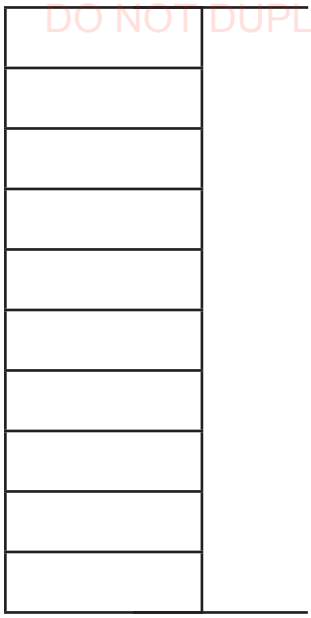
3. 377 368 381 399 309
   ____ ____ ____ ____ ____

4. 189 164 199 177 130
   ____ ____ ____ ____ ____

Exercise 8

Arrange the following numbers in ascending order.

240	301	499	311	450
100	260	338	399	488



Descending order

A descending order is an arrangement of numbers from largest to smallest.

Example

You can arrange the following numbers in descending order, as shown below.

146	113	169	188	199
199	188	169	146	113

Exercise 9

Arrange the following numbers in descending order.

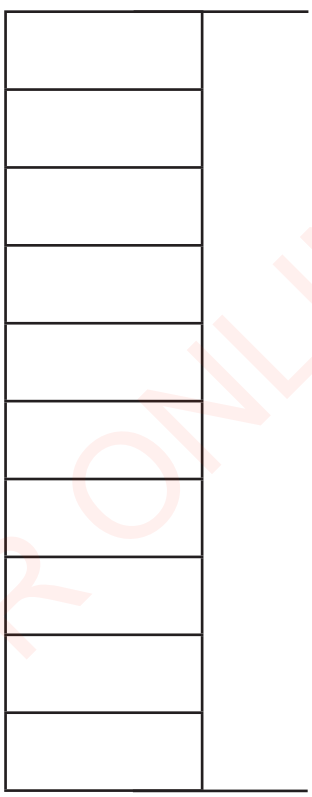
1.	388	366	378	333	306
	____	____	____	____	____
2.	159	138	127	118	144
	____	____	____	____	____

3.	449	471	431	421	414
	____	____	____	____	____
4.	266	269	278	297	225
	____	____	____	____	____
5.	325	354	312	376	310
	____	____	____	____	____

Exercise 10

Arrange the following numbers in descending order.

230	313	180	455	290
129	440	310	500	282

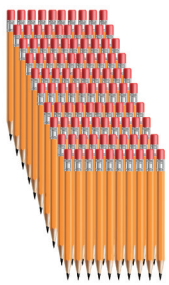
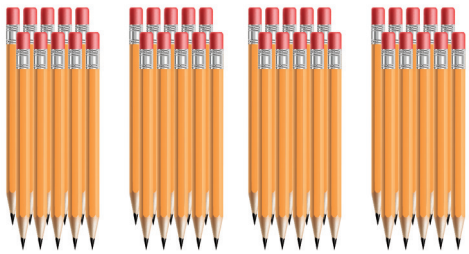
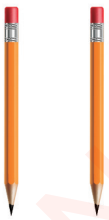


Largest

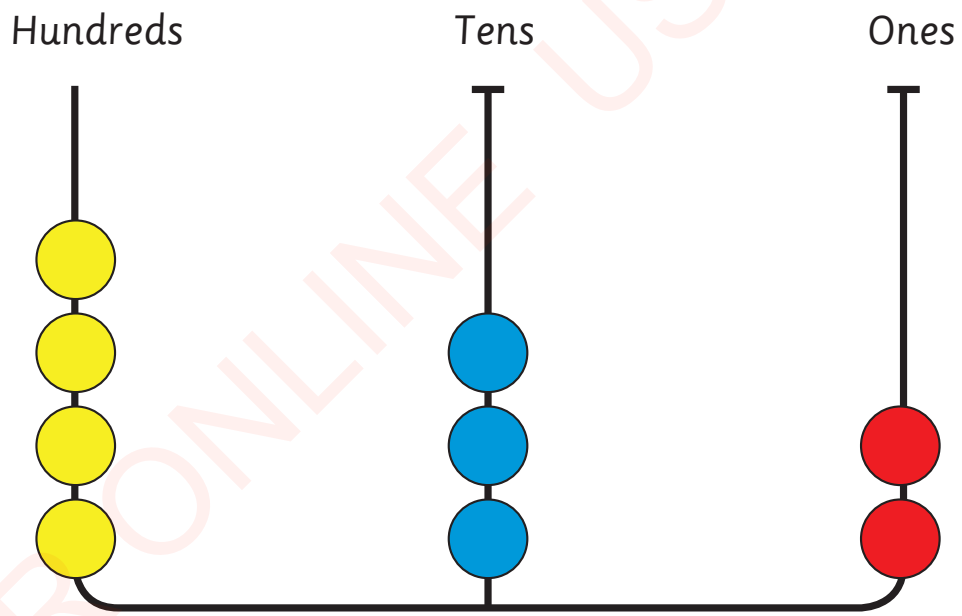
Smallest

Counting things or objects

Counting ones, tens and hundreds

Hundreds	Tens	Ones
		
One hundreds	Four tens	Two ones

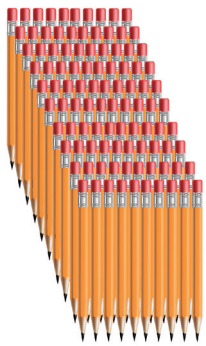
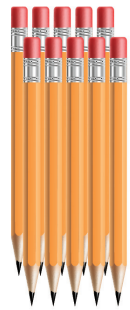
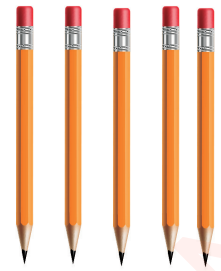
Example 1



Four hundreds Three tens Two ones

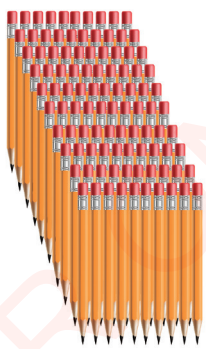
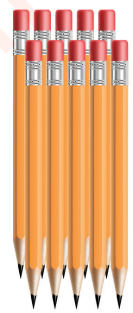
Example 2

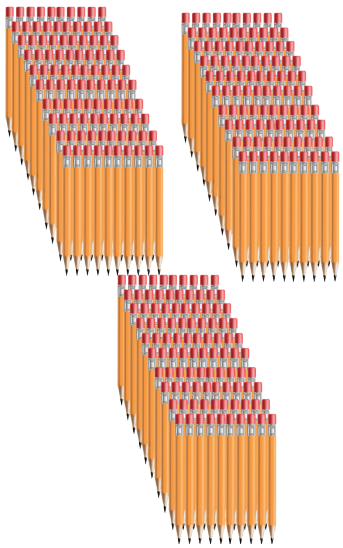
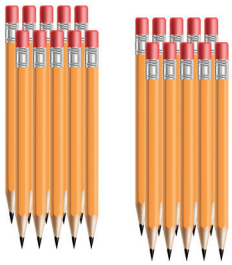
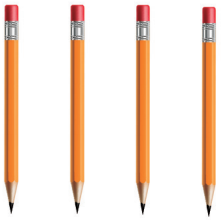
Count these pencils. Write their number in words.

Hundreds	Tens	Ones
		
One hundreds	One tens	Five ones
One hundred and fifteen		

Example 3

Count the following pencils. Write their number in words.

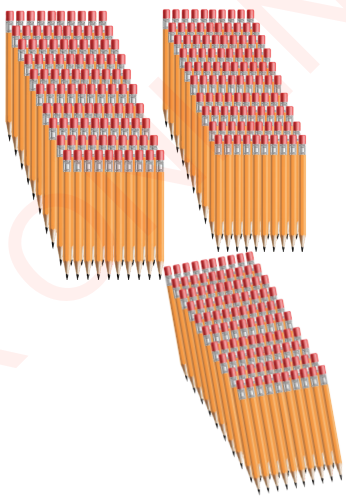
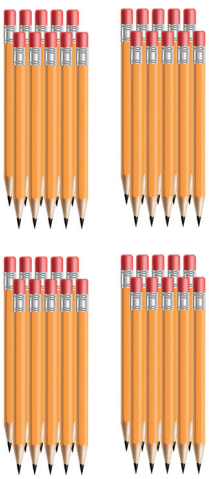
Hundreds	Tens	Ones
		
One hundreds	One tens	One ones
One hundred and eleven		

Hundreds	Tens	Ones
		
Three hundreds	Two tens	Four ones
Three hundred and twenty four		

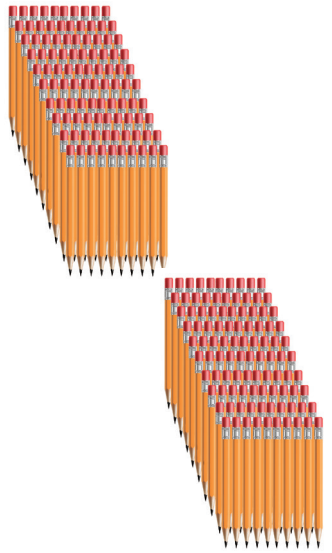
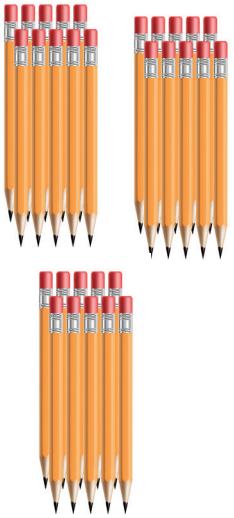
Exercise 11

Count the following pencils. Then, write their number in words.

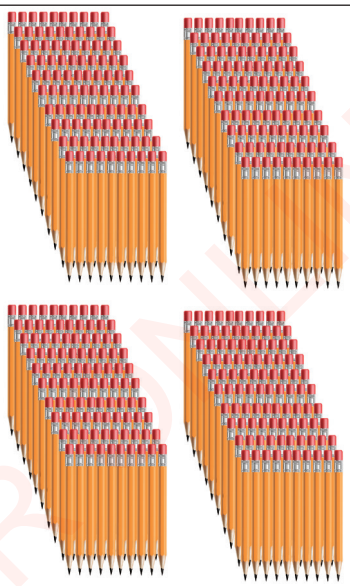
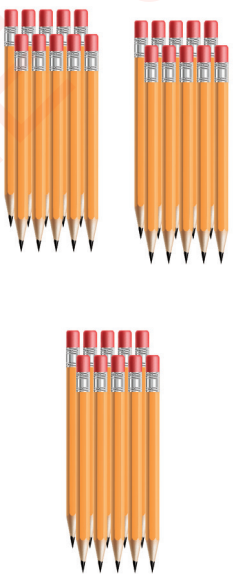
1.

Hundreds	Tens	Ones
		
_____	_____	_____

2.

Hundreds	Tens	Ones
		
_____	_____	_____

3.

Hundreds	Tens	Ones
		
_____	_____	_____

Place values

You can assign a place value to every digit in a given number, as shown below.

Example

3 2 4

- 4 — Ones
- 2 — Tens
- 3 — Hundreds

Exercise 12

Write the place value of each digit.

1. 3 2 4

2. 4 0 2

3. 2 4 7

4. 8 1

5. 1 7 9

6. 1 8 5

7. 3 0 6

8. 9 3

9. 2 1 0

10. 5 0 0

Writing the place values of digits in a number

Example

349 = 3 hundreds 4 tens 9 ones

Exercise 13

Fill in the digit for each place value.

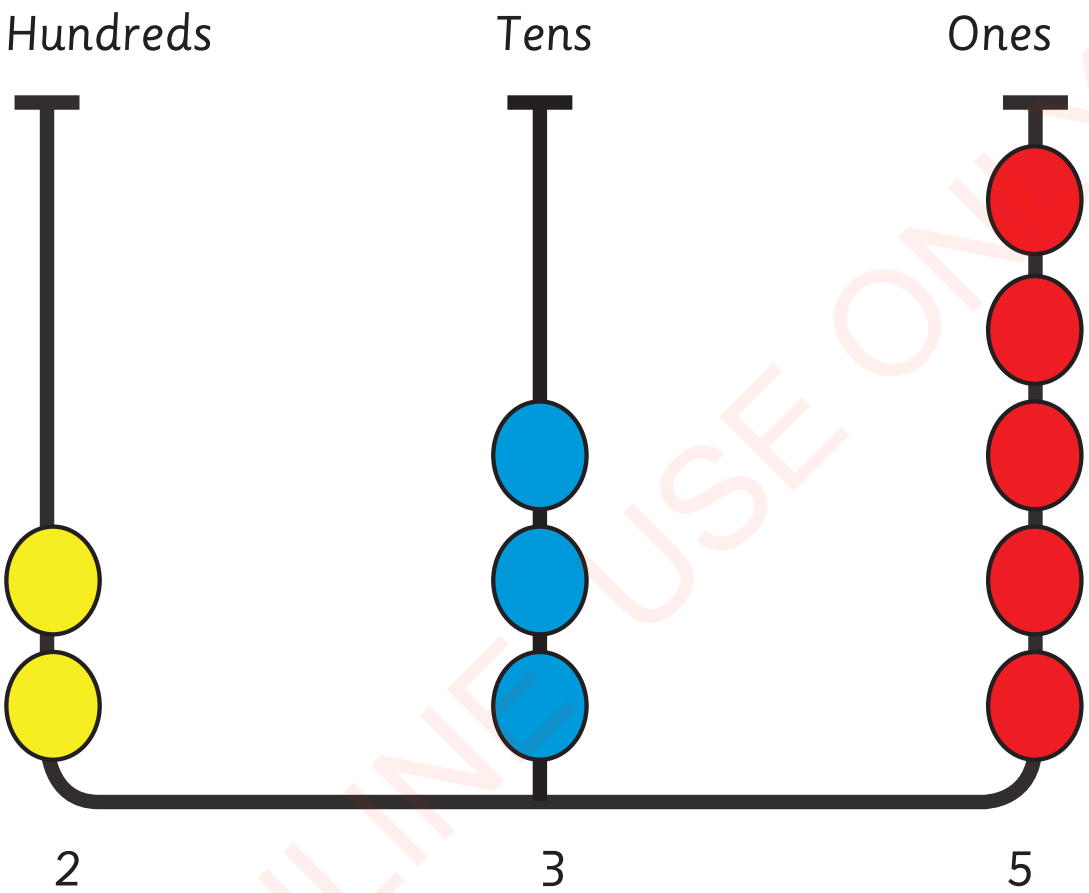
1. 426 = ____ hundreds ____ tens ____ ones
2. 126 = ____ hundreds ____ tens ____ ones
3. 358 = ____ hundreds ____ tens ____ ones
4. 71 = ____ hundreds ____ tens ____ ones
5. 4 = ____ hundreds ____ tens ____ ones
6. 215 = ____ hundreds ____ tens ____ ones
7. 309 = ____ hundreds ____ tens ____ ones
8. 186 = ____ hundreds ____ tens ____ ones
9. 231 = ____ hundreds ____ tens ____ ones
10. 400 = ____ hundreds ____ tens ____ ones

Write the numbers with the following place values.

1. 2 hundreds 0 tens 1 ones = _____
2. 3 hundreds 3 tens 4 ones = _____
3. 0 hundreds 6 tens 9 ones = _____
4. 0 hundreds 0 tens 5 ones = _____
5. 4 hundreds 0 tens 0 ones = _____
6. 1 hundreds 2 tens 3 ones = _____
7. 2 hundreds 5 tens 6 ones = _____
8. 4 hundreds 1 tens 0 ones = _____
9. 3 hundreds 0 tens 8 ones = _____
10. 2 hundreds 4 tens 1 ones = _____

The Abacus

The Abacus is an instrument used in adding and subtracting numbers.
The following is a sketch of an Abacus.

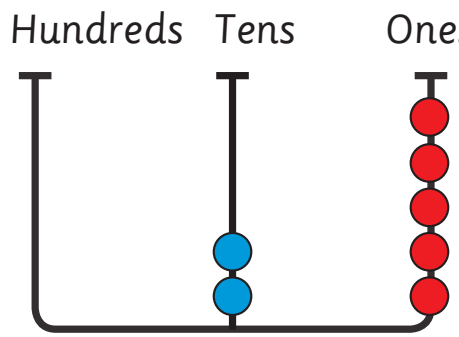


Three lines represent the Abacus. The first line is for Hundreds, the second line is for Tens, and the third line is for Ones.

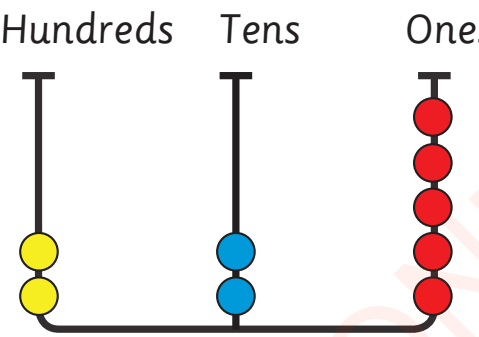
The objects used in an Abacus are beads.

Exercise 14

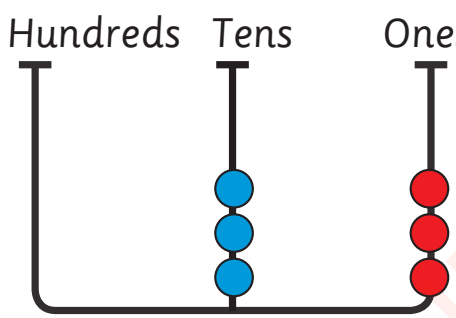
Count the beads and write the numbers in words. Use the given boxes.



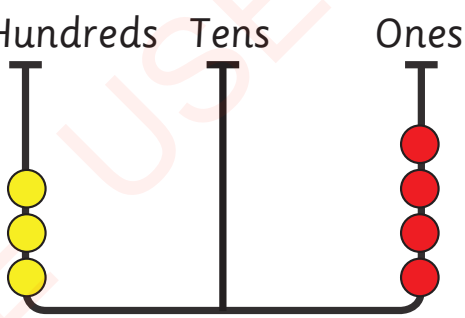
1. _____



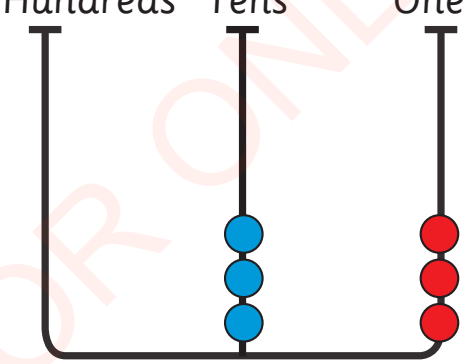
4. _____



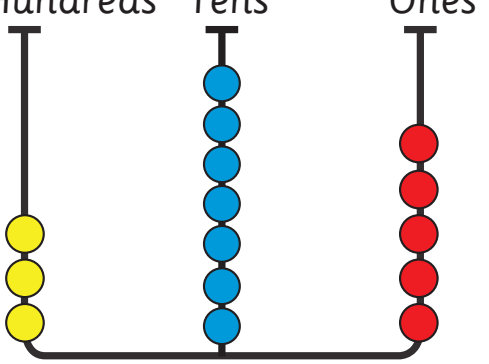
2. _____



5. _____



3. _____



6. _____

Writing the total value of each digit in a number

You can assign a total value to each digit in a given number as shown.

Examples

1. 4 7 8

- 8 — Ones
- 7 — Tens
- 4 — Hundreds

The total value of 4 is 400.

The total value of 7 is 70.

The total value of 8 is 8.

2. 3 9 5

- 5 — Ones
- 9 — Tens
- 3 — Hundreds

The total value of 5 is 5.

The total value of 9 is 90.

The total value of 3 is 300.

Exercise 15

Write the total value of each digit in the following questions.

1. 3 1 2

- 2 — Ones
- 1 — Tens
- 3 — Hundreds

2. 1 0 8

- 8 — Ones
- 0 — Tens
- 1 — Hundreds

3. 4 2 5
- 5 — Ones
- 2 — Tens
- 4 — Hundreds

4. 3 5
- 5 — Ones
- 3 — Tens

5. 2 1 5
- 5 — Ones
- 1 — Tens
- 2 — Hundreds

6. 4 0 3
- 3 — Ones
- 0 — Tens
- 4 — Hundreds

7. 5 0 0
- 0 — Ones
- 0 — Tens
- 5 — Hundreds

8. 6 4
- 4 — Ones
- 6 — Tens

9. 6
- 6 — Ones

10. 6 1
- 1 — Ones
- 6 — Tens

11. 1 3 2
- 2 — Ones
- 3 — Tens
- 1 — Hundreds

12. 3 8 7
- 7 — Ones
- 8 — Tens
- 3 — Hundreds

13. 2 9 4
- 4 — Ones
- 9 — Tens
- 2 — Hundreds

14. 3 7 1
- 1 — Ones
- 7 — Tens
- 3 — Hundreds

Writing numbers in long form

You can write a number in long form if you know the total value of each digit as shown below.

Examples

Write the following numbers in long form.

1.

Hundreds	Tens	Ones	
4	6	2	= 400 + 60 + 2

2.

Hundreds	Tens	Ones	
1	0	9	= 100 + 0 + 9

Exercise 16

Write the following numbers in long form.

1. 4 2 0 = _____

2. 4 6 = _____

3. 8 = _____

4. 3 0 2 = _____

5. 1 7 2 = _____

6. 9 3 = _____

7. 2 1 4 = _____

8. 1 6 3 = _____

9. 5 7 = _____

10. 2 9 1 = _____

Writing numbers in short form

A number in long form can be written in short form.

Examples

Write the following numbers in short form.

1. 200 + 70 + 3 = 273
2. 300 + 40 + 2 = 342

Exercise 17

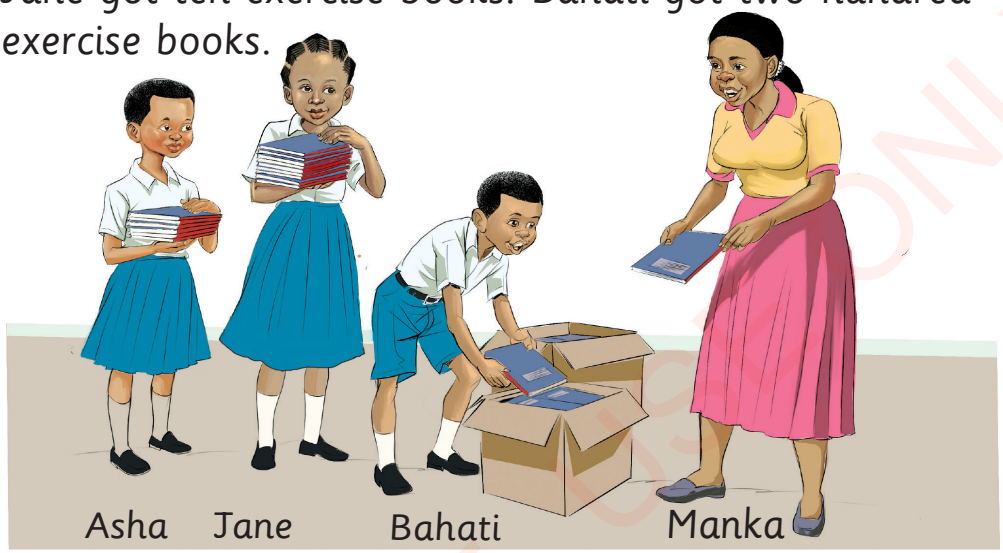
Write the following numbers in short form.

1. 200 + 30 + 9 = _____
2. 100 + 20 + 7 = _____
3. 300 + 50 + 2 = _____
4. 400 + 80 + 6 = _____
5. 200 + 70 + 1 = _____
6. 100 + 40 + 3 = _____
7. 400 + 60 + 5 = _____
8. 300 + 10 + 8 = _____
9. 200 + 90 + 4 = _____
10. 300 + 30 + 3 = _____

Activity 2

Read the following passage and answer the following questions.

Manka has three children: Asha, Jane and Bahati. One day, she bought many exercise books and distributed them to her children. Asha received six exercise books. Jane got ten exercise books. Bahati got two hundred exercise books.



Answer the following questions.

1. Write the number of Asha's exercise books.
2. How many ones are there in the number of Asha's exercise books?
3. Write the number of Jane's exercise books.
4. How many tens are there in the number of Jane's exercise books?
5. Write the number of Bahati's exercise books.
6. How many hundreds are there in the number of Bahati's exercise books?
7. How many exercise books were distributed by Manka?
8. Write the place values of the distributed exercise books.

Writing numbers from 501 to 999

1. Write the following numbers.

501	502	503	504	505	506	507	508	509	510	511	512	513	514	515
516	517	518	519	520	521	522	523	524	525	526	527	528	529	530
531	532	533	534	535	536	537	538	539	540	541	542	543	544	545
546	547	548	549	550	551	552	553	554	555	556	557	558	559	560
561	562	563	564	565	566	567	568	569	570	571	572	573	574	575
576	577	578	579	580	581	582	583	584	585	586	587	588	589	590
591	592	593	594	595	596	597	598	599	600	601	602	603	604	605
606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
621	622	623	624	625	626	627	628	629	630	631	632	633	634	635
636	637	638	639	640	641	642	643	644	645	646	647	648	649	650
651	652	653	654	655	656	657	658	659	660	661	662	663	664	665

2. Write the following numbers.

666	667	668	669	670	671	672	673	674	675	676	677	678	679	680
681	682	683	684	685	686	687	688	689	690	691	692	693	694	695
696	697	698	699	700	701	702	703	704	705	706	707	708	709	710
711	712	713	714	715	716	717	718	719	720	721	722	723	724	725
726	727	728	729	730	731	732	733	734	735	736	737	738	739	740
741	742	743	744	745	746	747	748	749	750	751	752	753	754	755
756	757	758	759	760	761	762	763	764	765	766	767	768	769	770
771	772	773	774	775	776	777	778	779	780	781	782	783	784	785
786	787	788	789	790	791	792	793	794	795	796	797	798	799	800
801	802	803	804	805	806	807	808	809	810	811	812	813	814	815
816	817	818	819	820	821	822	823	824	825	826	827	828	829	830

3. Write the following numbers.

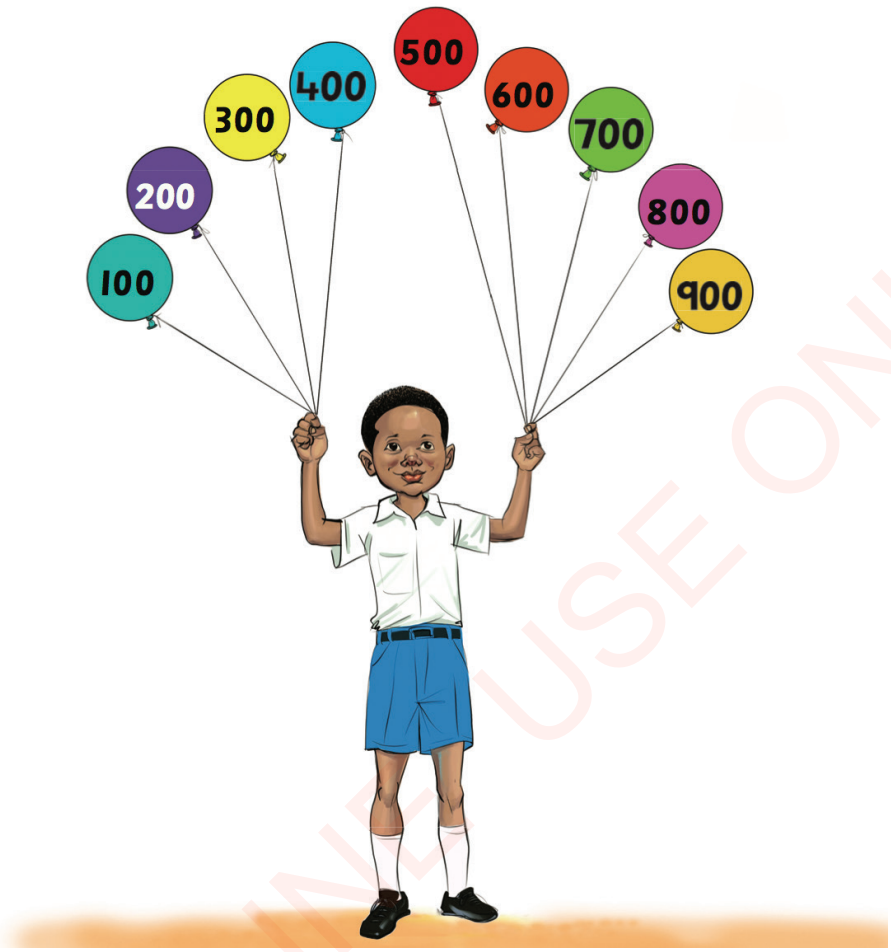
831	832	833	834	835	836	837	838	839	840	841	842	843	844	845
846	847	848	849	850	851	852	853	854	855	856	857	858	859	860
861	862	863	864	865	866	867	868	869	870	871	872	873	874	875
876	877	878	879	880	881	882	883	884	885	886	887	888	889	890
891	892	893	894	895	896	897	898	899	900	901	902	903	904	905
906	907	908	909	910	911	912	913	914	915	916	917	918	919	920
921	922	923	924	925	926	927	928	929	930	931	932	933	934	935
936	937	938	939	940	941	942	943	944	945	946	947	948	949	950
951	952	953	954	955	956	957	958	959	960	961	962	963	964	965
966	967	968	969	970	971	972	973	974	975	976	977	978	979	980
981	982	983	984	985	986	987	988	989	990	991	992	993	994	995
996	997	998	999											

Counting in hundreds

Let us sing a song of counting in hundreds

One hundred, two hundred, three hundred
Four hundred, five hundred, six hundred
Seven hundred, eight hundred, nine hundred x 2
It is counting in hundreds.

Study the picture below and answer the questions that follow.

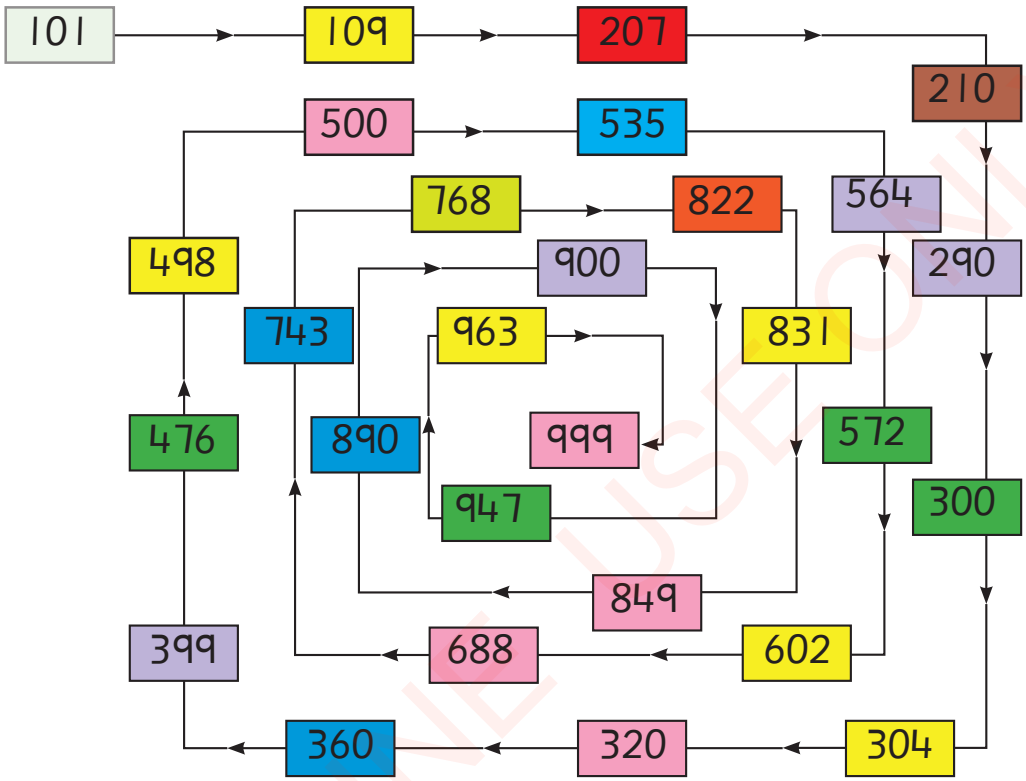


Answer the following questions.

1. Write the smallest number in the picture.
2. Write the largest number in the picture.
3. Read the numbers shown in the picture from smallest to largest.
4. Read the numbers shown in the picture from largest to smallest.

Activity 3

Read the following numbers in the direction of the arrows. Answer the exercise which follows.



Exercise 18

1. Read the first ten numbers loudly.
2. Read the five numbers before 999 loudly.
3. Read all the numbers ending with zero.
4. Read all the numbers ending with nine loudly.

Exercise 19

Read the following numbers loudly.

Numbers in numerals	Numbers in words
101	One hundred and one
210	Two hundred and ten
226	Two hundred and twenty-six
342	Three hundred and forty-two
468	Four hundred and sixty-eight
500	Five hundred
888	Eight hundred and eighty-eight
791	Seven hundred and ninety-one
999	Nine hundred and ninety-nine
898	Eight hundred and ninety-eight

Writing numbers

Activity 4

Observe the following numbers. Write them in the order of smallest to largest.

110	342	210	226	500
888	791	999	468	

Write the missing numbers in the following table.

112		114
	116	
118		120
	122	
124		126

Exercise 20

Answer the following questions.

1. Fill in the missing numbers horizontally.

201	202			205		207		209
301					306		308	
	402			405		407		409
501		503		506				
				605			608	
701		703			706			709
801				805		807		
811		813			816		818	
901								
991		993			996			999

2. Write the numbers ending with 9 from the table above.

Writing numbers in Hundreds, Tens and Ones

Example

Number		Hundreds	Tens	Ones
469	=	4	6	9
124	=	1	2	4

Exercise 21

Study the table below. Write the digits of the missing place value in the blanks.

1.

Number	Hundreds	Tens	Ones
229		2	
368	3		
876			6
569		6	
997	9		
612		1	
783	7		
404		0	

2.

Number	Hundreds	Tens	Ones
119			
827			
263			
610			
333			
471			
918			
769			
342			
508			

Chapter Four

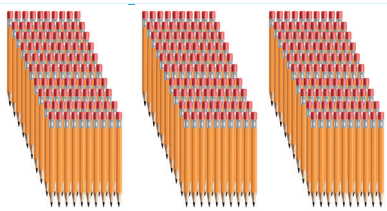
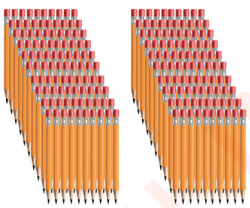
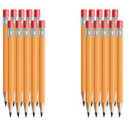
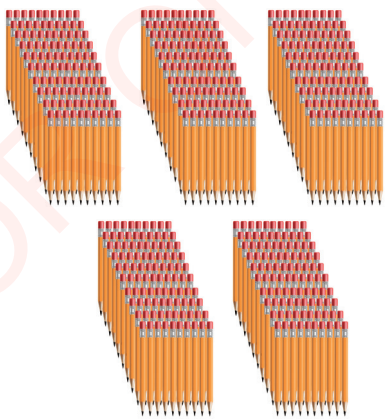
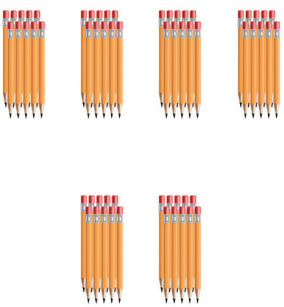
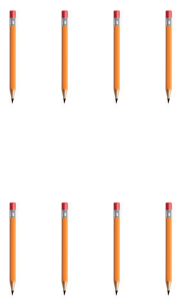
Operations on numbers

Adding numbers in groups of Ones, Tens and Hundreds

In this chapter, you will learn addition and subtraction of numbers not exceeding 999.

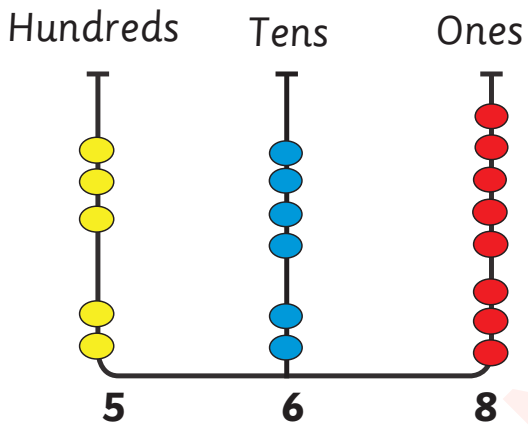
Example

345 + 223 = 568

Hundreds	Tens	Ones
 Add 	 Add 	 Add 
Sum 	Sum 	Sum 

Adding numbers by using an Abacus

345 + 223 =



Steps

1. Count the number of beads in the ones place, 5 + 3 = 8. Write 8 in the ones position.
2. Count the number of beads in the tens place, 4 + 2 = 6. Write 6 in the tens position.
3. Count the number of beads in the hundreds place, 3 + 2 = 5. Write 5 in the hundreds position.

Steps for vertical addition

1. Add ones, 5 + 3 = 8. Write 8 in the ones place.
2. Add groups of tens, 4 + 2 = 6. Write 6 in the tens place.
3. Add groups of hundreds, 3 + 2 = 5. Write 5 in the hundreds place:

Therefore 345 + 223 = 568.

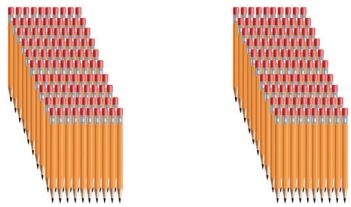
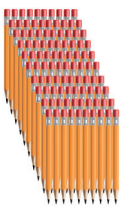
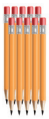
$$\begin{array}{rrr} 3 & 4 & 5 \\ +\ 2 & 2 & 3 \\ \hline 5 & 6 & 8 \end{array}$$

Hundreds	Tens	Ones
$\begin{array}{r} 3 \\ +\ 2 \\ \hline 5 \end{array}$	$\begin{array}{r} 4 \\ +\ 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 5 \\ +\ 3 \\ \hline 8 \end{array}$

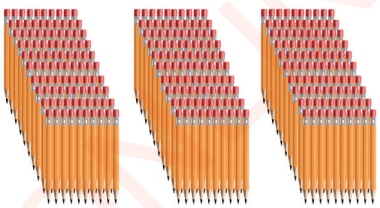
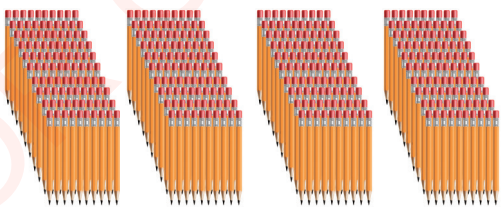
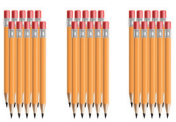
Exercise 1

Add the following numbers in groups of ones, tens and hundreds.

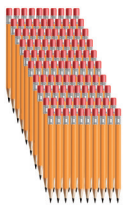
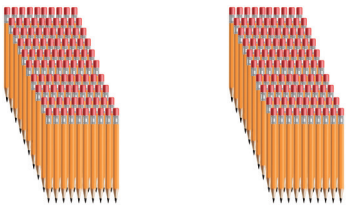
1. 214 + 143 =

Hundreds	Tens	Ones
 Add  Sum	 Add  Sum	 Add  Sum
_____	_____	_____

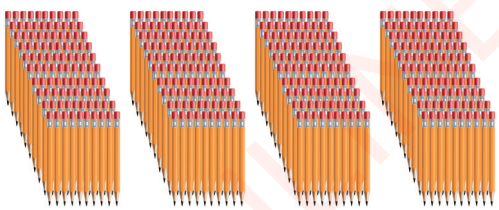
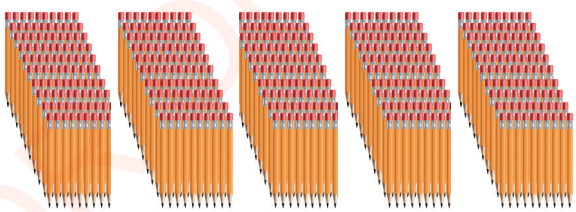
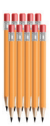
2. 342 + 436 =

Hundreds	Tens	Ones
 Add  Sum	 Add  Sum	 Add  Sum
_____	_____	_____

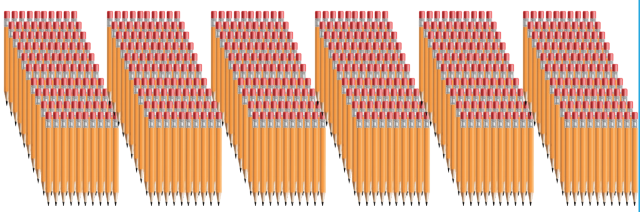
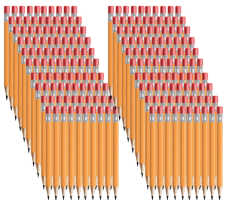
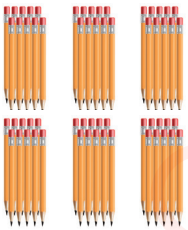
3. 125 + 233 =

Hundreds	Tens	Ones
 Add  Sum	 Add  Sum	 Add  Sum
_____	_____	_____

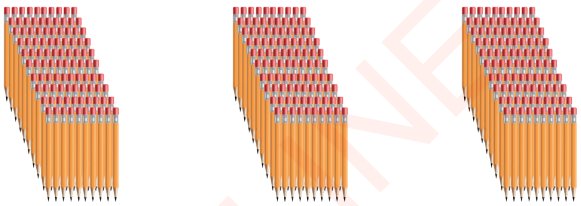
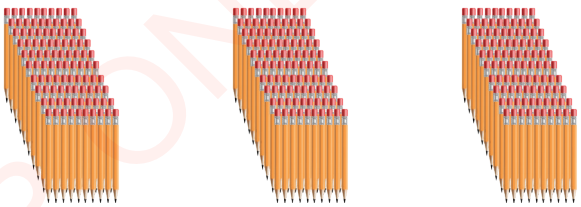
4. 425 + 512 =

Hundreds	Tens	Ones
 Add  Sum	 Add  Sum	 Add  Sum
_____	_____	_____

5. 632 + 267 =

Hundreds	Tens	Ones
 Add  Sum	 Add  Sum	 Add  Sum
_____	_____	_____

6. 333 + 333 =

Hundreds	Tens	Ones
 Add  Sum	 Add  Sum	 Add  Sum
_____	_____	_____

Vertical addition of numbers without regrouping

Example

Add the following numbers.

$$\begin{array}{r} 216 \\ +\ 102 \\ \hline 318 \end{array}$$

Solution

	Hundreds	Tens	Ones
	2	1	6
+	1	0	2
	3	1	8

Steps

1. Add ones, 6 + 2 = 8.
Write 8 in the ones place.

	Hundreds	Tens	Ones
	2	1	6
+	1	0	2
			8

2. Add tens, 1 + 0 = 1.
Write 1 in the tens place.

	Hundreds	Tens	Ones
	2	1	6
+	1	0	2
		1	8

3. Add hundreds, 2 + 1 = 3. Write 3 in the hundreds place.

	Hundreds	Tens	Ones
	2	1	6
+	1	0	2
	3	1	8

Therefore, the answer is 318.

Exercise 2

Answer the following addition questions.

1.	226 + 432 =	6.	137 + 200 =
2.	342 + 22 =	7.	444 + 222 =
3.	432 + 41 =	8.	533 + 230 =
4.	325 + 143 =	9.	106 + 450 =
5.	333 + 304 =	10.	121 + 712 =

Exercise 3

Answer the following addition questions.

1.	324 + 213 =	3.	465 + 334 =
2.	560 + 439 =	4.	613 + 244 =

5.
$$\begin{array}{r} 126 \\ +\ 563 \\ \hline \\ \hline \end{array}$$

6.
$$\begin{array}{r} 561 \\ +\ 423 \\ \hline \\ \hline \end{array}$$

7.
$$\begin{array}{r} 716 \\ +\ 231 \\ \hline \\ \hline \end{array}$$

8.
$$\begin{array}{r} 472 \\ +\ 324 \\ \hline \\ \hline \end{array}$$

9.
$$\begin{array}{r} 715 \\ +\ 223 \\ \hline \\ \hline \end{array}$$

10.
$$\begin{array}{r} 178 \\ +\ 210 \\ \hline \\ \hline \end{array}$$

Exercise 4

Answer the following addition questions.

1.
$$\begin{array}{r} 421 \\ +\ 136 \\ \hline \\ \hline \end{array}$$

2.
$$\begin{array}{r} 714 \\ +\ 133 \\ \hline \\ \hline \end{array}$$

3.
$$\begin{array}{r} 352 \\ +\ 415 \\ \hline \\ \hline \end{array}$$

4.
$$\begin{array}{r} 526 \\ +\ 313 \\ \hline \\ \hline \end{array}$$

5.
$$\begin{array}{r} 564 \\ +\ 213 \\ \hline \\ \hline \end{array}$$

6.
$$\begin{array}{r} 215 \\ +\ 421 \\ \hline \\ \hline \end{array}$$

7.
$$\begin{array}{r} 128 \\ +\ 541 \\ \hline \\ \hline \end{array}$$

8.
$$\begin{array}{r} 213 \\ +\ 341 \\ \hline \\ \hline \end{array}$$

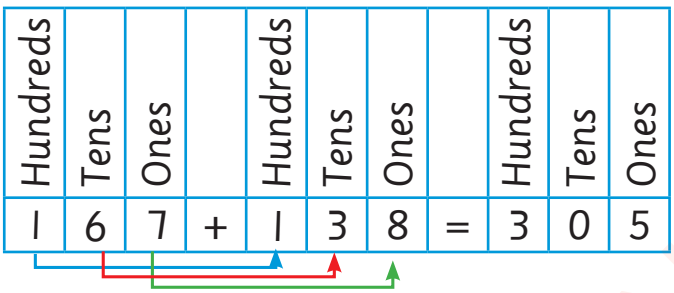
9.
$$\begin{array}{r} 213 \\ +\ 431 \\ \hline \\ \hline \end{array}$$

10.
$$\begin{array}{r} 785 \\ +\ 214 \\ \hline \\ \hline \end{array}$$

Horizontal addition of numbers by regrouping

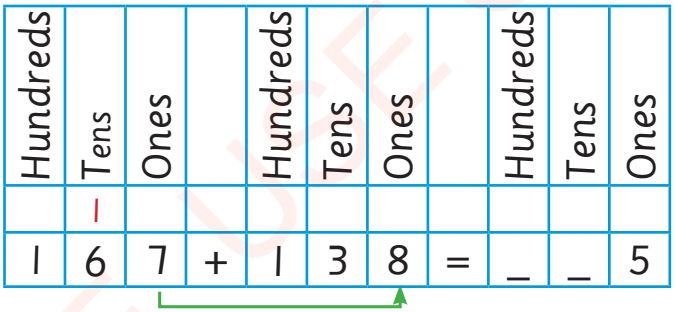
Example

167 + 138 =
solution



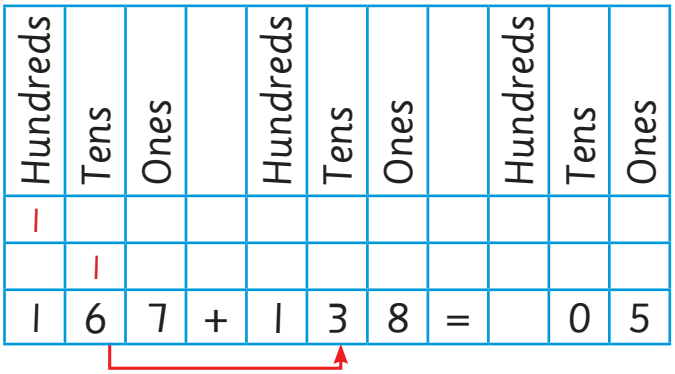
Hundreds	Tens	Ones		Hundreds	Tens	Ones		Hundreds	Tens	Ones
1	6	7	+	1	3	8	=	3	0	5

1. Add ones, 7 + 8 = 15. There is 1 tens and 5 ones. Write 5 in the ones place and carry over 1 group of tens to the tens place.



Hundreds	Tens	Ones		Hundreds	Tens	Ones		Hundreds	Tens	Ones
	1									
1	6	7	+	1	3	8	=	_	_	5

2. Add tens; 1 + 6 + 3 = 10. Write 0 in the tens place and carry over 1 group of hundreds to the hundreds place.



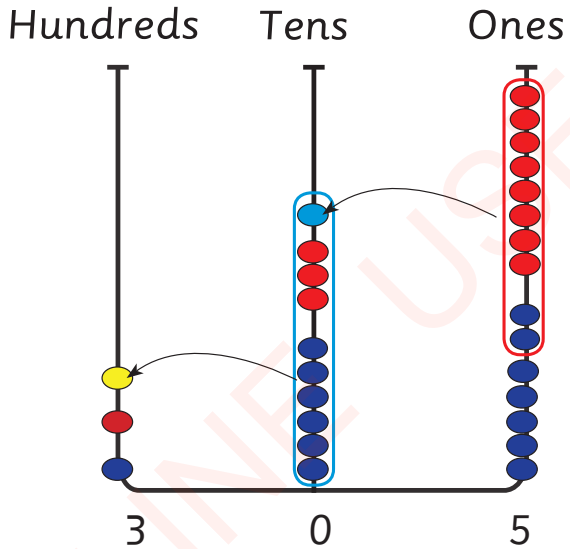
Hundreds	Tens	Ones		Hundreds	Tens	Ones		Hundreds	Tens	Ones
1										
	1									
1	6	7	+	1	3	8	=		0	5

3. Add hundreds, 1 + 1 + 1 = 3. Write 3 in the hundreds place.

Hundreds	Tens	Ones		Hundreds	Tens	Ones		Hundreds	Tens	Ones
1										
	1									
1	6	7	+	1	3	8	=	3	0	5

Therefore, the answer is 305.

Addition of numbers by regrouping using an Abacus



167 + 138 = 305

Exercise 5

Answer the following addition questions.

1.	683 + 138 =	**6.**	292 + 362 =
2.	364 + 348 =	**7.**	456 + 258 =
3.	736 + 249 =	**8.**	272 + 465 =
4.	262 + 289 =	**9.**	581 + 219 =
5.	566 + 284 =	**10.**	189 + 611 =

Exercise 6

Answer the following addition questions.

1.	484 + 109 =	6.	673 + 117 =
2.	189 + 102 =	7.	239 + 221 =
3.	801 + 9 =	8.	123 + 229 =
4.	229 + 229 =	9.	444 + 137 =
5.	518 + 119 =	10.	269 + 21 =

Exercise 7

Answer the following addition questions.

1.	739 + 15 =	6.	333 + 27 =
2.	118 + 132 =	7.	239 + 8 =
3.	819 + 113 =	8.	123 + 124 =
4.	287 + 113 =	9.	444 + 219 =
5.	773 + 9 =	10.	269 + 23 =

Exercise 8

Answer the following addition questions.

1.	291 + 19 =	6.	456 + 326 =
2.	839 + 111 =	7.	381 + 409 =
3.	709 + 29 =	8.	462 + 418 =
4.	469 + 31 =	9.	282 + 365 =
5.	729 + 148 =	10.	627 + 203 =

Word problems involving the addition of numbers without regrouping

Some word problems need the addition operation to answer them.

Example

A fisherman caught 112 fish in the morning. He caught 210 fish in the evening. How many fish did he catch all together?

Add Vertically.

1. What was caught by the fisherman? ___Fish___
2. Number of fish caught in the morning → 112
3. Number of fish caught in the evening → + 210
4. Total number of fish caught → 322

Therefore, he caught 322 fish.

	Hundreds	Tens	Ones
	1	1	2
+	2	1	0
	3	2	2

Exercise 9

Answer the following word problems.

1. One family has 130 goats. Another family has 110 goats. How many goats do the two families have together?
2. A farmer planted 403 orange seedlings. He planted other 592 pear seedlings. How many seedlings did he plant altogether?
3. 372 pupils participated in sports. They joined their fellow 527 pupils. How many pupils participated in sports altogether?
4. Azania school bought 601 sports uniforms. Later, the school bought 326 more sports uniforms. How many sports uniforms did the school buy altogether?

Exercise 10

Answer the following word problems.

1. 294 girls and 302 boys attended a workshop on good health. How many partcipants attended the workshop in total?
2. A school bought 333 desks. Later, the school bought 426 more desks. What was the total number of desks bought?
3. Asha was given 350 shillings to buy a pencil. She was also given 520 shillings to buy a sharpener. How much money did she receive?
4. The Head teacher bought 150 exercise books. Then, he bought 216 more exercise books. How many exercise books did he buy altogether?

Vertical Addition of numbers by regrouping

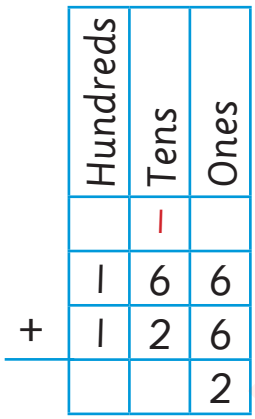
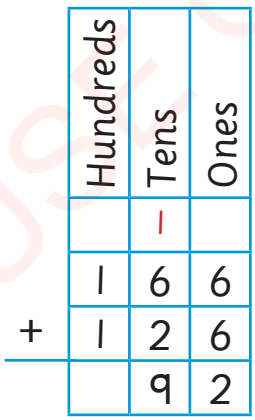
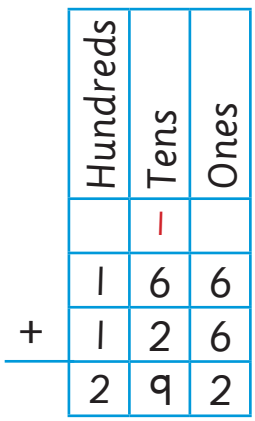
Numbers can be added vertically by a regrouping method.

Example 1

Solution

	Hundreds	Tens	Ones
	1	6	6
+	1	2	6
	2	9	2

Steps

1. Add Ones, 6 + 6 = 12. This gives 1 group of tens and 2 ones. Write 2 in the ones place, carry over 1 tens to the tens place.	
2. Add tens, 1 + 6 + 2 = 9. Write 9 in the tens place.	
3. Add hundreds, 1 + 1 = 2. Write 2 in the hundreds place.	
Therefore, the answer is 292.	

Example 2

$$\begin{array}{r} 166 \\ +\ 198 \\ \hline \\ \hline \end{array}$$

Solution

Hundreds	Tens	Ones
1	6	6
+ 1	9	8
3	6	4

Steps

1. Add Ones:
6 + 8 = 14. This is equal to 1 group of tens and 4 ones. Write 4 in the ones place. Carry over 1 group of tens to the tens place.

	Hundreds	Tens	Ones
		1	
	1	6	6
+	1	9	8
			4

2. Add tens:
1 + 6 + 9 = 16. This is equal to 1 group of hundreds and 6 tens. Write 6 in the tens place. Carry over 1 group of hundreds to the hundreds place.

	Hundreds	Tens	Ones
	1		
		1	
	1	6	6
+	1	9	8
		6	4

3. Add hundreds:
1 + 1 + 1 = 3. Write 3 in the hundreds place.

	Hundreds	Tens	Ones
	1		
		1	
	1	6	6
+	1	9	8
	3	6	4

Therefore, the answer is 364.

Exercise 11

Answer the following addition questions.

1. 435 + 219 = _____

2. 476 + 214 = _____

3. 665 + 192 = _____

4. 375 + 276 = _____

5. 295 + 494 = _____

6. 386 + 108 = _____

7. 150 + 252 = _____

8. 444 + 281 = _____

9. 568 + 372 = _____

10. 776 + 195 = _____

Exercise 12

Answer the following addition questions.

1. 329 + 295 = _____

2. 576 + 134 = _____

3. 128 + 283 = _____

4. 453 + 268 = _____

5. 336 + 485 = _____

6. 576 + 134 = _____

7. 248 + 134 = _____

8. 356 + 275 = _____

9. 486 + 116 = _____

10. 367 + 475 = _____

Exercise 13

Answer the following addition questions.

1. 237 + 295 = _____

2. 429 + 134 = _____

3. 586 + 236 = _____

4. 178 + 276 = _____

5. 285 + 37 = _____

6. 328 + 79 = _____

7. 467 + 295 = _____

8. 529 + 290 = _____

9. 179 + 95 = _____

10. 587 + 162 = _____

11. 328 + 168 = _____

Word problems involving addition of numbers by regrouping

To answer some word problems, we need addition of numbers in their groups.

Example

Grandfather has 389 mango trees. Grandmother has 433 mango trees. How many mango trees do they have in total?

Solution

Grandfather's mango trees	389
Grandmother's mango trees	+ 433
	822

Steps

1. Add ones, 9 + 3 = 12. There is 1 group of tens and 2 ones. Write 2 in the ones place. Carry 1 group of tens to the tens place.

	Hundreds	Tens	Ones
		1	
	3	8	9
+	4	3	3
			2

2. Add tens 1 + 8 + 3 = 12. There is 1 group of hundreds and 2 tens. Write 2 in the tens place. Carry 1 group of hundreds to the hundreds place.

	Hundreds	Tens	Ones
	1	1	
	3	8	9
+	4	3	3
		2	2

3. Add hundreds, 1 + 3 + 4 = 8.
Write 8 in the hundreds place.

	Hundreds	Tens	Ones
	1	1	
	3	8	9
+	4	3	3
	8	2	2

They have a total of 822 mango trees.

Exercise 14

Answer the following word problems.

1. One village has 416 women and 358 men. What is the total number of people in the village?
2. One school has 590 pupils and another school has 348 pupils. How many pupils are there in both schools.?
3. On Monday, 247 cows were sent to the open market. On Tuesday, 264 cows were also sent to the open market. What is the total number of cows that were sent to the open market in two days?
4. One day, a business man bought 516 eggs. On another day, he bought 378 eggs. How many eggs did he buy on both days?

5. A school shop has 464 bottles of soda. The shopkeeper added 385 more bottles of soda in the shop. How many bottles of soda are in the shop?

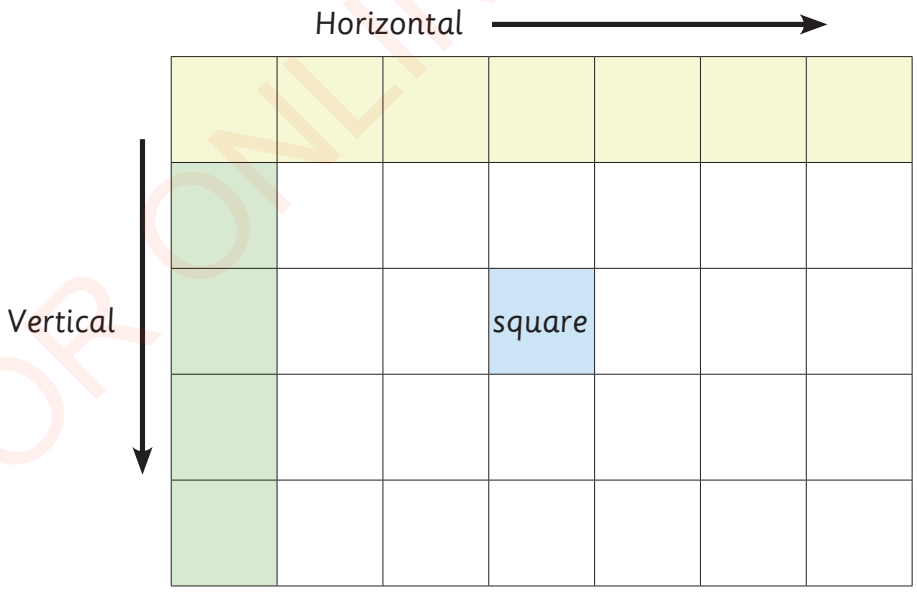
6. A school got 625 pens from the Mayor. It also got 286 pens from the Prime Minister. How many pens did the school get in total?

7. A Health officer provided 766 mosquito nets to the villagers. Later, he gave 186 more mosquito nets. What is the total number of mosquito nets given to the villagers?

8. One lorry carried 187 pawpaws. Another lorry carried 216 pawpaws. How many pawpaws did both lorries carry in total?

Adding numbers in a chart

The following chart has squares. They can be identified by horizontal and vertical lines.



+	101	102	103	104	105
101	202	203	204	205	206
102	203	204	205	206	207
103	204	205	206	207	208
104	205	206	207	208	209
105	206	207	208	209	210

1. Look at the first horizontal line from the top of the chart. It has numbers 101, 102, 103, 104 and 105.
2. Look again at the first vertical line from the left side of the chart. It has numbers 101, 102, 103, 104, and 105.
3. Study the numbers at the intersection of vertical and horizontal lines. Every number at the intersection square is the sum of two numbers. The two numbers are in the first vertical and horizontal lines.

Exercise 15

Answer the following questions.

1. Add the numbers in the chart below.

+	201	202	203	204	205	206
201						
202						
203						
204					409	
205						
206			409			

2. Write the smallest number from the first horizontal line. _____
3. Write the largest number from the fifth horizontal line. _____

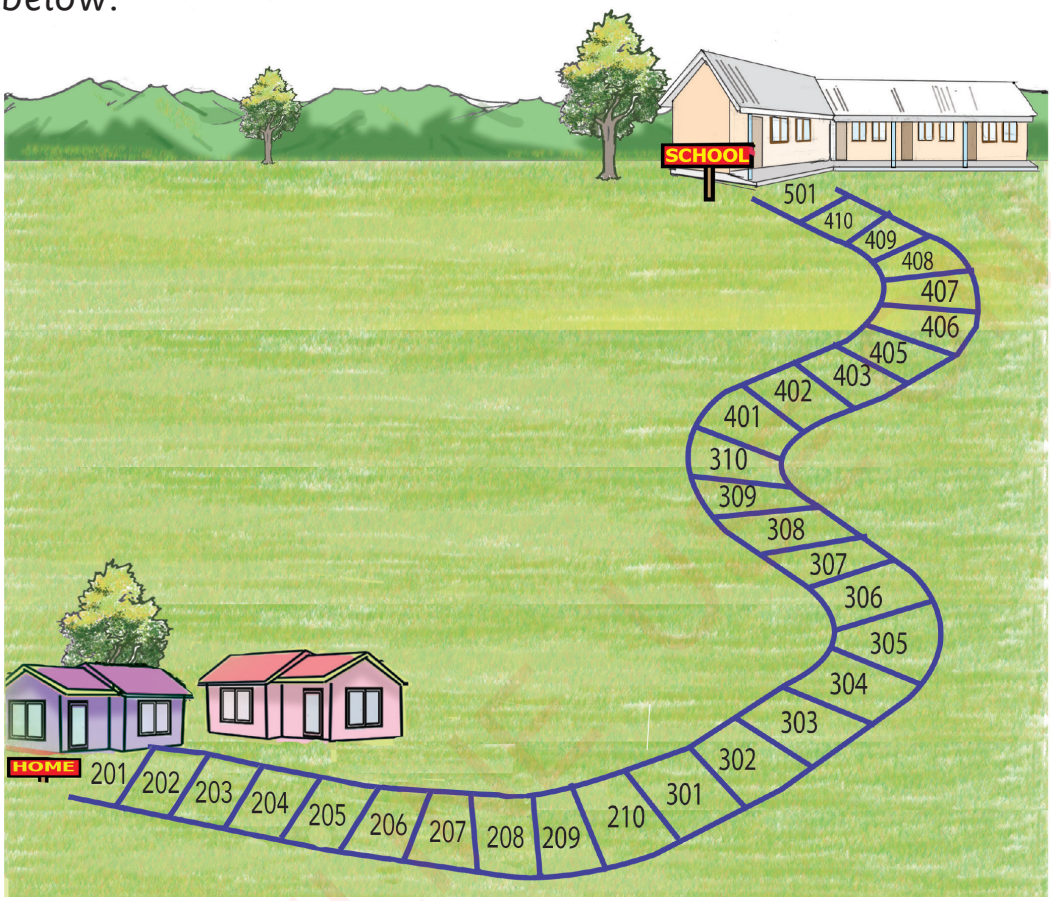
Exercise 16

Fill in numbers in the blank spaces.

1. 102, 104, 106, _____ _____ _____
2. 200, 300, 400, _____ _____ _____
3. 200, 250, 300, _____ _____ _____
4. 820, 840, 860, _____ _____ _____
5. 890, 893, 896, _____ _____ _____
6. 799, 808, 817, _____ _____ _____
7. 601, 605, 609, _____ _____ 621 ___
8. 401, 500, 599, _____ _____ _____
9. 306, 312, 318, _____ _____ _____
10. 497, 506, 515, _____ _____ 542 _____

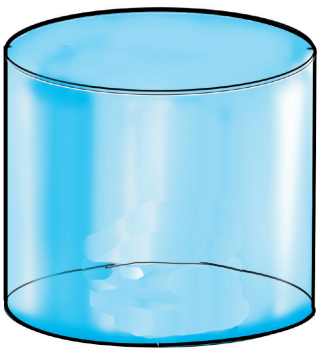
Activity

Playing a game called ***from home to school****.*
The game is played by using a die. Study the picture below.



A die is an object with six square faces. The six faces have dots that represent numbers. The dots represent numbers from one to six.

Die



Tin

Steps

1. Play in pairs.
2. You need to use a cup or a tin and a die.
3. Put a die in a cup or in a tin, one at a time.
4. Everyone should have a marble of a different colour.
5. Roll the die in turns.
6. Count the number of dots on the face of the die which shows up.
7. Move your marble towards the direction of the school.
8. The number of steps a marble is moved, is equal to the number of dots obtained on a die.
9. Initially all marbles are placed at the home location in the picture.

Example

Asha and Anna played a game from **home to school**. Everyone played twice. Their scores were recorded in a Table. The one who scored more was the winner. Study the following table and name the winner.

Game Number	Asha	Anna
1	203	205
2	206	206
Total	409	411

1. Add the scores for Asha and Anna separately.
2. The one with more scores is the winner.
3. Anna got more scores.
4. Anna was the winner in this game.

Exercise 17

Answer the following questions in relation to the game from home to school.

1. Name the tools used to play this game.
2. How many faces does a die have?
3. What is the largest number of dots on a die?
4. What is the smallest number of dots on a die?
5. How many pupils can play this game?
6. Where is the smallest number located in this game?
7. Where is the largest number located in the game?
8. Count numbers from home to 250. How many steps is 210 from home?
9. Asha and Anna rolled a die in turns when they were at 407. Asha got 2 dots. Anna got 4 dots. Who moved the marble up to school?

Subtracting numbers not exceeding 999 horizontally

Subtraction of numbers can be done horizontally.

Example

Subtract the following numbers horizontally.

247 – 123 =

Solution

Hundreds	Tens	Ones		Hundreds	Tens	Ones		Hundreds	Tens	Ones
2	4	7	–	1	2	3	=	1	2	4

Steps

1. Subtract ones.

Hundreds	Tens	Ones		Hundreds	Tens	ones		Hundreds	Tens	Ones
2	4	7	–	1	2	3	=			4

2. Subtract tens.

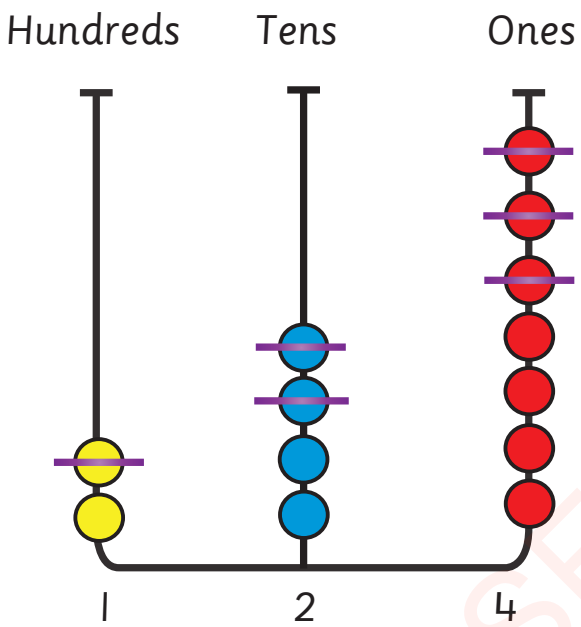
Hundreds	Tens	Ones		Hundreds	Tens	Ones		Hundreds	Tens	Ones
2	4	7	–	1	2	3	=		2	4

3. Subtract hundreds.

Hundreds	Tens	Ones		Hundreds	Tens	Ones		Hundreds	Tens	Ones
2	4	7	–	1	2	3	=	1	2	4

Therefore, the answer is 124.

Subtraction by using an Abacus



Therefore, 247 – 123 = 124.

Steps

1. Put 7 beads on the line of ones, 4 beads on the line of tens and 2 beads on the line of hundreds.
2. Subtract ones. Remove 3 beads from the line of ones.
3. Subtract tens. Remove 2 beads from the line of tens.
4. Subtract hundreds. Remove 1 bead from the line of hundreds.

Based on the number of beads the answer is 124.

Note: The crossed beads are the one which have been removed.

Exercise 18

Answer the following subtraction questions.

1.	299 – 133 =	6.	597 – 50 =
2.	795 – 275 =	7.	980 – 440 =
3.	444 – 200 =	8.	400 – 300 =
4.	568 – 346 =	9.	649 – 48 =
5.	306 – 204 =	10.	937 – 415 =

Exercise 19

Answer the following subtraction questions.

1.	635 – 213 =	7.	368 – 118 =
2.	528 – 417 =	8.	436 – 321 =
3.	438 – 216 =	9.	758 – 643 =
4.	287 – 240 =	10.	239 – 115 =
5.	386 – 215 =	11.	384 – 243 =
6.	756 – 524 =	12.	895 – 670 =

Exercise 20

Answer the following subtraction questions.

1.	267 – 145 =	7.	900 – 500 =
2.	530 – 410 =	8.	729 – 408 =
3.	682 – 381 =	9.	256 – 113 =
4.	999 – 717 =	10.	446 – 325 =
5.	246 – 123 =	11.	185 – 172 =
6.	896 – 643 =	12.	388 – 216 =

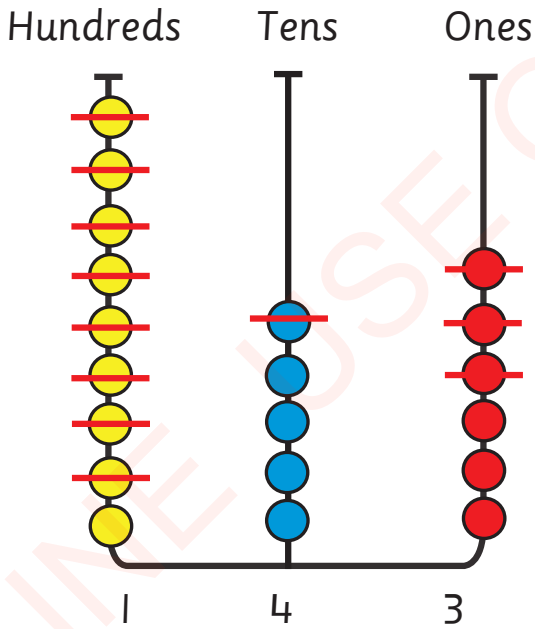
Word problems involving subtraction of numbers

Some word problems need subtraction of numbers to answer them.

Example

Neema had 956 sweets. She gave her young brother 813 sweets. How many sweets did she remain with?

Using the Abacus



Steps

1. Neema had 956 sweets. Put 6 beads on the ones line, 5 beads on the tens line and 9 beads on the hundreds line.
2. Young brother given 813 sweets; remove 3 beads from ones line.
3. Remove 1 bead from tens line
4. Remove 8 beads from hundreds line. The beads remaining for each place are 1 hundreds, 4 tens and 3 ones. Therefore, the answer is 143.

Exercise 21

Answer the following word problems.

1. A boy had 649 eggs and sold 415 eggs. How many eggs was he left with?

2. A passenger train carried 874 pupils. On the way 360 pupils got off the train. How many pupils were left in the train?

3. A teacher had 596 books. He gave out 421 books to his pupils. How many books did the teacher remain with?

4. Roza had 365 oranges. She sold 265 oranges. How many oranges did she remain with?

5. There were 635 pencils in the shop. After one week, 412 pencils had been sold. How many pencils were left in the shop?

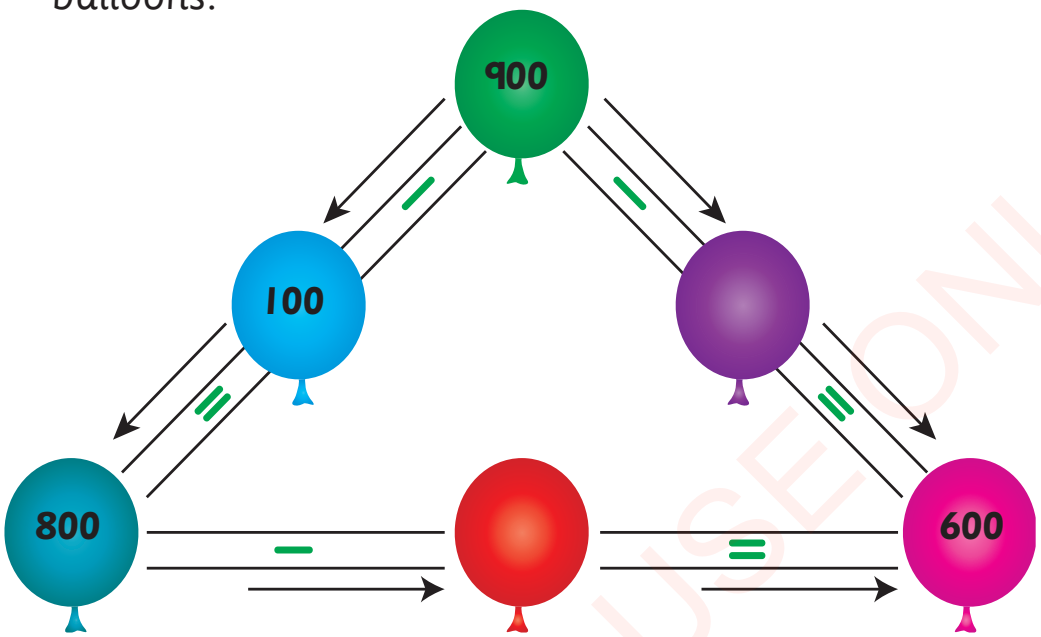
6. A second-hand toy vendor had 888 toys. He sold 573 toys. How many toys were left?

7. A business woman bought 760 bottles of juice. She sold 650 bottles. How many bottles was she left with?

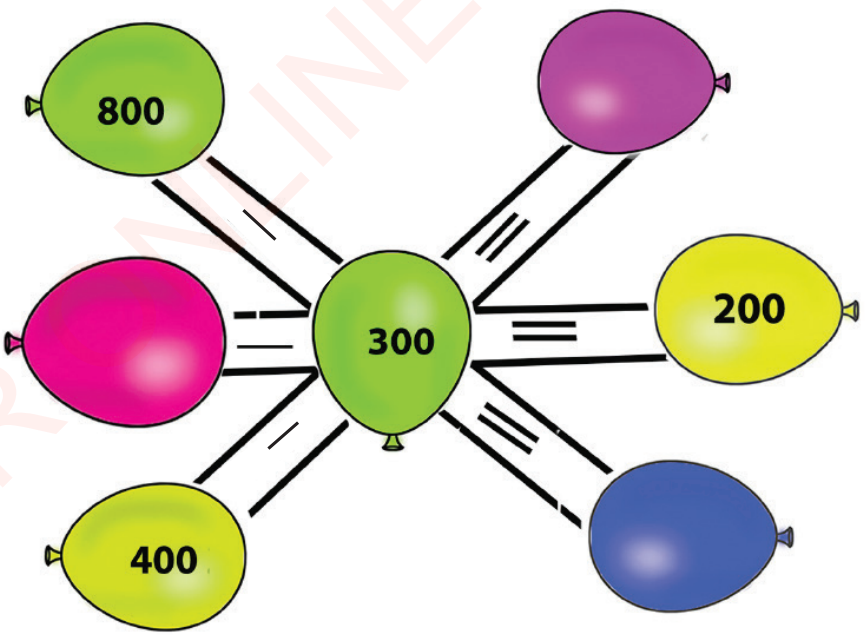
A game of subtracting numbers

Study the following diagrams and answer the questions.

1. *Fill in the missing numbers in the following picture of balloons.*



2. *Fill in the missing numbers in the picture of balloons.*



Vertical subtraction of numbers not exceeding 999 without regrouping

Example

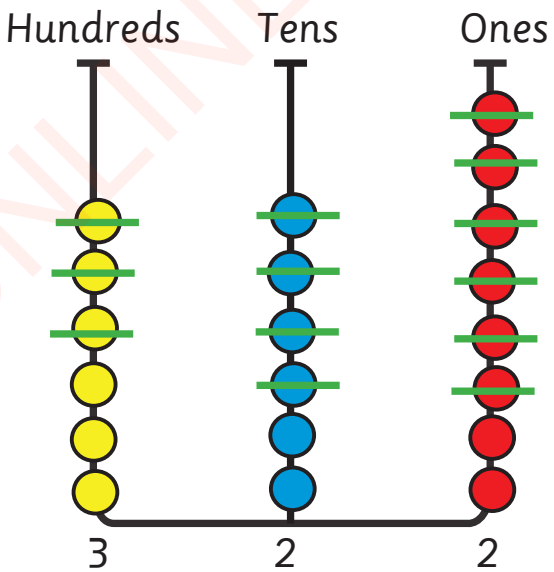
$$\begin{array}{r} 668 \\ -\ 346 \\ \hline \\ \hline \end{array}$$

	Hundreds	Tens	Ones
	6	6	8
–	3	4	6
	3	2	2

Steps

1. Subtract ones, 8 – 6 = 2. Write 2 in the place of ones.
2. Subtract tens, 6 – 4 = 2. Write 2 in the place of tens.
3. Subtract hundreds, 6 – 3 = 3. Write 3 in the place of hundreds.

Therefore, the answer is 322.



Therefore, the answer is 322.

Exercise 22

Answer the following subtraction questions.

1.	178 − 175 =	**6.**	384 − 251 =
2.	486 − 244 =	**7.**	287 − 185 =
3.	490 − 250 =	**8.**	357 − 242 =
4.	478 − 470 =	**9.**	284 − 101 =
5.	445 − 334 =	**10.**	256 − 150 =

Exercise 23

Answer the following subtraction questions.

1.	8 1 5 − 6 0 4	5.	8 1 2 − 7 1 0	9.	7 5 8 − 2 3 4
2.	7 4 4 − 3 3 3	6.	5 5 5 − 3 2 4	10.	4 5 3 − 2 4 2
3.	5 0 9 − 1 0 4	7.	9 7 5 − 2 3 0		
4.	7 8 7 − 6 4 5	8.	6 5 9 − 5 4 8		

Exercise 24

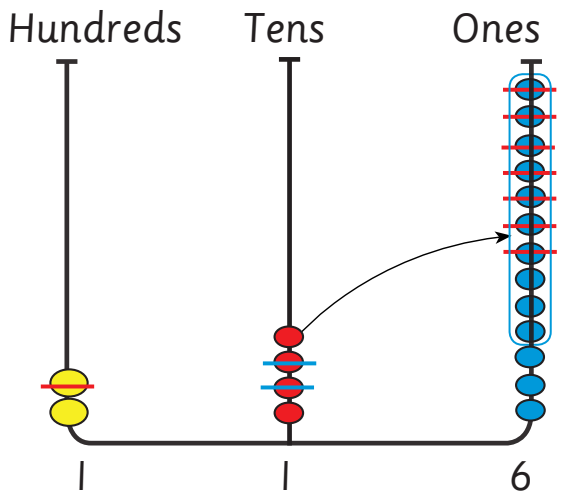
Answer the following subtraction questions.

1.	6 3 2 − 3 2 1	5.	3 2 8 − 2 1 5	9.	6 2 4 − 3 2 1
2.	7 9 9 − 5 6 6	6.	7 7 6 − 7 1 5	10.	5 1 5 − 1 0 2
3.	4 3 1 − 2 2 1	7.	8 2 4 − 2 2 1	11.	3 4 5 − 2 1 5
4.	4 6 7 − 1 1 5	8.	3 4 9 − 1 1 7	12.	2 8 6 − 1 2 3

Subtracting numbers horizontally

Activity

Subtract 243 – 127 using the Abacus.



Steps

1. Subtracting 127 from 243: Put 3 beads on the line of ones, 4 beads on the line of tens and 2 beads on the line of hundreds.
2. Subtract ones: 7 beads can not be subtracted from 3 beads. Take 1 bead from the line of tens, which is equal to 10 ones. Add 10 beads on the line of ones. The ones become 10 + 3 = 13. Remove 7 beads from the line of ones. 13 – 7 = 6. Write 6 in the ones place.
3. Subtract tens: Remove 2 beads from the line of tens. 3 – 2 = 1. Write 1 in the tens place.
4. Subtract hundreds: Remove 1 bead from the line of hundreds. 2 – 1 = 1. Write 1 in the hundreds place. Therefore, 243 – 127 = 116.

Exercise 25

Answer the following subtraction questions.

1.	823 – 147 =	6.	640 – 128 =
2.	295 – 76 =	7.	584 – 286 =
3.	864 – 576 =	8.	770 – 493 =
4.	890 – 698 =	9.	586 – 138 =
5.	356 – 279 =	10.	654 – 337 =

Exercise 26

Answer the following subtraction questions.

1.	778 – 469 =	6.	764 – 147 =
2.	984 – 427 =	7.	354 – 215 =
3.	881 – 457 =	8.	582 – 396 =
4.	456 – 257 =	9.	755 – 267 =
5.	551 – 499 =	10.	633 – 278 =

Exercise 27

Answer the following subtraction questions.

1.	987 – 498 =	6.	449 – 187 =
2.	287 – 97 =	7.	249 – 194 =
3.	384 – 295 =	8.	904 – 106 =
4.	863 – 289 =	9.	816 – 798 =
5.	692 – 188 =	10.	387 – 197 =

Vertical subtraction of numbers by regrouping

Example

$$\begin{array}{rrr} 3 & 1 & 4 \\ -\ 2 & 0 & 8 \\ \hline 1 & 0 & 6 \\ \hline \end{array}$$

Solution

	Hundreds	Tens	Ones
	3	1	4
−	2	0	8
	1	0	6

Steps

1. Subtract ones, 4 – 8.
8 can not be subtracted from 4.

	Hundreds	Tens	Ones
	3	1	4
−	2	0	8

2. Take 1 group of tens, change it to ones, 1 tens equal to 10 ones. Add 10 ones to the place of ones, 10 + 4 = 14 ones. Remained tens are 1 - 1 = 0 tens. Cross 1 and write 0 in the tens place. Also cross out 4 and write 14 in the ones place.

	Hundreds	Tens	Ones
		0	14
	3	~~1~~	~~4~~
−	2	0	8

3. Subtract ones, 14 – 8 = 6. Write 6 in the place of ones.

	Hundreds	Tens	Ones
		0	14
	3	~~1~~	~~4~~
–	2	0	8
			6

4. Subtract tens, 0 – 0 = 0. Write 0 in the place of tens.

	Hundreds	Tens	Ones
		0	14
	3	~~1~~	~~4~~
–	2	0	8
		0	6

5. Subtract hundreds, 3 – 2 = 1. Write 1 in the hundreds place.

	Hundreds	Tens	Ones
		0	14
	3	~~1~~	~~4~~
–	2	0	8
	1	0	6

Therefore, the answer is 106.

Exercise 28

Answer the following subtraction questions.

1.	5 6 4 − 2 3 5	6.	2 5 6 − 1 4 8
2.	4 8 7 − 9	7.	7 5 3 − 6 5
3.	6 0 0 − 4 8 2	8.	8 9 6 − 6 1 8
4.	9 2 5 − 6 8 8	9.	8 5 6 − 6 7
5.	8 4 1 − 7 5 9	10.	9 8 2 − 5 9 3

Exercise 29

Answer the following subtraction questions.

1.	8 9 6 − 6 1 7	6.	9 7 5 − 6 8 9
2.	4 7 7 − 2 8 9	7.	6 4 7 − 4 2 9
3.	8 7 8 − 4 9 8	8.	9 6 8 − 5 8 9
4.	9 0 0 − 7 9 8	9.	5 4 8 − 2 9 9
5.	5 8 7 − 3 9 9	10.	7 9 8 − 3 4 9

Exercise 30

Answer the following subtraction questions.

1.	784 − 495 =	6.	876 − 555 =
2.	663 − 487 =	7.	582 − 397 =
3.	817 − 709 =	8.	976 − 489 =
4.	576 − 268 =	9.	801 − 779 =
5.	754 − 269 =	10.	862 − 279 =

Word problems involving subtraction of numbers by regrouping

Example

A school had 543 desks. It was found out that 129 desks were damaged. How many desks were not damaged?

Solution

	Hundreds	Tens	Ones
	5	4	3
−	1	2	9

Steps

1. Subtract ones, 3 – 9.
9 can not be subtracted from 3.

	Hundreds	Tens	Ones
	5	4	3
−	1	2	9

2. Take 1 tens from 4 tens. You are left with 3 tens, the ones become 10 + 3 = 13 ones.

	Hundreds	Tens	Ones
		3	13
	5	~~4~~	~~3~~
−	1	2	9

3. Subtract ones, 13 – 9 = 4.
Write 4 in the ones place.

	Hundreds	Tens	Ones
		3	13
	5	~~4~~	~~3~~
–	1	2	9
			4

4. Subtract tens, 3 - 2 = 1.
Write 1 in the tens place.

	Hundreds	Tens	Ones
		3	13
	5	~~4~~	~~3~~
–	1	2	9
		1	4

5. Subtract hundreds, 5 - 1 = 4.
Write 4 in the hundreds place.

	Hundreds	Tens	Ones
		3	13
	5	~~4~~	~~3~~
–	1	2	9
	4	1	4

Therefore, the answer is 414.

Exercise 31

Answer the following questions.

1. Roza had 500 shillings in her pocket. She bought an exercise book that cost 355 shillings. How many shillings did she remain with?
2. Some ducks laid 734 eggs. A total of 218 eggs went bad. How many eggs did not go bad?
3. 300 birds landed in a tree. Later on, 108 birds flew away. How many birds remained?
4. Juma had 463 oranges. He sold 185 oranges. How many oranges remained?

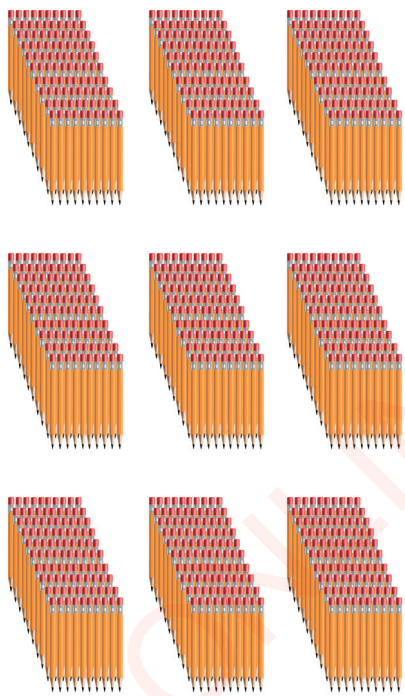
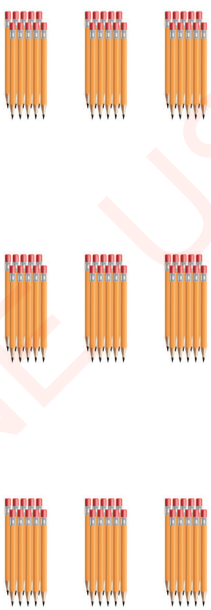
Chapter Five

Recognizing the number 1000

In previous chapters, you learned numbers from 100 to 999. In this chapter, you will learn the number 1000.

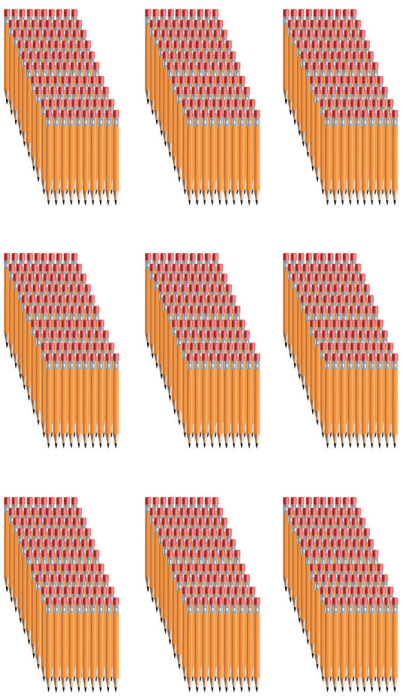
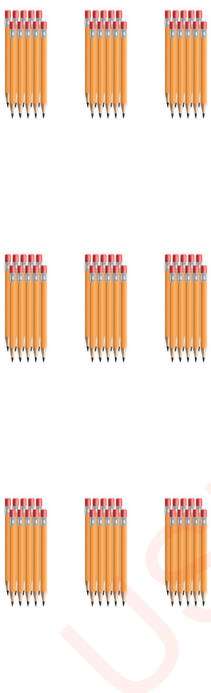
Study the following examples:

Example 1

Hundreds	Tens	Ones
		
9 hundreds	9 tens	9 ones

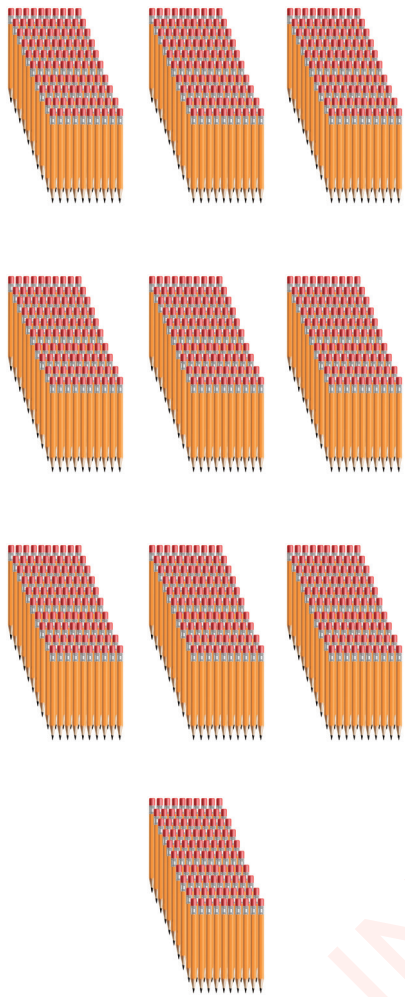
We read the number as nine hundred and ninety-nine.

Example 2

Hundreds	Tens	Ones
		 Add
9 hundreds	9 tens	10 ones

Remember

1. Group 10 ones into 1 tens and 0 ones. Carry over 1 tens to the place of tens.
2. 9 tens plus 1 tens is equal to 10 tens, which can be grouped into 1 hundreds and 0 tens. Carry over 1 hundreds from tens to the place of hundreds.
3. 9 hundreds plus 1 hundreds is equal to 10 hundreds. 10 hundreds are grouped into 1 **thousands** and 0 hundreds.

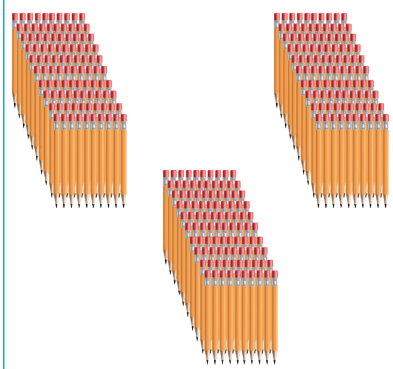
Hundreds	Tens	Ones
		
10 hundreds	0 tens	0 ones

Read the number 1000 as one thousand. Meaning 1 thousands, 0 hundreds, 0 tens and 0 ones.

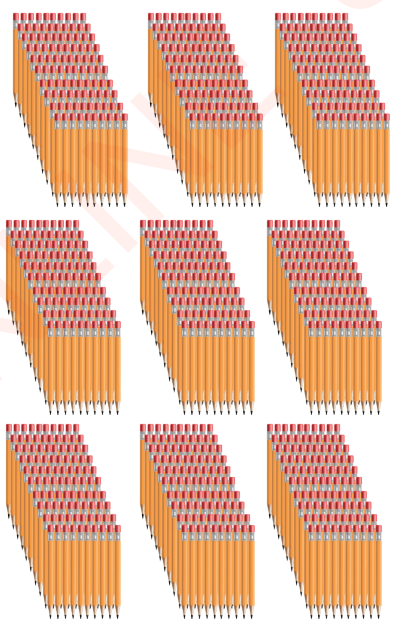
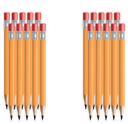
Exercise 1

Write the numbers represented by the following drawings.

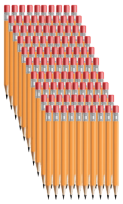
1.

Thousands	Hundreds	Tens	Ones
			

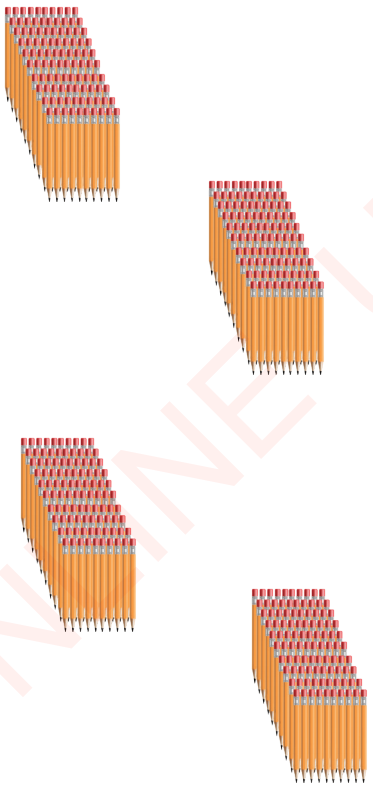
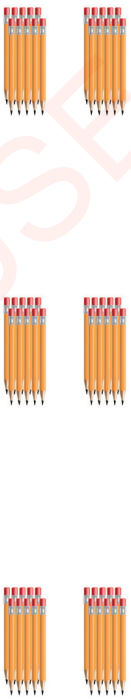
2.

Thousands	Hundreds	Tens	Ones
			

3.

Thousands	Hundreds	Tens	Ones
			

4.

Thousands	Hundreds	Tens	Ones
			

Exercise 2

Study the following boxes. Put a tick ✓ in the box containing the number 1000

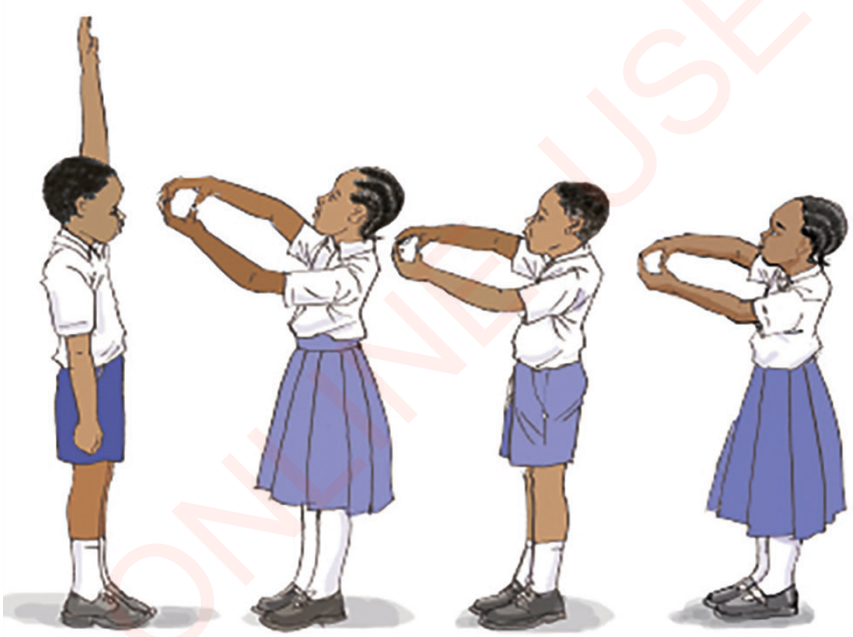
1	2	3	4	5
100	1000	0100	10	700
6	7	8	9	10
0010	200	1000	710	300
11	12	13	14	15
800	1000	0	200	1000
16	17	18	19	20
0001	600	1000	1000	460
21	22	23	24	25
0010	1000	100	900	1000
26	27	28	29	30
90	400	0	700	1000
31	32	33	34	35
10	200	0010	250	1000
36	37	38	39	40
500	100	1000	900	0100
41	42	43	44	45
101	110	300	200	700

Exercise 3

Fill in the following table by writing the given numbers in words.

Numbers in numerals	Numbers in words
९९९	
९०५	
1000	
६९९	

A game for writing 1000 by acting



Steps

1. I am the first. I write 1 by lifting my left hand while facing you.
2. I am the second. I write 0 by joining my fingers I have created 0.

3. I am the third. I write 0 by joining my fingers. I have created 0.
4. I am the fourth. I write 0 by joining my fingers. I have created 0.
5. What is the largest number we have created all together?

Exercise 4

Answer the following questions.

1. Write the number 1000 in the blank boxes.

1000	1000	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

2. If one zero is eliminated from 1000, what will be the name of the new number?
3. If two zeros are eliminated from 1000, what will be the new number formed?
4. If three zeros are eliminated from 1000, what will be the new number formed?

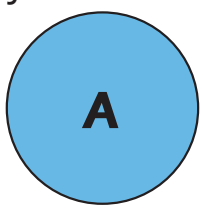
Chapter Six

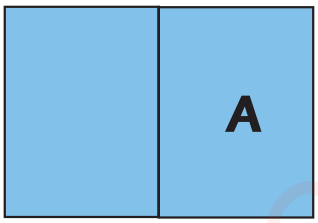
Recognising Fractions

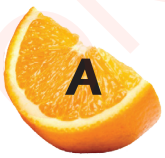
In Standard One, you learned about a half and a quarter. In this chapter you will learn about **one third** and **two thirds**.

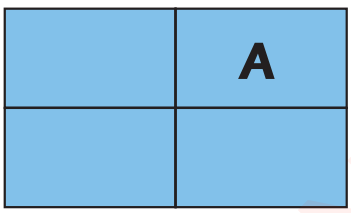
Revision exercise

Write in numeral the fraction represented by the region A or object A.

1. 

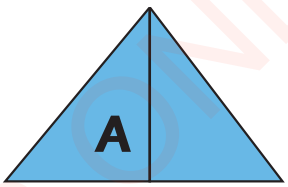
2. 

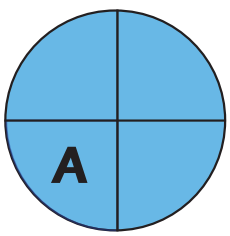
3. 

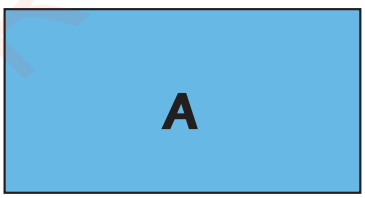
4. 

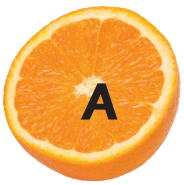
5. 

Write in words the fraction represented by the region A.

6. 

7. 

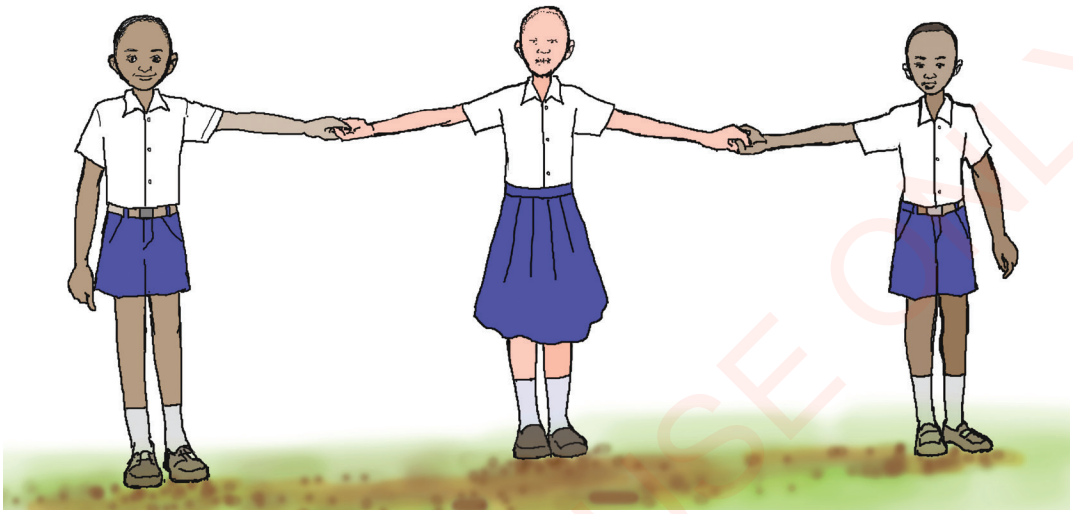
8. 

9. 

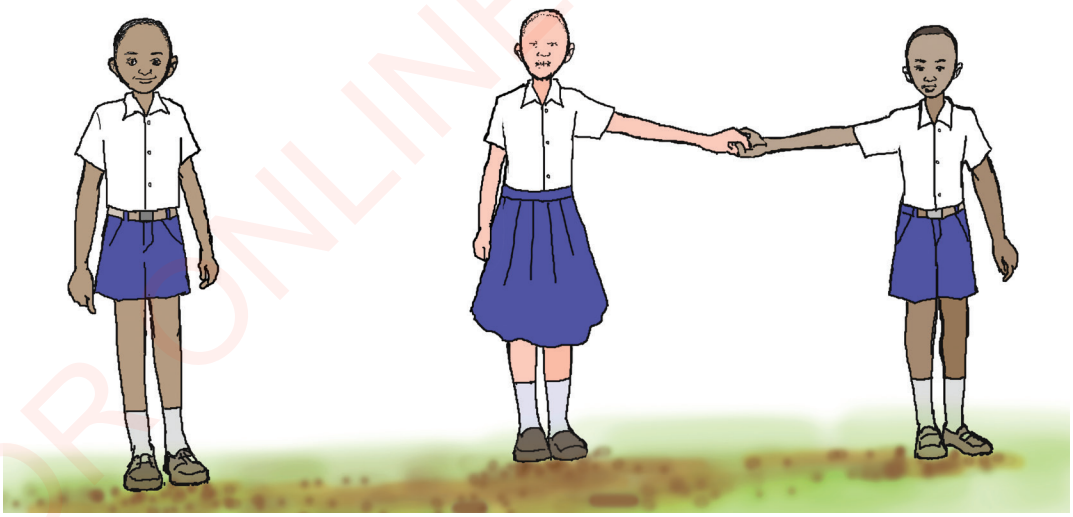
A game for recognising one third and two thirds

We are three pupils. We are playing a game of one third and two thirds. We stand in a straight line. One of us in the middle holds hands with the rest.

Now, we become one whole.



I have to leave the line. Goodbye.
Look, now I am far from you.



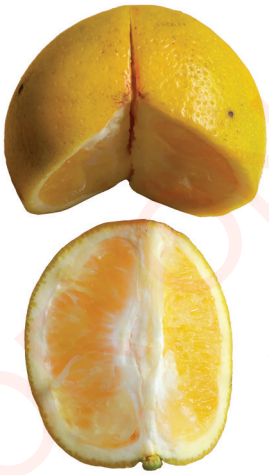
I am one third of the three of us.
What about you?
We are two thirds of the three of us.

Recognising one third and two thirds

An orange is divided into three equal parts. One part is one third and the remaining two parts are two thirds.

An orange

The orange is divided into three equal parts



One piece of the orange is removed.

The removed piece of the orange is one third.

One third $\frac{1}{3}$

The remaining two pieces of the orange are two thirds.

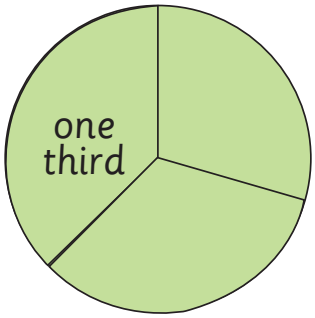
Two thirds $\frac{2}{3}$

Example 1

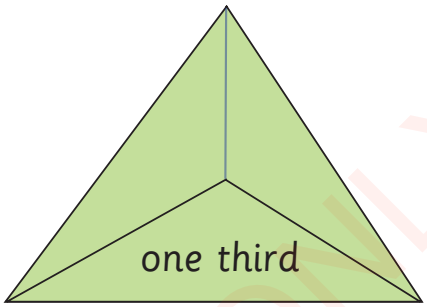
Recognise one third by looking at the named parts.

Write the fraction represented by the named region.

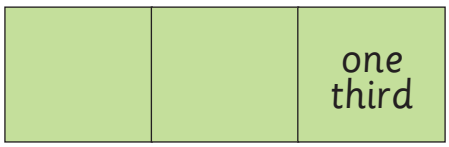
1.



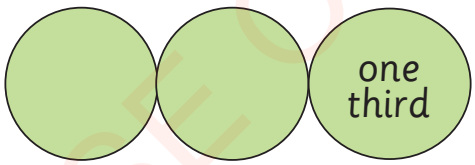
2.



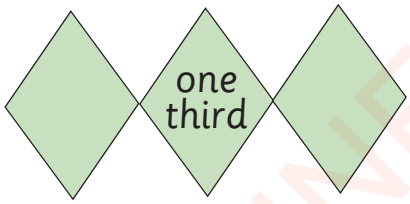
3.



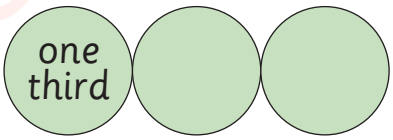
4.



5.



6.



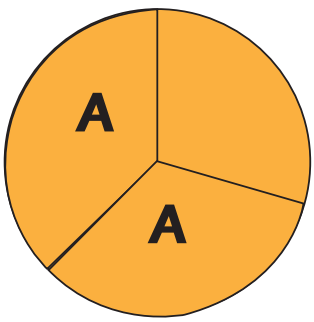
Example 2

Write the fraction represented by the labelled region A.

1.

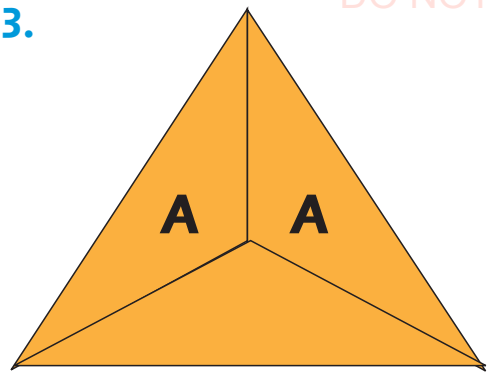
two thirds

2.



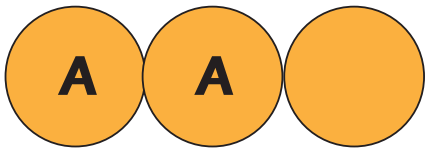
two thirds

3.



Two thirds

4.

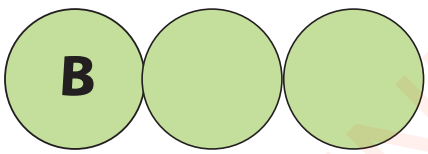


Two thirds

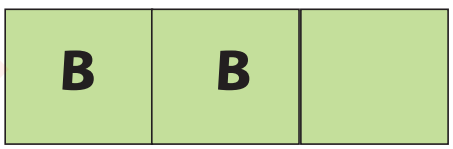
Exercise 1

Write the fraction represented by the labelled region B.

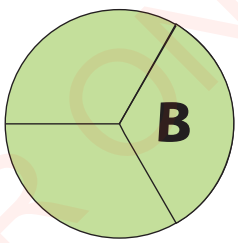
1.



2.



3.



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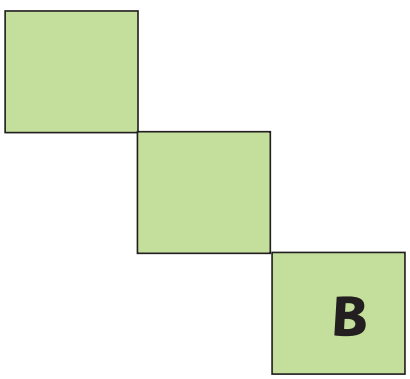
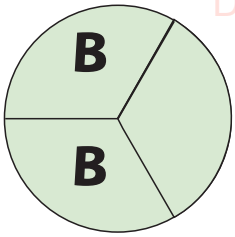


5. 

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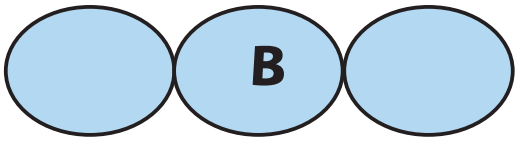
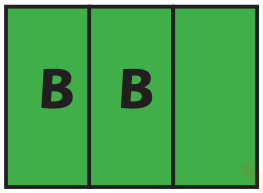
7. 

8. 

Writing one third in numerals

Steps

1. Write 1.
2. Write the sign _ under 1 so that it looks like $\underline{1}$.
3. Write 3 under the sign $\underline{1}$ to get the fraction $\frac{1}{3}$.
4. $\frac{1}{3}$ is read as one third.

Writing two thirds in numerals

Steps

1. Write 2.
2. Write the sign _ under 2 so that it looks like $\underline{2}$.
3. Write 3 under sign $\underline{2}$ to get the fraction $\frac{2}{3}$.
4. $\frac{2}{3}$ is read as two thirds.

Exercise 2

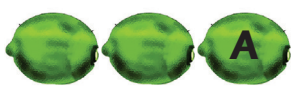
Answer the following questions.

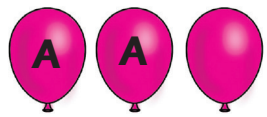
1. Write one third in numerals in every box.

2. Write two thirds in numerals in every box.

Exercise 3

Write in words the fraction of the object with the letter A.

Objects		Group	Name the fraction of the object with the letter A.
1.		One fruit among three	One third

Objects		Group	Name the fraction of the object with the letter A.
2.			
3.			
4.			
5.			

Exercise 4

Write in words and in numerals the fraction of the labelled region A.

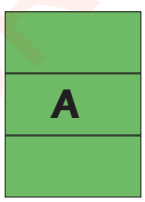
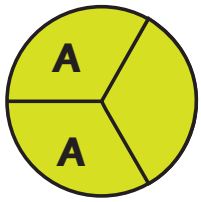
Figure	Name of the fraction in words	Fraction in numerals
		

Figure	Name of the fraction in words	Fraction in numerals
		
		

Exercise 5

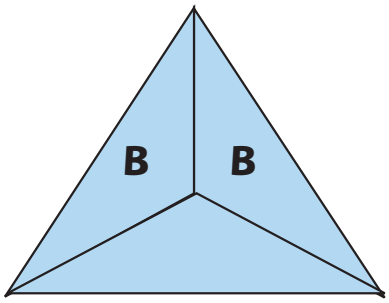
Fill the blanks in the following table.

	Fraction in numerals	Fraction in words
1.	$\frac{1}{2}$	
2.		one third
3.	$\frac{1}{4}$	
4.	1	
5.		half
6.		whole
7.	$\frac{1}{3}$	
8.		two thirds
9.	$\frac{2}{3}$	
10.		one fourth

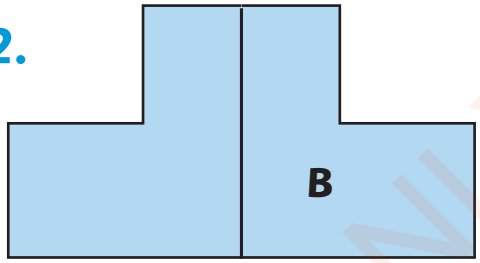
Exercise 6

Write the fraction of each of the labelled region B in numerals.

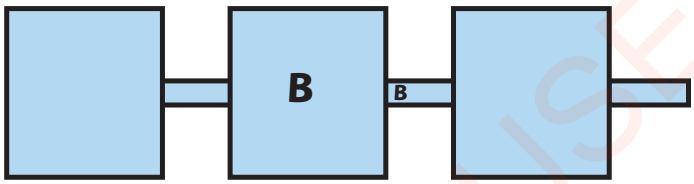
1.



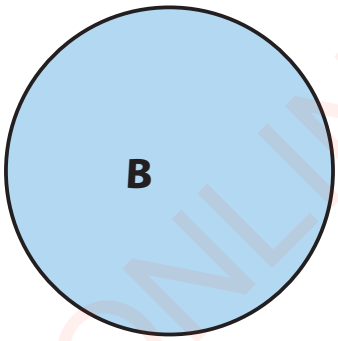
2.



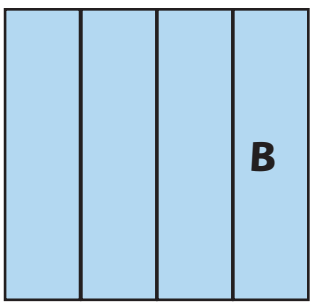
3.



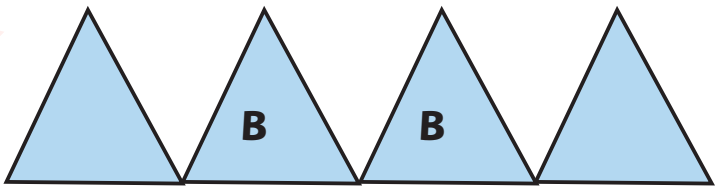
4.



5.



6.



Chapter Seven

The Tanzanian currency

A currency is the type of money used in a country. The Tanzanian shilling is our currency. Tanzanian money is in the form of coins or banknotes. We use coins and banknotes to buy things.

Example

Pictures of Tanzanian Currency

Front side	Back side
	
50 shillings	
	
100 shillings	
	
200 Shillings	
	
500 Shillings	

Exercise 1

Answer the following questions.

1. Mention the name of the Tanzanian leader on the 200 shilling coin.
2. Name the animal on the 200 shilling coin.
3. Mention the name of the Tanzanian leader on the 100 shilling coin.
4. Name the animal on the 100 shilling coin.
5. Mention the name of the Tanzanian leader on the 50 shilling coin.
6. Name the animal on the 50 shilling coin.
7. Mention the name of the Tanzanian leader on the 500 shilling coin.
8. Name the animal on the 500 shilling coin.

Study the pictures on the following coins.

Exercise 2

Answer the following questions.

1. Which coin has the lowest value?
2. Which coin has the highest value?
3. Which of the two coins can buy more sweets?

Read the following passage and then answer the questions in exercise 3.

Asha had 900 shillings. She used 500 shillings to buy a pen. She spent 200 shillings to buy a pencil. Yohana had 900 shillings. He bought one pen and two pencils for the same price.

200 Shillings

500 Shillings

Exercise 3

Answer the following questions.

1. How much money did Asha spend?
2. How much money did Yohana spend?
3. How much money did Asha remain with?
4. How much money did Yohana remain with?

Exercise 4

Recognise the following Tanzanian coins and fill in the blank spaces.

1.

A _____ shilling coin

2.

A _____ shilling coin

3.

A _____ shilling coin

4.

A _____ shilling coin

5.

A _____ shilling coin

6.

A _____ shilling coin

7.

A _____ shilling coin

8.

A _____ shilling coin

Recognize signs on Tanzanian Banknotes

Study the features of a 500 and a 1000 Tanzanian banknotes.

Answer the following questions

1. List all the features on a 1000 Tanzanian shilling banknote.
2. List all the features on a 500 Tanzanian shilling banknote.
3. Name the differences between the two banknotes above.

Exercise 5

Compare values of the Tanzanian currency coins.

1. 10 coins of 50 shillings = _____ shillings
2. 7 coins of 100 shillings = _____ shillings
3. 5 coins of 200 shillings = _____ shillings
4. 2 coins of 500 shillings = _____ shillings
5. 2 coins of 50 shillings = _____ shillings
6. 6 coins of 50 shillings = _____ shillings
7. 10 coins of 100 shillings = _____ shillings
8. 3 coins of 200 shillings = _____ shillings
9. 5 coins of 100 shillings = _____ shillings
10. 6 coins of 100 shillings = _____ shillings

Example

How many 50 shilling coins are there in a 100 shilling coin?

There are **two** 50 shilling coins in a 100 shilling coin.

Exercise 6

Compare the values of Tanzanian coins

1. How many 100 shilling coins are there in a 500 shilling coin?

_____

2. How many 50 shilling coins are there in a 500 shilling coin?

_____

3. How many 100 shilling coins are there in a 200 shilling coin?

_____

4. How many 50 shilling coins are there in a 200 shilling coin?

_____

Exercise 7

Compare the values of Tanzanian banknotes and coins.

1. How many 500 shilling banknotes are there in a 1000 shilling banknote?

_____

2. How many 200 shilling coins are there in a 1000 shilling banknote?

_____

3. How many 50 shilling coins are there in a 100 shilling coin?

_____

4. How many 100 shillings coins are there in a 1000 shilling banknote?

_____

Total value of coins and blank notes

Example

__2__ 200 shilling coins plus __1__ 100 shilling coin = 500 shillings.

Exercise 8

Fill in the blank spaces provided.

1. _____ 200 shilling coins plus _____ 500 shilling coin = 900 shillings.
2. _____ 50 shilling coins plus _____ 200 shilling coins = 550 shillings.
3. _____ 200 shilling coins plus _____ 500 shilling banknote = 700 shillings.
4. _____ 100 shilling coins plus _____ 50 shilling coin = 350 shillings.
5. _____ 100 shilling coins plus _____ 200 shilling coin = 800 shillings.
6. _____ 500 shilling banknote plus _____ 100 shilling coins = 900 shillings.
7. _____ 50 shilling coins plus _____ 200 shilling coins = 750 shillings.
8. _____ 200 shilling coin plus _____ 50 shilling coins = 250 shillings.
9. _____ 500 shilling banknote plus _____ 500 shilling coin = 1000 shillings.
10. _____ 50 shilling coins plus _____ 100 shilling coins = 300 shillings.

Read the conversation and answer the questions that follow.

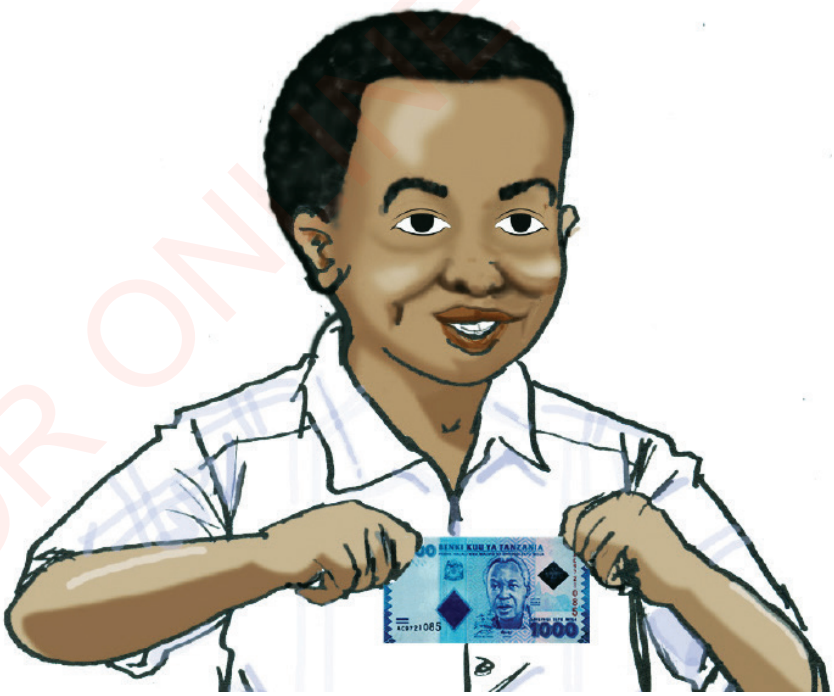
Juma I have a 1000 shilling banknote. I can buy sweets, mangoes and exercise books.

Roza I have a 500 shilling banknote and a 200 shilling coin. I can buy a pencil and an exercise book.

Answer the following questions

1. How much money does Roza have?
2. How much money does Juma have?
3. Between Juma and Roza, who has more money?
4. How much more money does Juma have than Roza?

Read the following passage and answer the questions that follow.



I am Juma. I am in Standard Two.

I have a 1000 shilling banknote.
I am going to buy school items.
I will buy one exercise book for 500 shillings.
I will buy one sharpener for 200 shillings.
I will buy one rubber for 100 shillings.
I will buy one pencil for 200 shillings.

Answer the following questions.

1. What school items will Juma buy?
2. How much money will Juma spend on an exercise book and a pencil?
3. List other items that you can buy for 600 shillings.

Exercise 9

Write the value of the following banknotes and coins.

1. 

_____

4. 

_____

2. 

_____

5. 

_____

3.

_____

6.

_____

Read the following dialogue and answer the questions that follow.

Pupils Good morning!

Shopkeeper Good morning! You are welcome. Can I help you?

Pupils We have come to buy pens. How much does each cost?

Shopkeeper A pen costs 500 shillings.

Pupils We have 1000 shillings. How many pens can we get?

Shopkeeper You will get two pens.

Pupils Give us two pens, please. Here is the money.

Shopkeeper Thank you, here are the pens.

Pupils Thank you.

Answer the following questions.

1. What items did the pupils buy?
2. How much money did the pupils spend?
3. If the pupils had 700 shillings, how many pens would they buy?

Adding money with values not exceeding 1000 shillings

Example

800 shillings plus 200 shillings equals 1000 shillings.

800 shillings + 200 shillings = 1000 shillings.

Exercise 10

Fill in the blanks

1. 600 shillings plus 400 shillings, equals _____ shillings.
2. 100 shillings plus 900 shillings, equals _____ shillings.
3. 350 shillings plus 400 shillings, equals _____ shillings.
4. 550 shillings plus 435 shillings, equals _____ shillings.
5. 300 shillings plus 600 shillings, equals _____ shillings.
6. 750 shillings plus 250 shillings, equals _____ shillings.
7. 700 shillings plus 300 shillings, equals _____ shillings.
8. 800 shillings plus 150 shillings, equals _____ shillings.

9. 200 shillings plus 320 shillings plus 480 shillings, equals _____ Shillings.

10. 450 shillings plus 300 shillings plus 150 shillings, equals _____ shillings.

Example

Word problems involving the addition of money

Ali went to the market. He bought pears for 300 shillings. He also bought oranges for 700 shillings. How much money did he spend?

Steps

Oranges		700 shillings
Pears	+	300 shillings
Total		1000 shillings

Exercise 11

Answer the following word problems.

1. Maria got 300 shillings from her mother. She also got 600 shillings from her father. How much money did she get in total?

2. Ali bought a plate for 450 shillings. He also bought a cup for 340 shillings. How much money did he spend?

3. A mother sold mangoes for 550 shillings. She also sold pears for 400 shillings. How much money did she get in total?

4. A ruler is sold for 250 shillings. A pen is sold for 200 shillings. What is the total cost of the two items?

5. Amina received 900 shillings from her grandmother. She also received 50 shillings from her uncle. How much money did she receive in total?

6. A father bought milk for his child. He used 500 shillings in the morning and 400 shillings in the evening. How much did he spend on milk in total?

Subtraction of amounts of money

Example 1

550 shillings minus 250 shillings remains 300 shillings.

550 - 250 = 300

Example 2

800 shillings minus 200 shillings remains 600 shillings.

880 - 200 = 600

Exercise 12

Fill in the blanks.

1. 900 shillings minus 800 shillings remains _____ shillings.

2. 850 shillings minus 500 shillings remains _____ shillings.

3. 900 shillings minus 650 shillings remains _____ shillings.

4. 550 shillings minus 500 shillings remains _____ shillings.

5. 700 shillings minus 250 shillings remains _____ shillings.

6. 600 shillings minus 350 shillings remains _____ shillings.

7. 650 shillings minus 450 shillings remains _____ shillings.

8. 800 shillings minus 750 shillings remains _____ shillings.

9. 1000 shillings minus 1000 shillings remains _____ shillings.

10. 400 shillings minus 250 shillings remains _____ shillings.

Word problems involving subtraction of amount of money

Example

Musa had 1000 shillings. He bought a pen for 650 shillings. How much money was left?

Steps

$$\begin{array}{rr} & 1000 \text{ shillings} \\ - & 650 \text{ shillings} \\ \hline & 350 \text{ shillings} \end{array}$$

Therefore, Musa had 350 shillings left.

Exercise 13

Answer the following word problems.

1. Asha bought buns for 250 shillings. She gave a 1000 shilling note. How much change did she get?
2. Maria had 650 shillings. She gave 300 shillings to her sister. How much money was left?
3. Roza had 900 shillings. She bought an exercise book for 500 shillings. How much money was left?
4. A balloon costs 800 shillings. If the price is reduced by 150 shillings. What will be the new price?
5. Alex had 600 shillings in his pocket. He lost 450 shillings. How much money was left?

Chapter Eight

Recognizing measurements

In this chapter you will learn measurement tools of length, weight and volume.

Length

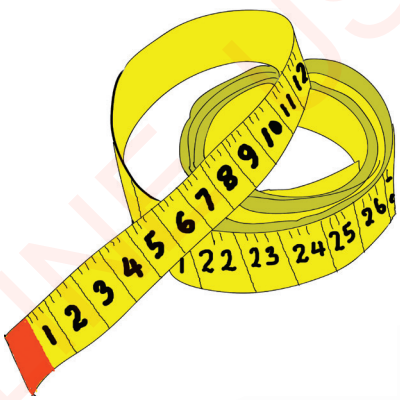
Length is a measurement of an object from end to end. Length can be measured horizontally or vertically.

We can measure things that have equal or unequal lengths.

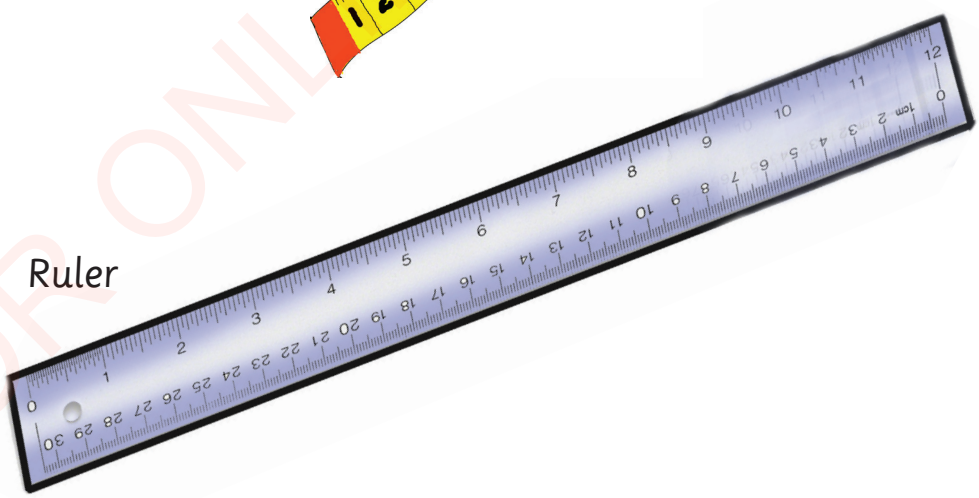
Tools for measurement of length

1. Standard tools

   Tape measure



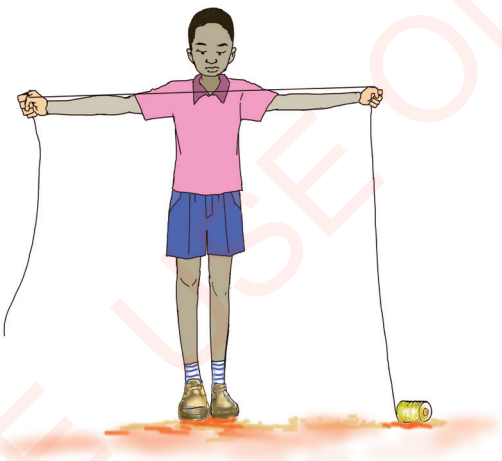
   Ruler



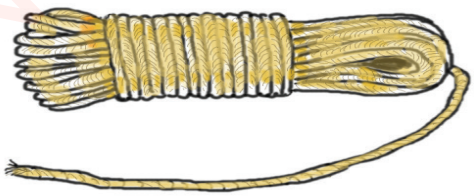
2. Non standard tools

Step

Hands span



Rope



Units for measuring length

1. Kilometre
2. Metre
3. Centimetre
4. Millimetre

Example

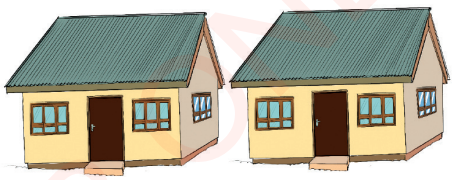
Study the following pictures.

The bottles have equal heights.

The bottles have unequal heights.

The pencils have equal lengths.

The pencils have unequal lengths.



The walls of the houses have equal heights.

The walls of the houses have unequal heights.

Exercise 1

Circle the letter of the shorter object.

1.

A

B

2.

A

B

3.

A

B

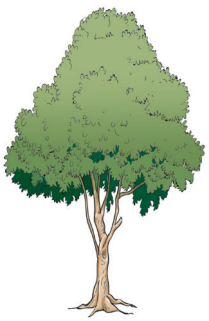
4.

A

B

5.

A



B

Exercise 2

Answer the following questions.

1. Name things with equal lengths in your school.
2. List things with equal lengths from your home.
3. Name things with unequal lengths in your school.

Distance

Distance is the length from one point to another. We can arrange things in our environment. Things can be close or far from each other.

Exercise 3

Study the following picture and answer the questions that follow.

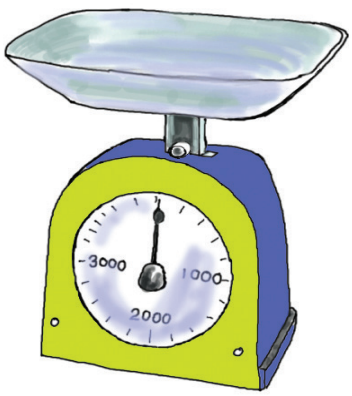
1. Between the Post Office and the open market, which one is nearer to the school?
2. Between the Post Office and the car on the road, which one is closer to the school?
3. Between the open market and the school, which one is closer to the Post Office?

Mass

1. Standard tools

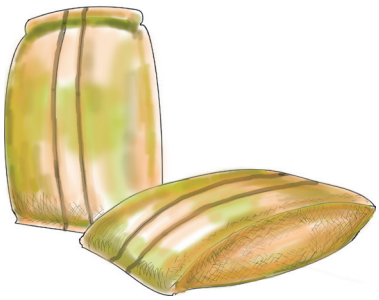
Beam balance

Kitchen scale

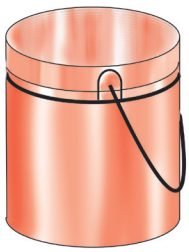


2. Non-standard tools

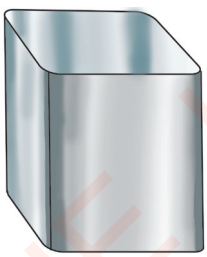
Sacks



Bucket



Tin



Hands

Measuring units of mass

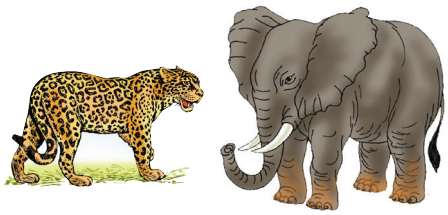
1. Gram

2. Kilogram

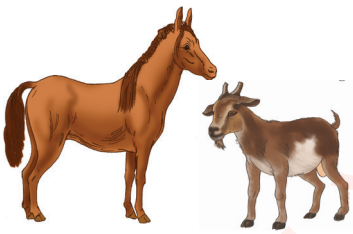
Exercise 4

Circle the object which is heavier.

1.



2.



3.

4.

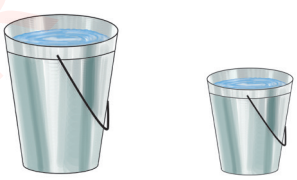
5.

6.

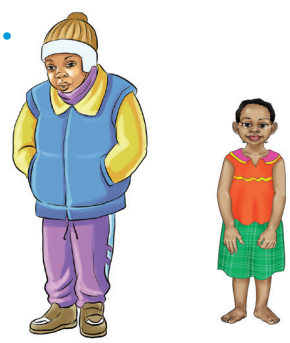
7.

8.

9.

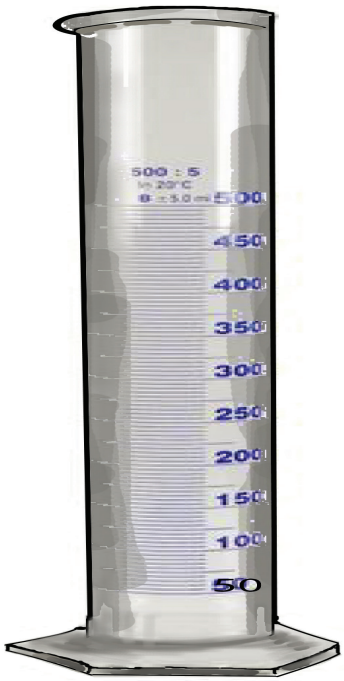


10.

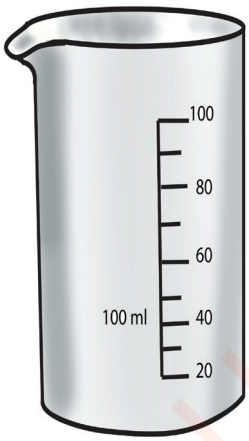


Volume or capacities

1. Standard devices



Measuring cylinder



Beaker

Gallon

2. Non-standard device

Bottle

Jug

Glass

Units for measuring volume or capacities

1. Millilitres
2. Litres
3. Cubic centimetres

Capacity

The capacity of a device for measuring valume is the amount that fills the device. We can compare capacities of two or more devices.

Exercise 5

Answer the following questions.

a

b

1. Which bottle has more liquid than the other?

a

b

2. Which jug has more juice?
3. Which objects have the same capacity in your home?
4. Which objects have the same capacity at your school?
5. What objects in the shop have the same capacity?

Chapter Nine

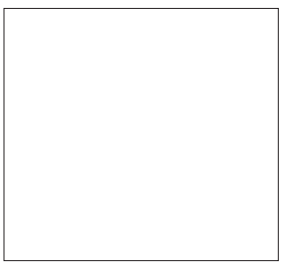
Identifying figures

Identifying plane figures/shapes

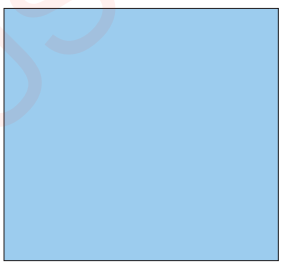
Plane figures are recognized by their flat faces. Study the following figures and answer questions that follow.

Rectangle

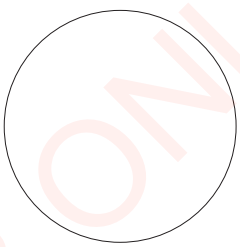
A shape of a rectangle



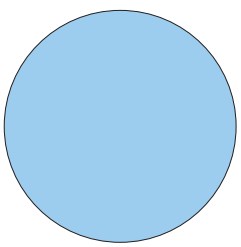
Square



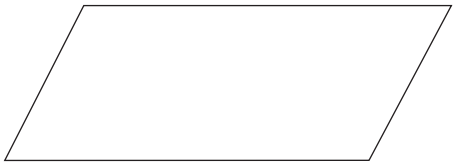
A shape of a square



Circle

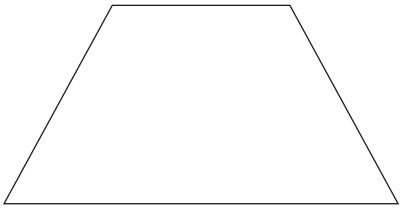


A shape of a circle

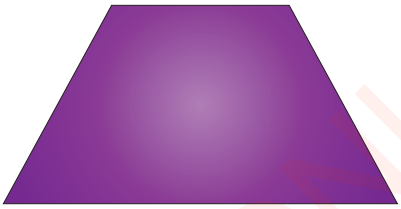


Parallelogram

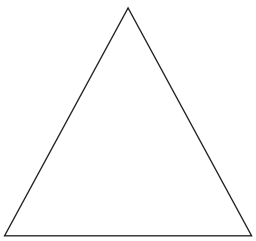
A shape of a parallelogram



Trapezium

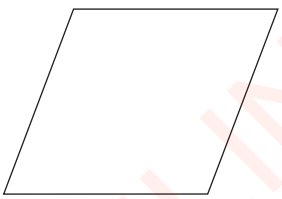


A shape of a trapezium

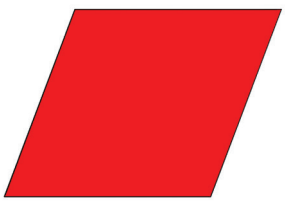


Triangle

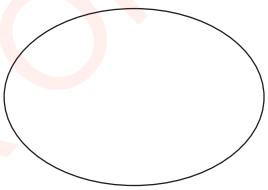
A shape of a triangle



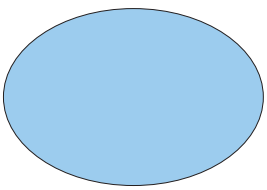
Rhombus



A shape of a rhombus



Oval



Oval

The plane figures with four sides are called quadrilaterals.

Exercise 1

Answer the following questions.

1. Name things that have a shape of a circle?
2. Which things in your classroom have a shape of a rectangle?
3. Name things that have a shape of a triangle
4. Mention any objects with a square shape.
5. What objects have an oval shape?
6. List the names of the quadrilaterals from your answers above.

Activity

Playing "ukuti ukuti"

Let us play together by joining our hands as indicated in the picture below.

Let us sing the song and then answer the questions that follow.

Leaders Ukuti ukuti
Followers Wa mnazi wa mnazi
Leaders Mwenzetu mwenzetu
Followers Kagongwa kagongwa
Leaders Na nini na nini?
Followers Na gari na gari
Tumpeleke hospitalini asije kusema
kwa baba yake
yesa yesa yesa yee
Cheza kidogo yesa, yesa, yesa yee

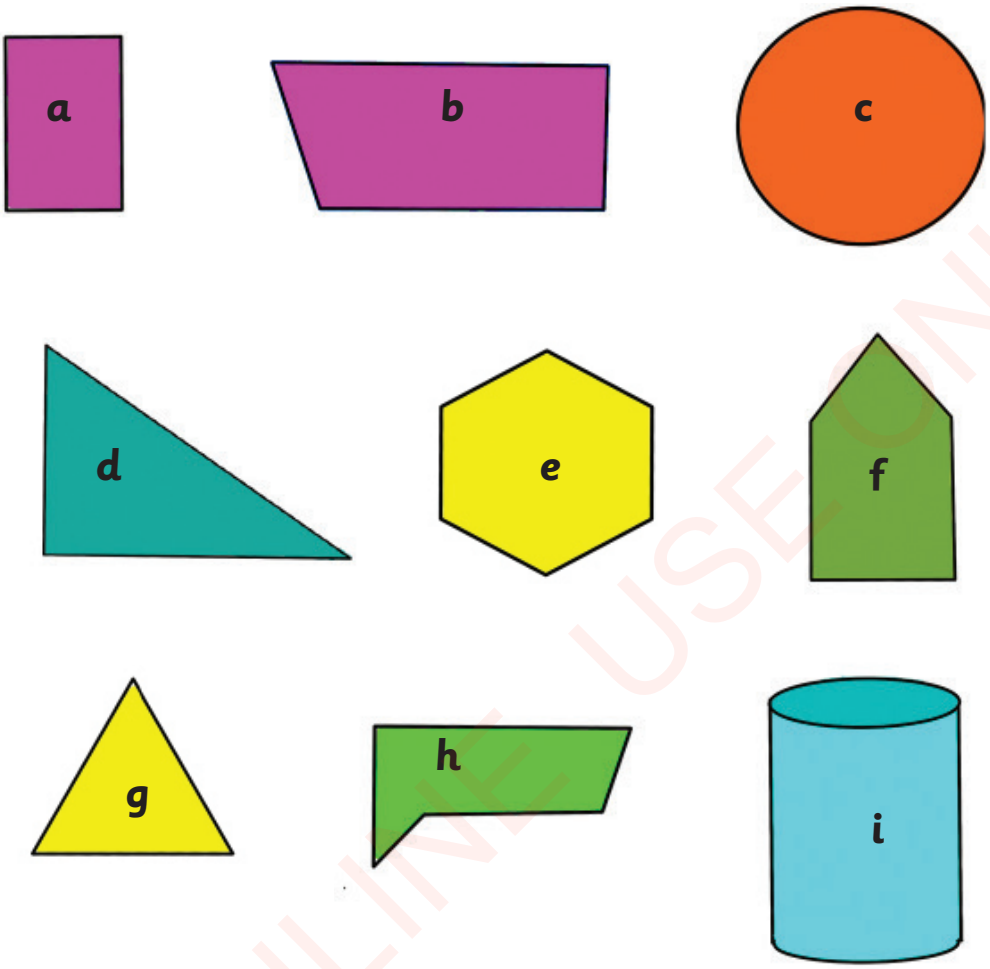
Exercise 2

Answer the following questions according to the play.

1. What shape does the arrangement of players relate to?
2. What other game is similar to this game?.
3. What game has a rectangular arrangement?

Exercise 3

Answer the following questions in relation to shapes.

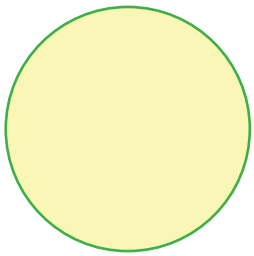
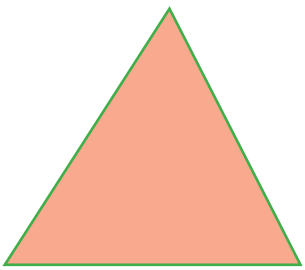


1. Write the letters of all the shapes with four sides.
2. Write the letter appearing in the shape of a circle.
3. Write the letters of all the shapes with three sides.
4. Mention the shapes that are different from the shape of a triangle or a circle.

Example

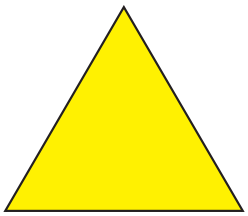
Learning how to draw plane shapes

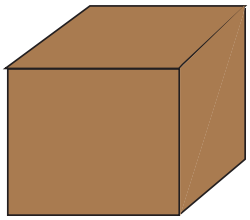
Study plane figures by drawing them.

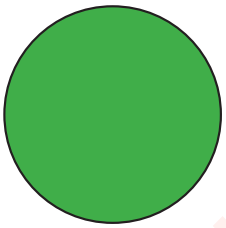
1. Draw a circle by tracing a 100 shilling coin.	 This is a shape of a plane figure.
2. Draw a rectangle by tracing around a matchbox.	 This is a shape of a plane figure.
3. Draw a triangle by tracing the toy of a pyramid.	 This is a shape of a plane figure.

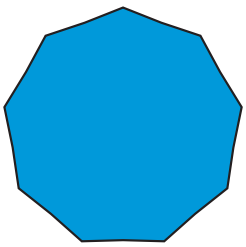
Exercise 4

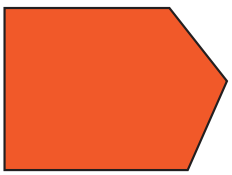
Study the following figures and then answer the questions below.

a 

b 

c 

d 

e 

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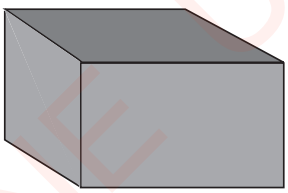
g 

h 

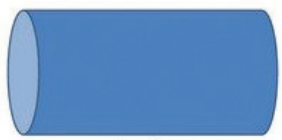
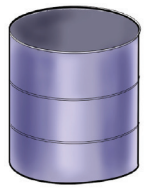
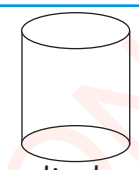
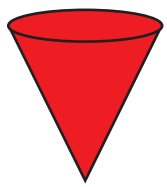
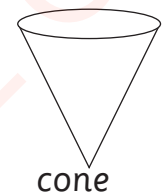
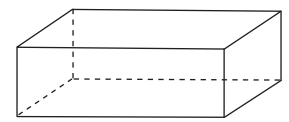
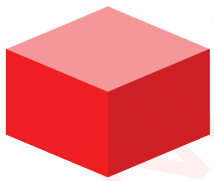
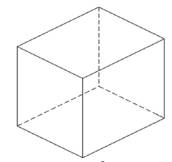
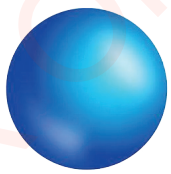
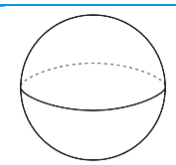
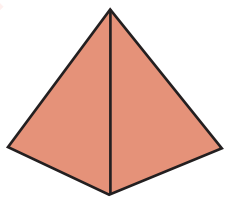
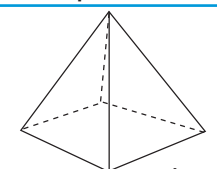
i 

1. Write the letters of all the shapes of plane figures.
2. Write the letters of all the shapes of non-plane figures.
3. Write the names of any three shapes of plane figures.

Non-plane figures

Non-plane figures are shapes or figures which have length, width and thickness, or height. Non-plane shapes have capacities or volumes.

Examples

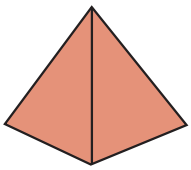
Non-plane shapes	Real objets	Figures
1. 		 cylinder
2. 		 cone
3. 		 prism
4. 		 cube
5. 		 sphere
6. 		 pyramid

Exercise 5

Put a tick ✓ for plane figures and a cross × for non-plane figures in the spaces provided.

1. 

2. 

3. 

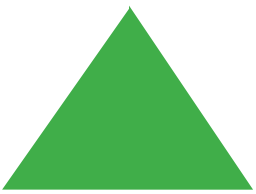
4. 

5. 

6. 

7. 

8. 

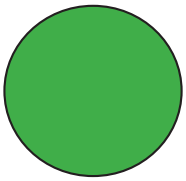
9. 

10. 

Plane and non-plane shapes

How to identify plane and non-plane shapes.
Plane shapes have flat faces, while non-plane shapes have a volume or a capacity.

Example

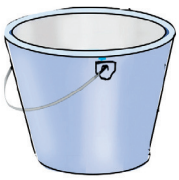


This is a plane shape.

This is a non-plane shape.

Exercise 6

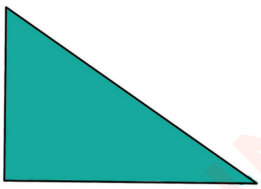
Write the word **plane** or **non-plane** in the blanks.

1. 

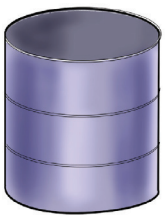
This shape is _____

4. 

This shape is _____

2. 

This shape is _____

5. 

This shape is _____

3. 

This shape is _____

6. 

This shape is _____

7. Draw any two plane shapes.
8. Draw any two non-plane shapes.

Exercise 7

Draw and colour the following shapes.

1. A shape of a rectangle	**2.** A shape of a parallelogram
3. A shape of a triangle	**4.** A shape of a trapezium
5. A shape of a square	**6.** A shape of a rhombus
7. A shape of a circle	**8.** Oval
9. A shape of a sphere	**10.** A shape of a pyramid
11. A shape of a cone	**12.** A shape of a cylinder
13. A shape of a prism	**14.** A shape of a cube

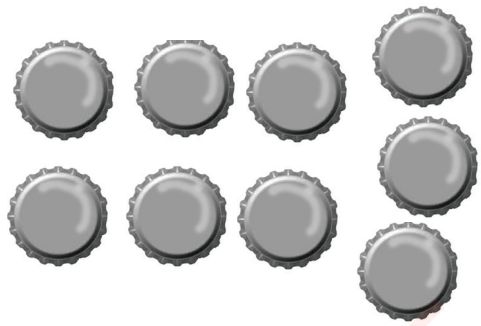
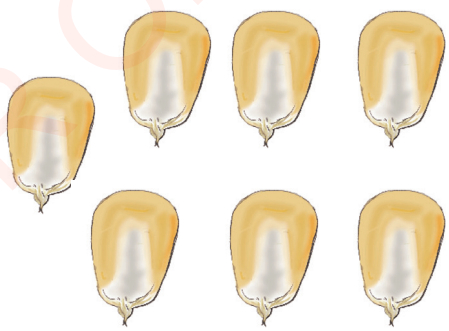
Chapter Ten

Collecting and Listing objects

Collecting different things/objects from the environment

The environment consists of different objects which can be collected, named and counted. For example, different seeds and bottle tops. Avoid collecting dangerous objects like razor blades and needles.

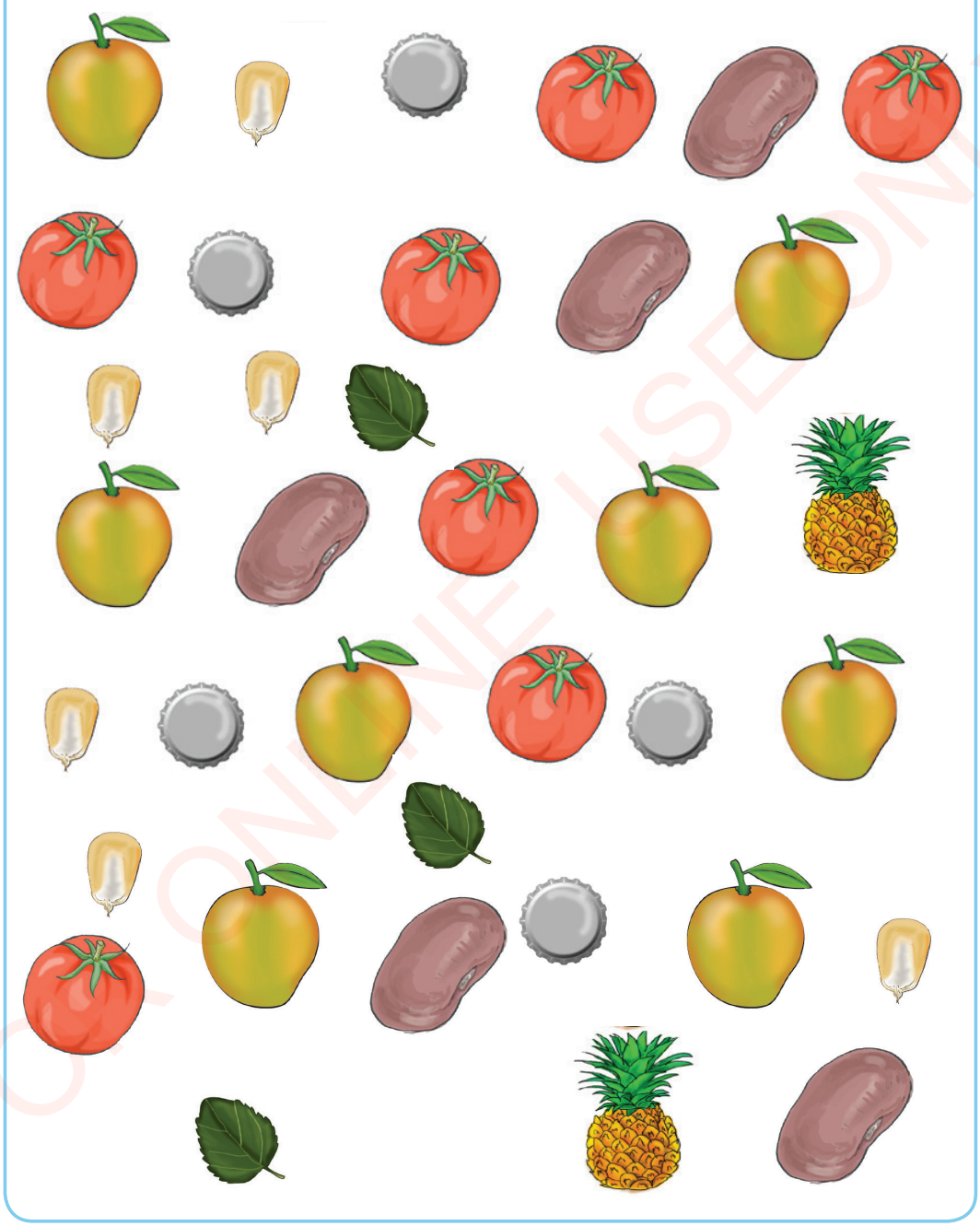
Examples

	Bottle tops
	Sticks
	Maize seeds

Activity

1. Collect different counting objects from your school surroundings.

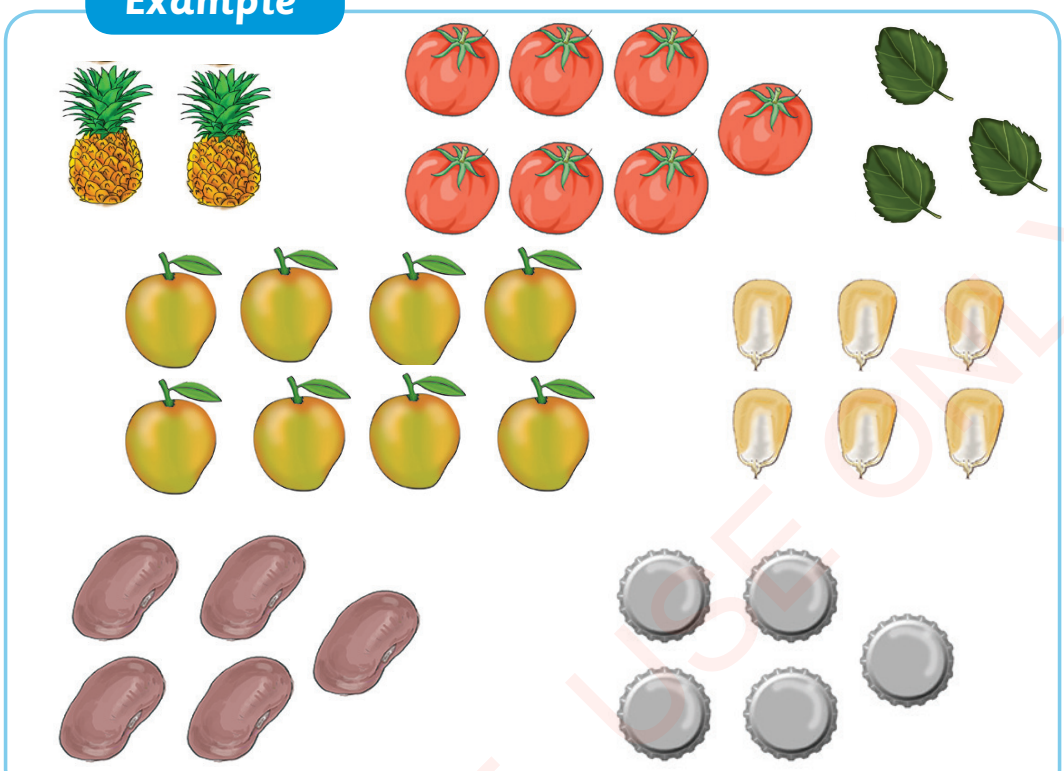
Example



2. Sorting objects

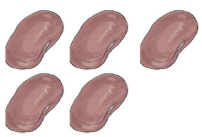
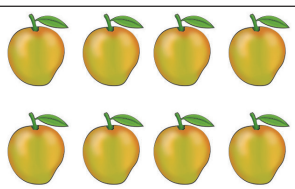
Put together similar objects you have collected.

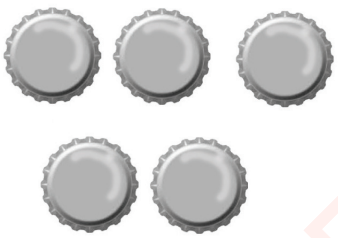
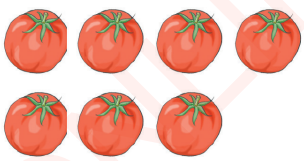
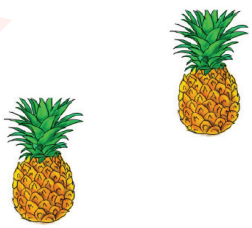
Example



3. Recording

Write the name and number of objects in the Table below.

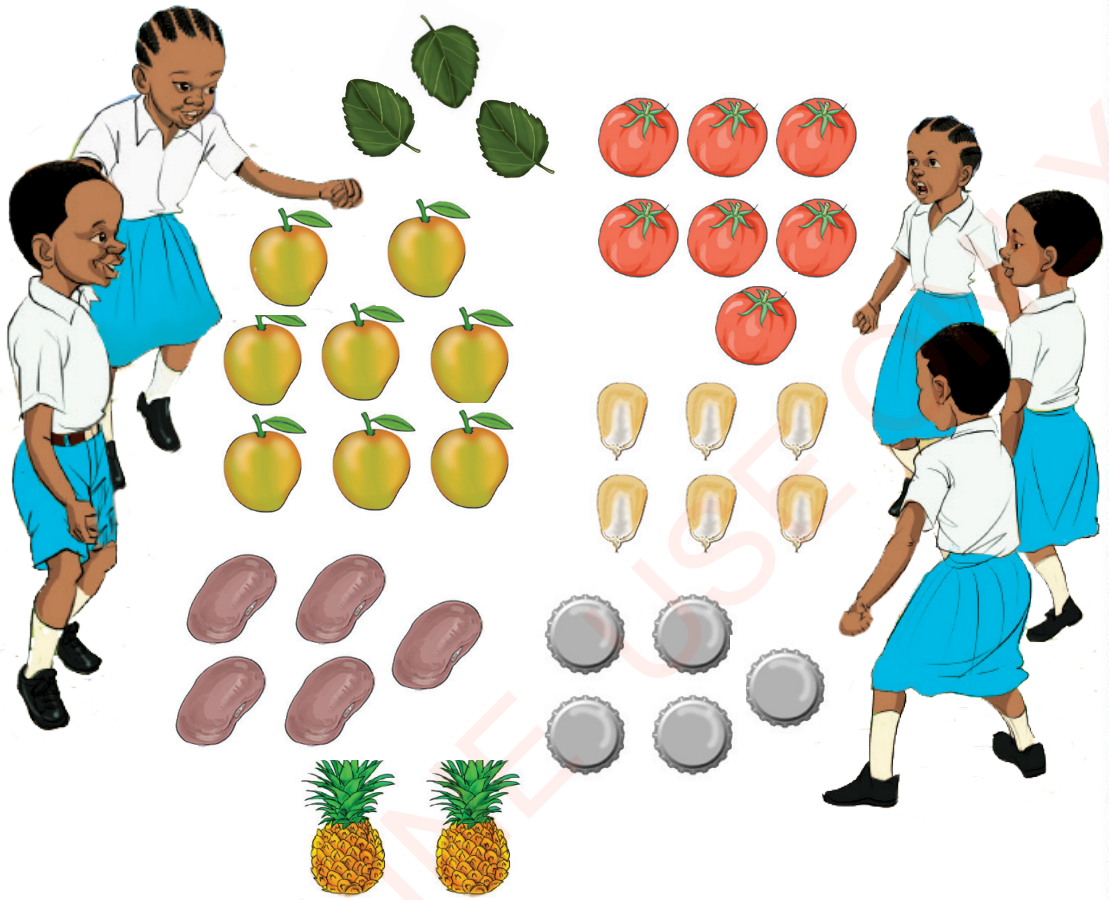
Number	Objects	Name	Number of objects
Example		Beans	5
1.			

2.			
3.			
4.			
5.			
6.			

4. Arrange the objects together

The pupils have succeeded in arranging the objects.

Example



Exercise 1

Answer the following questions.

1. How many bean seeds are there?
2. How many maize seeds are there?
3. List other objects that are not seeds.
4. Which set of items has more objects?
5. How many types of fruits are there?

Exercise 2

Answer the following questions using the table in exercise 3.

1. Which sets have the fewest objects?
2. Which set has the most objects?
3. Which sets have an equal number of objects?
4. Name all the food items in the pictures.
5. Name the items in the pictures that are not food.

Collecting objects

Exercise 3

1. Collect 10 objects around the school that can be counted.
2. List the objects that you have collected.

a .....
b .....
c .....
d .....
e .....
f .....
g .....
h .....
i .....

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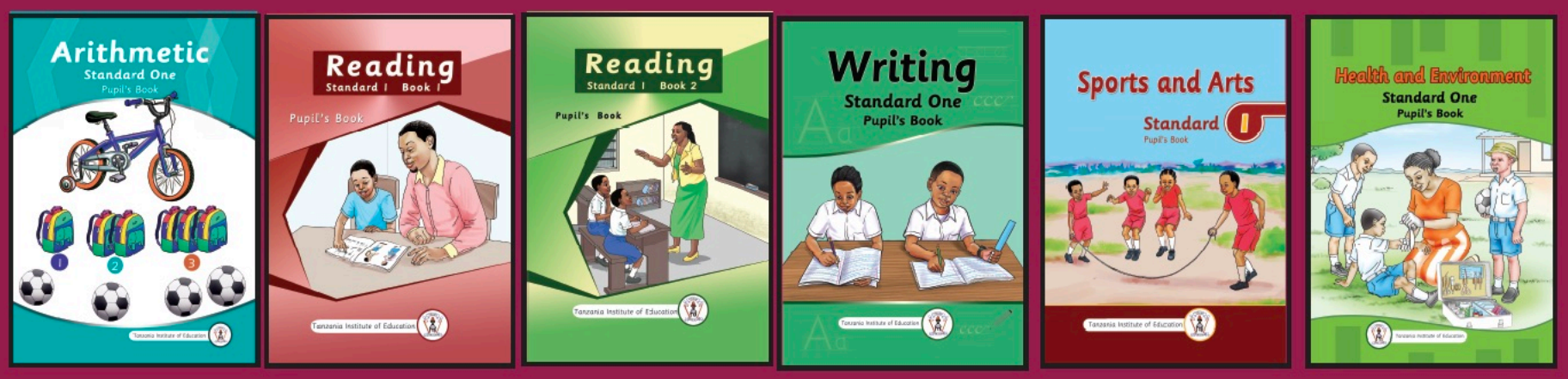
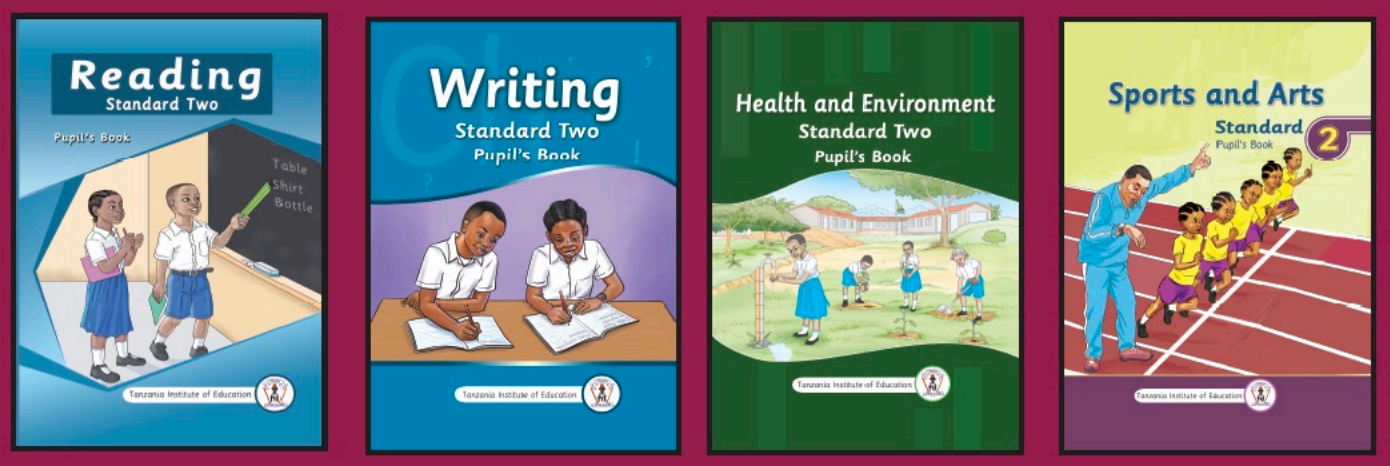


Standard Two



Standard Three

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Arithmetic Standard One Pupil's Book