MATHEMATICS

Primary pupil's book

P2

Version edited in 2023

Copyright

© 2023 Rwanda Basic Education Board

All rights reserved.

This book is the property for the Government of Rwanda.

Credit should be given to REB when the content of this book is quoted

FOREWORD

Dear Pupil,

Rwanda Basic Education Board is honored to present to you this Mathematics book for Primary Two (P2) which serves as a guide to competence-based teaching and learning to ensure consistency and coherence in the learning of Mathematics subject.

The Rwandan educational philosophy is to ensure that you achieve full potential at every level of education which will prepare you to be well integrated in society and exploit employment opportunities.

The government of Rwanda emphasizes the importance of supporting teaching and learning materials with the syllabus to facilitate your learning process. Many factors influence what you learn, how well you learn and the competences you acquire. Those factors include the instructional materials available among others. In this book, special attention was paid to the activities that facilitate the learning process in which you can develop your ideas and make new discoveries during concrete activities carried out individually or with peers.

In competence-based curriculum, learning is considered as a process of active building and developing knowledge and meanings by the learner where concepts are mainly introduced by an activity, a situation or a scenario that helps the learner to construct knowledge, develop skills and acquire positive attitudes and values.

For effective use of this textbook, your role is to:

- Work on given activities which lead to the development of skills;
- Share relevant information with other learners through presenta¬tions, discussions, group work and other active learning techniques such as role play, case studies, investigation and research in the li-brary, on internet or outside;
- Participate and take responsibility for your own learning;
- Draw conclusions based on the findings from the learning activities.

I wish to sincerely extend my appreciation to the people who contributed towards the development and the editing of this textbook, particularly REB staff who organized the whole process from its beginning. Special gratitude goes to teachers, illustrators and designers who carefully worked to successful completion of this text book. Any comment or contribution would be welcome for the improvement of this textbook for the next edition.

Dr. MBARUSHIMANA Nelson

Director General, REB

ACKNOWLEDGEMENT

I wish to sincerely extend my special appreciation to people who played a major role in the development and editing of this Mathematics book for Primary Two (P2). It would not have been successful without the participation of different partners that I would like to express my deep gratitude.

My thanks go to the Rwanda Basic Education Board leadership and staff who were involved and supervised the whole activity of in-house textbook Elaboration.

I also wish to extend my appreciation to teachers, lecturers, illustrators, designers and different education experts for their valuable support.

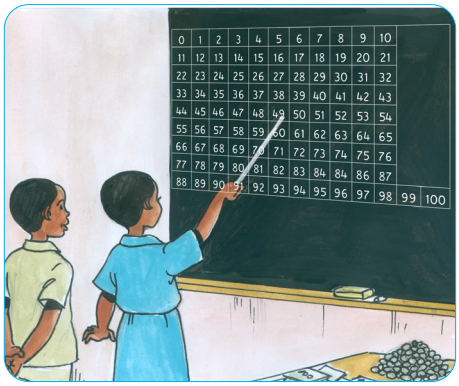
Joan MURUNGI
Head of CTLR Department

TABLE OF CONTENT

Unit 1 NUMBERS FROM 0 UP TO 200

1.0 Introductory activity:

Look at the pictures.



1) What do you see?
2) How many children do you see?
3) What are children in the first picture doing?
4) What are children in the second picture doing?
5) How can you count more than 100 counters? Can you write their number?

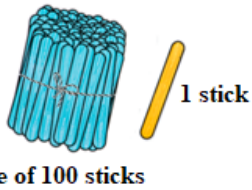
1.1 Counting, reading and writing numbers up to 200

Activity 1.1.1

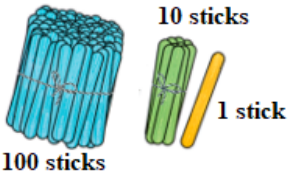
1) Look at the following pictures. Say the number of bundles/ sticks

10 sticks	10 sticks	10 sticks	10 sticks	10 sticks
10 sticks	10 sticks	10 sticks	10 sticks	10 sticks

All sticks are ....



All sticks are ....



All sticks are ....

2) I take 100 beans.

- I add **1 bean**, I have: 100 beans plus 1 bean are equal to 101 beans.
- I add **3 beans**, I have: 100 beans plus 3 beans are equal to ___beans

Activity 1.1. 2

Look at the table below. Copy and read the numbers

100	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	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 1.1. 3

Count in tens and fill in the missing numbers

100 110 ☐ 130 ☐ ☐ ☐ ☐ ☐ ☐ ☐

Activity 1.1. 4

Look at the picture below.

Read and write the number shown on the cards

Activity 1.1. 5

Fill the missing numbers in the table below:

200	199									190
150					145					140
110										100
170		168								160

130	129									120
190					185					180
140										130
120			117				113			110
160		158				154				150
180										170

Application activity 1.1

1) Fill in the missing numbers.
2) Read all numbers.

a) 100 ☐ 120 ☐ 140 ☐ ☐ 170 ☐ ☐ ☐

b) 100 ☐ 102 ☐ 104 ☐ 106 ☐ 108 ☐ 110

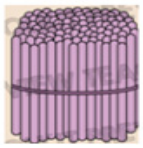
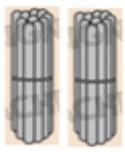
c) ☐ 111 ☐ 113 ☐ 115 ☐ 117 ☐ 119 ☐

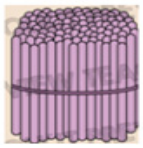
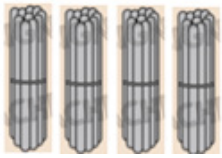
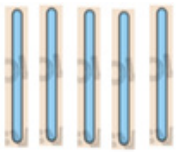
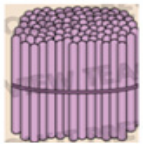
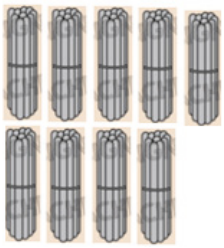
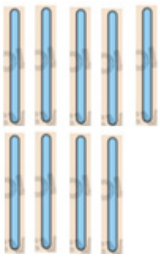
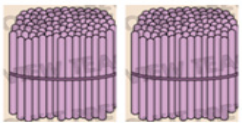
d) ☐ ☐ 122 ☐ 124 ☐ 126 ☐ 128 ☐ 130

1.2 Place value of each digit for numbers from 0 up to 200

Activity 1.2.1

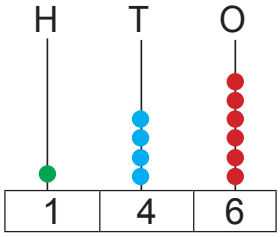
Look at the bundles of sticks. Fill in the missing numbers.

H	T	O	Place values
 1 bundle of 100 sticks	 2 bundles of 10 sticks	 2 sticks	**122:** 1 hundred 2 tens 2 ones.

 1 bundle of 100 sticks	 4 bundles of 10 sticks	 5 sticks	145: ___ hundred __tens __ones
 1 bundle of 100 sticks	 9 bundles of 10 sticks	 9 sticks	__= ___ hundred __tens __ones
 2 bundles of 100 sticks	0 (bundles of 10 sticks)	0 (sticks)	200 = ___ hundred __tens __ones

Activity 1.2.2

Example: 146



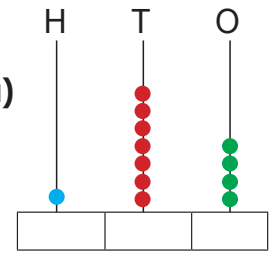
146 = **1** hundred **4** tens **6** ones

Try these:

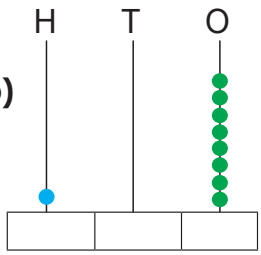
a) 28 b) 153 c) 200

1) Write the number shown on the abacus

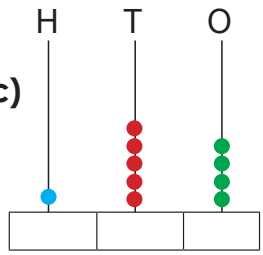
a)



b)



c)



Activity 1.2.3

Write the numbers in the place value table

Example: **135**

Hundreds (H)	Tens (T)	Ones (O)
1	3	5

135 = 1 hundred 3 tens 5 ones.

Try these: a) 169 b) 128 c) 180 d) 23

Activity 1.2.4

Find the place value of underlined digit

Example: Find the place value of 3 in 135.

3 is in the place value of tens.

Try these: a. 147 b. 147 c. 147

Application activity 1.2

Look at the example. Fill in with the correct numbers.

Example: 145 = 1 Hundred 4 Tens 5 Ones.

a) 113 = __Hundred__Ten__Ones
b) 124 = __Hundred __Tens___Ones
c) 135 = ___Hundred___Tens ___Ones
d) 146 =___Hundred__Tens __Ones
e) 157 = __Hundred __Tens __Ones

1.3 Writing numbers in words

Activity 1.3.1

Write numbers in words.

Example: **126** = 1 hundred 2 tens and 6 ones.

126 in words: **One hundred and twenty-six.**

143 = 1 hundred 4 tens 3 ones.

143 in words: **One hundred and forty-three.**

Try these:

1) Write numbers from 1 to 100

1: One	**2:** Two	**3:** Three	**4:** Four	**5:** Five
6: Six	**7:** Seven	**8:** eight	**9:** Nine	**10:** Ten
11: Eleven	**12:** Twelve	**13:** Thirteen	**14:** Fourteen	**15:** Fifteen
16: Sixteen	**17:** seventeen	**18:** eighteen	**19:** Nineteen	**20:** Twenty
21: Twenty-one	22: Twenty-two	23: ___	24: ___	25: ___
26: ___	27: ___	28: ___	29: ___	30: ___
31: Thirty-one	32: Thirty-two	33: ___	34: ___	35: ___
36: ___	37: ___	38: ___	39: ___	40: Forty
41: Forty-one	42: Forty-two	43: ___	44: ___	45: ___
46: ___	47: ___	48: ___	49: ___	50: ___
51: Fifty-one	52: Fifty-two	53: ___	54: ___	55: Fifty
56: ___	57: ___	58: ___	59: ___	60: ___
61: ___	62: ___	63: ___	64: ___	65: ___
66: ___	67: ___	68: ___	69: ___	70: ___

71: ___	72: ___	73: ___	74: ___	75: ___
76: ___	77: ___	78: ___	79: ___	80: ___
81: ___	82: ___	83: ___	84: ___	85: ___
86: ___	87: ___	88: ___	89: ___	90: ___
91: ___	92: ___	93: ___	94: ___	95: ___
96: ___	97: ___	98: ___	99: ___	100: One hundred

2) Write numbers above 100

125 ----------	199 ----------	157 ----------	180 ----------

Activity 1.3.2

Read and write the following numbers in figures:

a) One hundred and thirty-five.

b) One hundred and twenty-three.

c) One hundred and eighty-four.

d) One hundred and fifty-seven.

Application activity 1.3

1) Write the following numbers in words

a) Write all of the numbers from 125 to 130, in figures and in words.

b) Write all of the numbers from 170 to 175, in figures and in words

2) Write the number in figures and in words

a) 1 hundred 1 ten 4 ones =

b) 1 hundred 7 tens 6 ones =

c) 1 hundred 6 tens 2 ones =

d) 1 hundred 4 tens 7 ones =

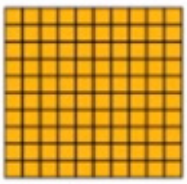
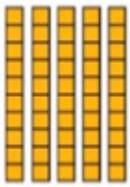
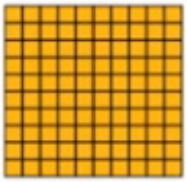
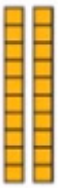
1.3 Comparing numbers up to 200

Activity 1.3.1

Use "**is greater than**" or "**is less than**" or "**is equal to**" to compare numbers.

Example: 156 and 126

We can use abacus or base ten blocks (units, rods and flats) to represent the numbers.

Number	H	T	O
156	 1 flat with 100 units	 **5 rods**, each one has 10 units	 6 units.
126	 1 flat with 100 units	 **2 rods**, each one has 10 units	 6 units

156 is greater than 126.

Try these:

Use <, > or = to compare the numbers

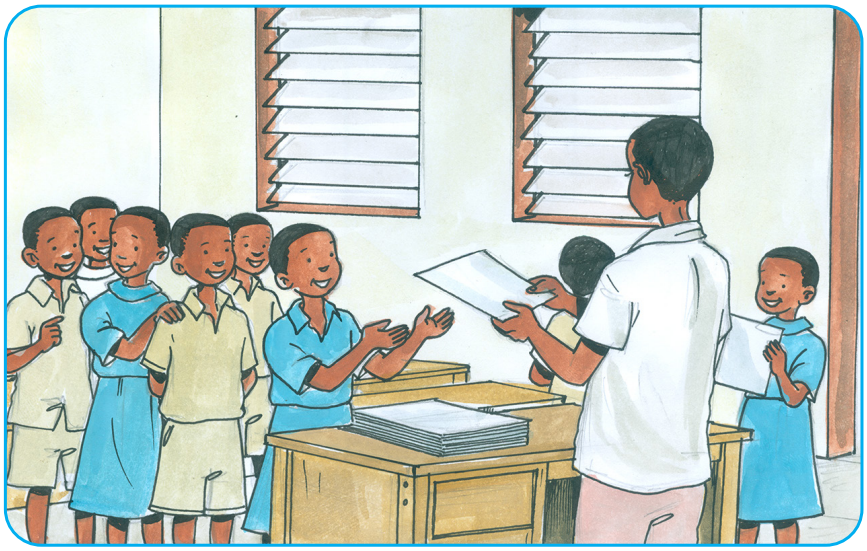
a) 130<140 c) 155 ___ 135 e) 144 ___ 134

b) 179= 179 d) 125 ___ 130 f) 160 ___ 160

Activity 1.3.2

1) Identify the marks of each pupil,
2) Compare the pupils' marks:
3) Use "More or Less " to state conclusion.

In an exam of P2, Kagabo gets 190, John gets 151, Martha gets 173, Kalisa gets 180 and Uwera gets 190.



Example:

Kagabo has 190; Martha has 173. 190 > 173. So Kagabo has more. Or 173<190, so Martha has less marks than Kagabo

a) John and Martha
b) Kagabo and Uwera
c) Kalisa and martha
d) Kagabo and John
e) Kagabo and Kalisa

Activity 1.3.4

Look at the picture. The classes are growing cabbages.

This table shows the number of cabbages for each class:

Class	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Number of cabbages	125	105	156	140	162	158

Use "**has more than**", "**has less than**" or "**has the same number as**" to compare the number of cabbages for the following classes:

a) P1 **has more than** P2
b) P2 __P3
c) P1 ___P3
d) P4 ___P5
e) P6 ___P5
f) P2 ____P5
g) P1 ___ P5
h) P2 __ P4
i) P6 ___-P3

Application activity 1.3

Use <, > or = to compare numbers.

a) 118 ___ 185
b) 127 ____ 127
c) 136 ___ 167
d) 145___ 158

1.4. Arranging numbers in increasing and decreasing order

Arranging numbers in increasing order (from smallest to the biggest)

Activity 1.4.1

Look at the number cards. Which order do you see? From the smallest to the biggest number? From the biggest to the smallest number?

Arrange the following numbers from the smallest number to the biggest number (in increasing order):

150 , 100 , 180 , 170 , 200

Activity 1.4.2

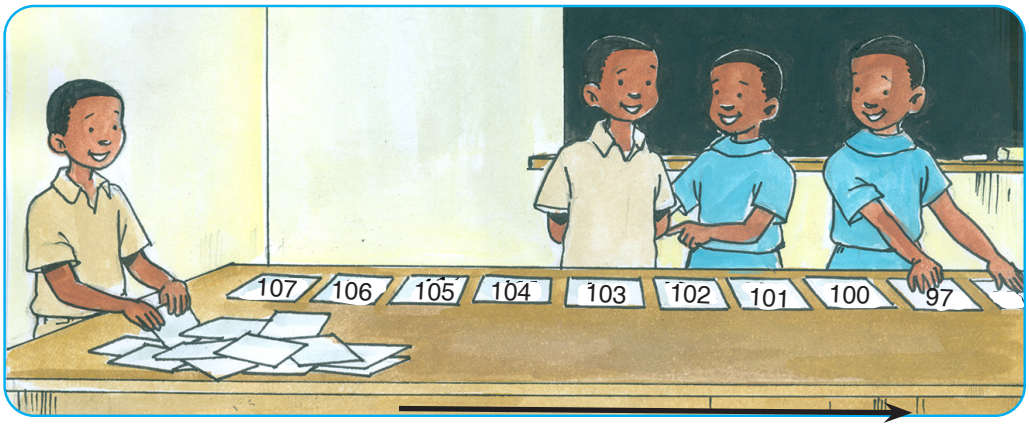
Arrange numbers in increasing order

a) 125, 175, 103 **b)** 135, 184, 200 **c)** 197, 100, 151.

Arranging numbers in decreasing order (from the biggest to the smallest number)

Activity 1.4.3

Look at the number cards. Which order do you see? From the smallest to the biggest number? From the biggest to the smallest number?



Arrange the following numbers: 115 , 195 , 200 , 155, 170 from the biggest to the smallest.

Activity 1.4.4

Arrange these numbers in decreasing order.

a) 142, 124, 138 **b)** 129, 192, 119 **c)** 138, 180, 100

Application activity 1.4

1) Arrange these numbers in **increasing** order

a) 138, 174, 183 **b)** 124, 137, 156 **c)** 190, 199, 173

2) Arrange these numbers in decreasing order.

a) 123,132,129 **b)** 172, 127,107 **c)** 146,106,164 **d)** 194,149,191

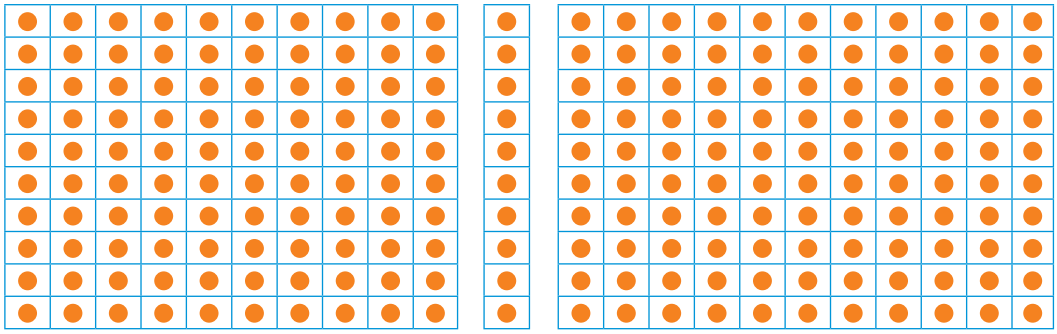
1.5 Addition of numbers whose sum does not exceed 200

1.5.1 Addition without carrying

Activity 1.5.1

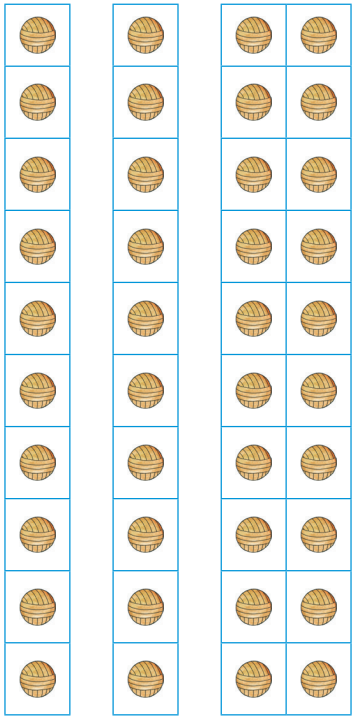
Count the number of objects for two groups. Find the total.

a) 100 + 10 = ☐



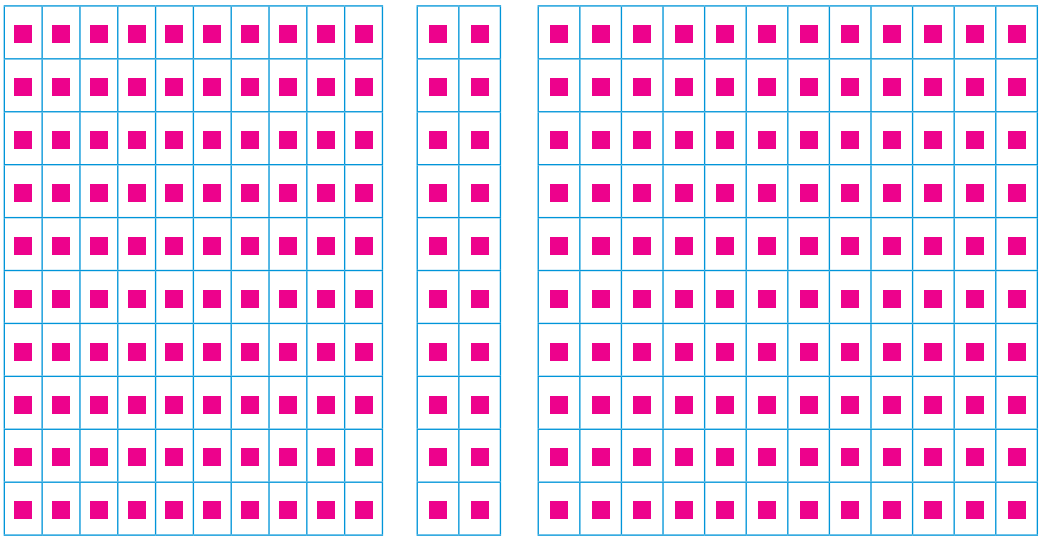
10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10

b) 10 + 10 = ☐



c) 20 + 10 = ☐

d) 100 + 20 = ☐



Activity 1.5.2

Add two numbers.

Example

There are two sacks.

- There are 123 bottle tops in the first sack.
- There are 74 bottle tops in the second sack.

2 sacks with bottle tops

Find the total number of all the bottle tops.

To find the total number, we add 123 and 74.

Hundreds (H)	Tens (T)	Ones (O)
1	2	3
+ ↓	7	4
1	9	7

The answer is 123+74 = **197**

Try these:

a)

	H	T	O
	1	4	5
+		5	2

b)

	H	T	O
	1	2	7
+		3	2

c)

	H	T	O
	1	0	8
+		7	1

Activity 1.5.3

Example: 135 + 62 = ___

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

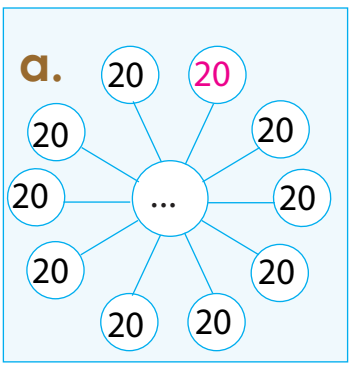
Therefore, 135 + 62 = **197**

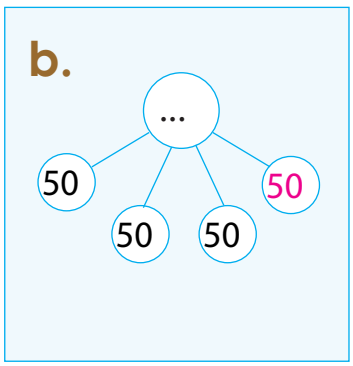
Try these:

a) 123 + 75 =
b) 147 + 51 =
c) 182 + 16 =
d) 72 + 125 =
e) 135 + 62 =
f) 152 + 45 =
g) 191 + 6 =
h) 61 + 135 =
i) 112 + 77 =

Activity 1.5.4

- Start by the number in the red colour and add all numbers.
- Write the answer in the empty circle.





Application activity 1.5.1

- Use the number cards in A, B and C and the cards with + , –
- Follow instructions and try the task below:

A	121	132	114	102	153	162
B	41	45	62	71	22	34
C	196	175	177	173	162	176

Instructions:

1. Take one number card from A ;
2. Put the card with + ;
3. Continue with a number card from B;
4. Put the card with the sign – ;
5. Then, find the answer from number cards in C.

Note that in all cases, the answers are found by adding numbers of the A + B cards that are paired. The answer is the one of the number card that suits in C.

Example: 121 + 41 = 162

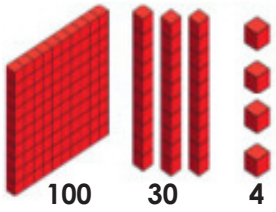
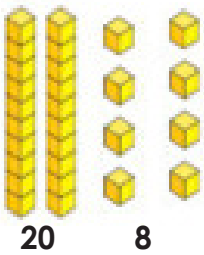
1.5.2 Addition with carrying

Activity 1.5.5

Add the numbers

Example: 134 +28 = ___

We can add numbers using base ten blocks:

Base Ten blocks	Number	Addition
	134	
	28	

Hundreds	Tens	Ones
1	3	4
+	2	8
1	6	2

Note that:

- 4 ones and 8 ones make 12.
- From 12, there is 1 ten and 2 ones.
- For better addition, 1 ten is taken to the place value of tens and 2 ones remain in the place value of ones.

We can add numbers using a place value table:

Example: 134 + 28 =

Hundreds (H)	Tens (T) ①	Ones (O)
1	3	4
+ ↓	2	8
1	6	2

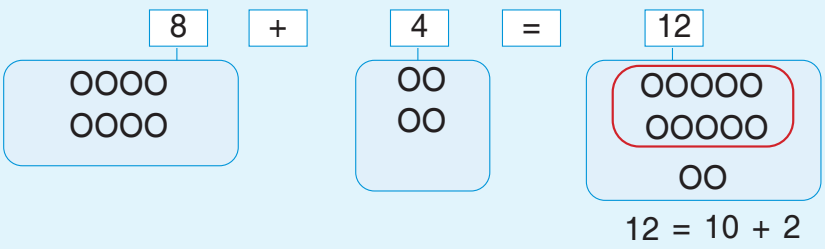
Add ones: 8 + 4=12. I write 2 in the place value of ones and I carry 1 to tens.

Add tens: 3+2=5, then 5+1= 6.

For hundreds: I copy 1.

Then, 134 + 28 = 162

To add 8 + 4, I can use counters as follows, then I write 2 in the place value of ones and I carry 1 to the place value of tens:



Look at the example. Try these:

a)

Hundreds	Tens	Ones
1	3	4
+	4	8

b)

Hundreds	Tens	Ones
1	4	6
+	2	9

c)

Hundreds	Tens	Ones
1	3	6
+	4	2

d)

Hundreds	Tens	Ones
1	0	4
+	6	4

e) 115 + 67= **f)** 126 + 72 =

Application activity 1.5.2

Add the following numbers

a)

Hundreds	Tens	Ones
1	0	5
+	5	8

b)

Hundreds	Tens	Ones
1	3	9
+	4	3

c) 77 + 96 = d) 85 + 46 = e) 137 + 26 =

f) 88 + 45 = g) 149 + 36 = h) 73 + 49 =

1.6 Word problems involving the addition of numbers whose sum does not exceed 200

Activity 1.6

Read and find the answer

Example:

In the first week, the school receives 123 new pupils. In the second week the school receives 54 more new pupils. Find the total number of new pupils in the two weeks.

Solution:

Given: In the first week: 123

In the second week: 54

Question: The total or the sum =?

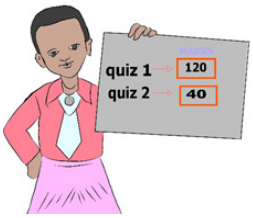
Operation: addition

Answer: 123 + 54 = 177.

The total number of new pupils in the two weeks is 177.

Look at the example. Then, try these:

1. Uwase has 120 marks in the first quiz. In the second quiz she has 40 marks. Find the total marks for Uwase.



Given:

Uwase marks on first quiz: ___

Marks on second quiz: ____

Question: The total or sum (altogether)

Operation: _____

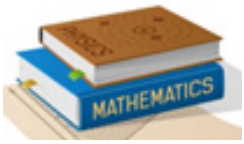
Answer:

2. Hirwa buys 100 cobs of maize. The sister of Hirwa gives him 12 more cobs. How many cobs of maize does Hirwa have altogether?

Cobs of maize

3. Kagabo has only 65 mathematics books. Claudine has 95 books of Mathematics. How many books do they have altogether?

Books



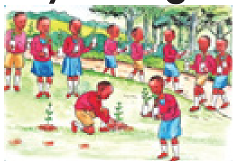
Application activity 1.6

1. A farmer plants 112 trees on Monday morning. He plants 85 trees in the afternoon. How many trees does the farmer plant altogether?

Trees

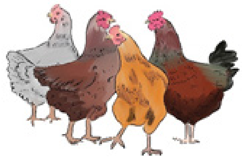
2. There are 111 boys and 89 girls in P2. Find the total number of pupils for P2.

Boys and girls



3. Uwamahoro has 142 hens. Nkusi has 32 hens. How many hens do they have altogether?

Hens



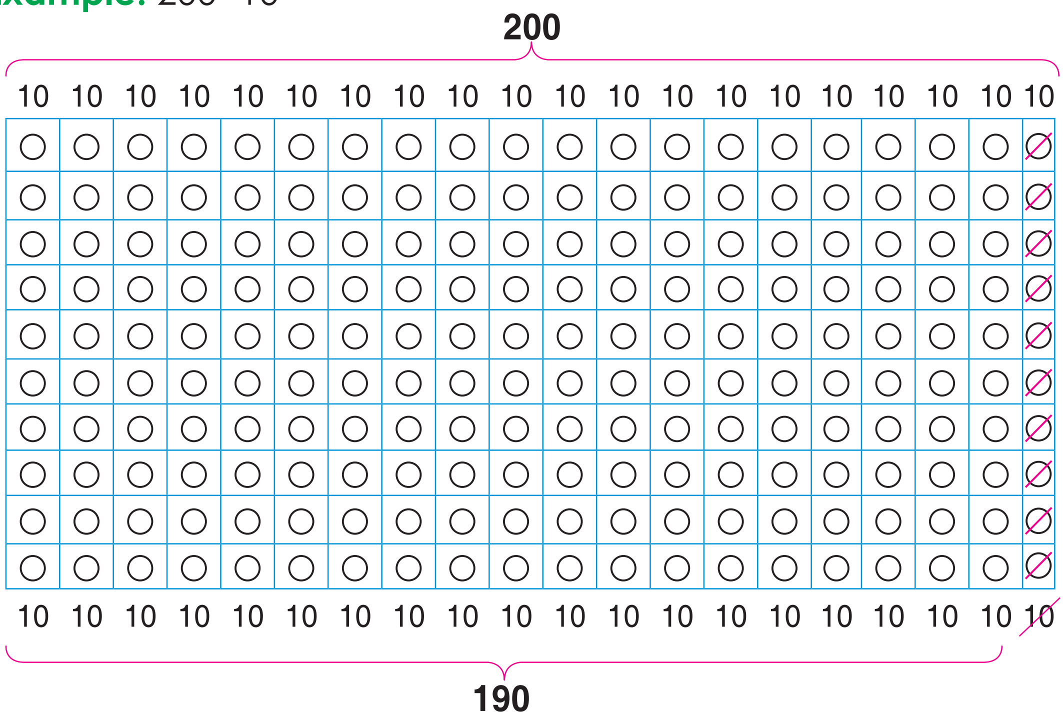
1.7 Subtraction of numbers within 200

1.7.1 Subtraction without Borrowing

Activity 1.7.1

Use counters or beans to subtract numbers

Example: 200 -10 =



Then, 200 -10 = 190.

Look at the example. Try these:

a) 190 – 10 = d) 110 – 10 = g) 150 – 10 =

b) 180 – 10 = e) 100 – 10 = h) 140 – 10 =

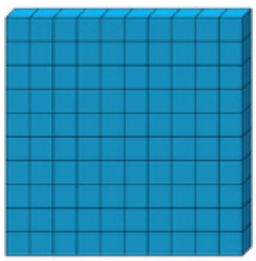
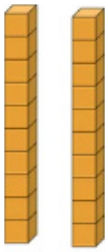
c) 160 – 10 = f) 90 – 10 = i) 130 – 10 =

Activity 1.7.2

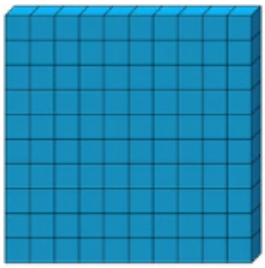
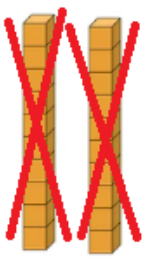
Use the blocks to subtract numbers

Example: 125 – 23 = ?

Before Subtraction

Hundreds	Tens	Ones
		
100	20	5

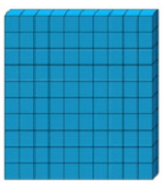
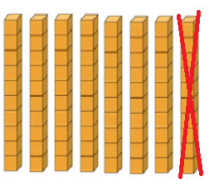
After subtraction

Hundreds	Tens	Ones
		
100	0	2

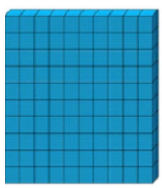
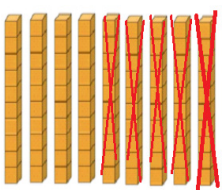
We take away 2 tens and 3 ones.

We have: 125 – 23 = 102

Look at the example. Try these

Hundreds	Tens	Ones
		

189 – 16 =___

Hundreds	Tens	Ones
		

196 – 56 =_____

Activity 1.7.3

Use a table of place values to subtract numbers

Example: 174 - 23 =

	Hundreds (H)	Tens (T)	Ones (O)
	1	7	4
–	↓	2	3
	1	5	1

Then, 174 – 23 = 151.

Look at the example. Try these

a.

1	8	6
–	7	5

b.

1	8	7
–	5	1

c.

1	8	9
–	1	6

d) 165 – 62 =

e) 156 – 45 =

Application activity 1.7

Subtract numbers

a) 196 – 56 =

b) 189 – 77 =

c) 164 – 22 =

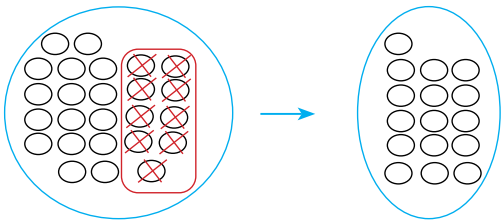
1.7.2 Subtraction with borrowing

Activity 1.7.4

Subtract numbers

Example: **Find 25 - 9 =**

Method 1:



25 – 9 = 16

Method 2:

Tens (T)	Ones (O)
1 ~~2~~	10 + 5 9
1	6

For ones: 5-9 is not possible because 5 is less than 9; I borrow 1ten from 2. I find 10 + 5 = 15.

Then 15-9 = 6

For the tens: I remained with 2 tens – 1ten = 1 ten.

So, I bring 1 ten down.

Therefore, **25 – 9 = 16**

Look at the example. Try these

a) 52 – 47 = b) 71 – 57 = c) 96 – 72 =

Activity 1.7.5

Subtract numbers

Example: 112 - 45 = ?

Hundreds (H)	Tens (T)	Ones (O)
0	10 + 0	
~~1~~	~~1~~	10 + 2
– ↓	4	5
0	6	7

Therefore, 112 - 45 = **67**

Look at the example. Try these:

a.

1	5	2
–	4	7

b.

1	7	1
–	5	7

c.

	1	9	6
–	1	6	4

d) 192 –164 = f) 143 – 48 = h) 131 – 129 =

e) 139 – 117 = g) 145 – 28 = i) 174 – 138 =

Application activity 1.7.2

Subtract numbers

a)	105 – 58	=	d)	85 – 46 =		g)	146 – 39	=
b)	97 – 68	=	e)	136 – 27 =		h)	73 – 49	=
c)	193 – 34	=	f)	105 – 86 =		i)	87 – 29	=

1.8 Applying subtraction in real life situations

Activity 1.8

Examples:

1. Kariza has 125 avocados. Kariza takes away 120 avocados for selling. How many avocados Kariza remains with?

Solution:

Given: Number of all avocados is 125;
Number of avocados for selling is 120

Question: Number of the remaining avocados is ….?

Operation: Take away

The number of the remaining avocados is 125- 120 = 5.

2. In the meeting of parents at our school, 197 parents are present. The number of female parents is 88. Find the number of male parents.

Solution:

Given: Number of parents is 197;
Number of females is 88

Question: Number of males is ….?

Operation: Subtraction

The number of males = 197- 88 = 109.

Now, try these:

1. Our school has 200 cocks. If the headmaster sells 50 cocks, how many cocks remain?

Cocks

Given: Number of cocks is …;
Number of cocks to sell is ….

Question: Number of remaining cocks

Operation: _____

Answer:

2. Uwera has 170 eggs. Uwera is going to sell 60 eggs. How many eggs will remain?

Eggs

3. Before the rain, Mugisha has 200 bricks. After the rain 56 bricks are damaged. How many bricks are not damaged?

Bricks

Application activity 1.8

Do the following problem

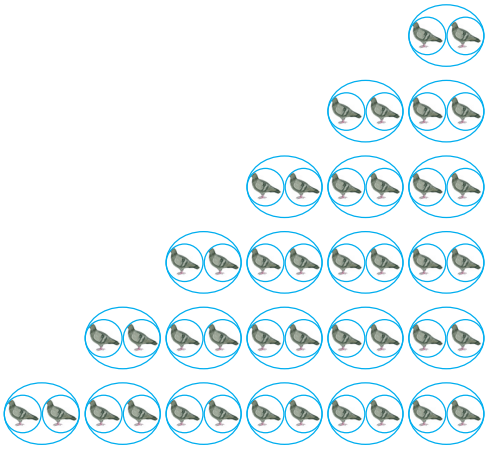
Keza buys 178 cobs of maize. Keza gives 69 cobs of maize to her visitors. How many cobs of maize does Keza remain with?

Cobs of maize

1.9 Multiplication of numbers by 2 and the multiples of 2

Activity 1.9.1

1) Form different groups of 2 objects (beans, bottle tops, small stones etc).
2) Count the number of objects for 2 groups, 3 groups, etc.
3) Complete the total number of objects for groups in the following table:



1 X 2= 2

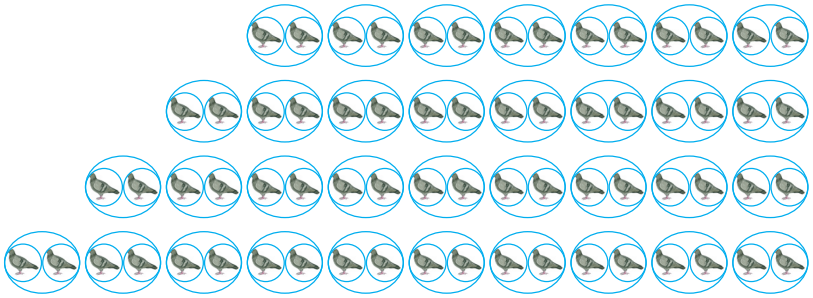
2 X 2= 4

3 X 2= 6

4 X 2= 8

5X 2= 10

6X 2= 12



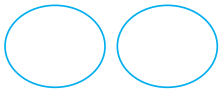
7 X 2= 14

8 X 2= 16

9 X 2= 18

10 X 2= 20

4) Look at this picture.



- Each group has 0 objects
- The total in all groups is 0

Do you accept that 0 x 2 = 0 ?

Activity 1.9.2

Multiply numbers. Fill in with the correct number

a) 4 x 2= ___
b) 5 x 2= ___
c) 7 x 2= ___
d) 2 x 2= ____
e) 8 x 2= ___
f) 10 x 2= ___

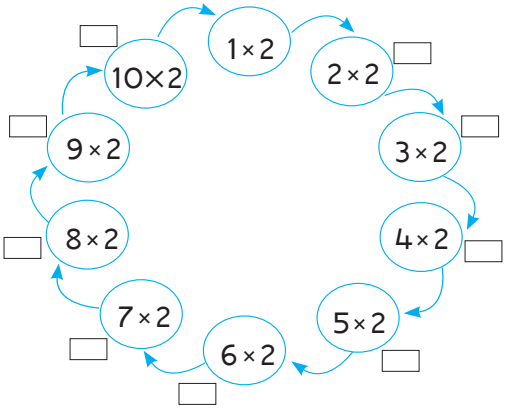
Activity1.9. 3

Fill in the missing numbers

a) 2=2 × ☐
b) 4=2 × ☐
c) 6= 2 × ☐
d) 8= ☐ × 2
e) 10= 2 × ☐
f) 12= ☐ × 2
g) 14= 2 × ☐
h) 16= ☐ × 2
i) 18= 2 × ☐

Application activity 1.9

Fill in the missing number in the multiplication table by 2

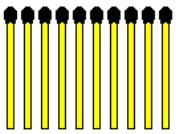


1.10 Multiply a two-digits number by 2

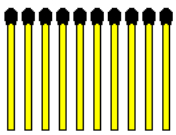
Activity 1.10.1

Multiply by 2

Example 1: There are 2 groups of 10 matchsticks:



GROUP 1



GROUP 2

The total number of all matchsticks is 2 x 10 = 20

Example 2: We can multiply in a formal written method:

Tens (T)	Ones (O)
1	0
X	2
2	0

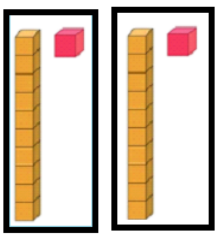
- Arrange numbers as per their place values,
- Start multiplying ones by 2: 0 x 2 = 0
- Then, multiply tens by 2: 1 x 2 = 2
  Therefore, 10 x 2 = 20

Refer to example and try these: a) 2 x 11= __ b) 2 x 13 = ___

Activity 1.10.2

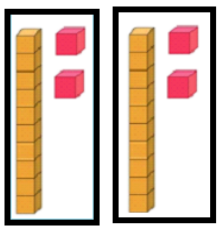
Look at the example and make 2 groups of blocks:

a)



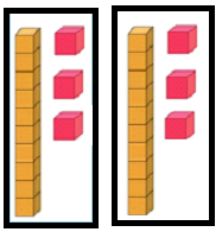
2 groups of 11 objects

b)



2 groups of 12 objects

c)



2 groups of 13 objects

Try these:

a) 11 x 2 =
b) 12 x 2 =
c) 13 x 2 =
d) 14 x 2 =
e) 20 x 2=
f) 21 x 1=

Application activity 1.10

Multiply

a) 23 x 2= b) 30 x 2 = c) 31 x 2 =

1.11 Word problems involving the multiplication by 2

Activity 1.11

Read and find the answer

Example:

There were 42 desks in the room. If 2 people sit on each desk, what is the number of people in the room?

Solution:

Given: Number of desks =42
Number of people on each desk =2
Question: Total number of people in the room = ?
Operation: Multiplication
Calculation: 42 x 2 =84
Answer: The number of people in the room is 84.

Try these:

1) There are 30 pupils in P2. Every pupil brings 2 bottles of water. How many bottles are there?
2) 34 pupils carry cabbages. Each pupil carries 2 cabbages. How many cabbages do all pupils carry?

Application activity 1.11

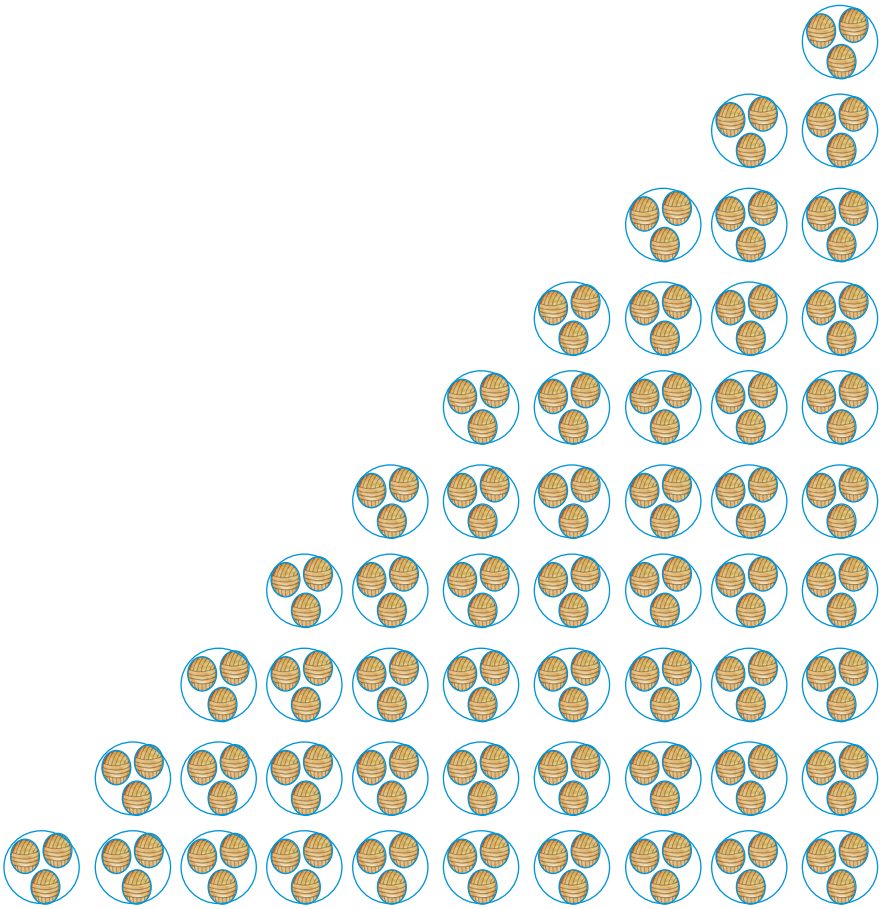
Multiply

The street of our Village has 33 trees on one side.
If the road has two sides, how many trees are along the street of our Village?

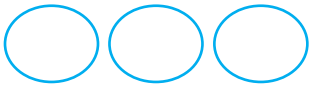
1.12 Multiplication of numbers by 3 and the multiples of 3

Activity 1.12.1

1) Form different groups of 2 objects (beans, bottle tops, small stones etc).
2) Count the number of objects for 2 groups, 3 groups, etc.
3) Complete the total number of objects for groups in the following table:



4) Look at this picture.



- Each group has 0 objects
- The total in all groups is 0

Do you accept that 0 x 3 = 0 ?

Activity 1.12.2

Fill in the missing numbers

a) 3= ☐ × 3
b) 6= ☐ × 3
c) 9= ☐ × 3
d) 12= ☐ × 3
e) 15= ☐ × 3
f) 18= ☐ × 3
g) 21= ☐ × 3
h) 24= ☐ × 3
i) 27= ☐ × 3

Activity 1.12.3

Look at the picture. Complete the number:

1)  3 × 2 = ___

2)  3 × 2 = ___

4) Complete by **true** or **false** 3 x 2= 2 x 3 = 6 ___

5) Complete: 4 x3 = 12, then, 3 x 4= ___

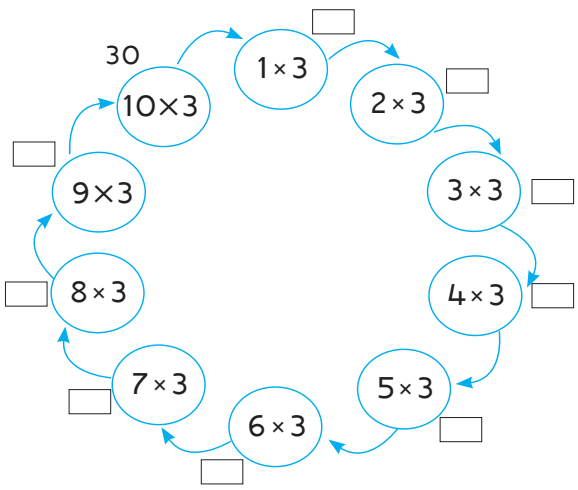
Application activity 1.12

Fill in the missing number in the multiplication table by 3

a)

×3	1	2	3	4	5	6	7	8	9	10
	...	...	...	...	...	...	...	...	...	...

b)



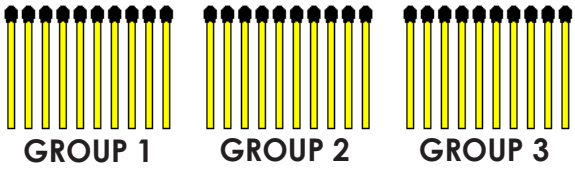
1.13 Multiply a two-digit number by 3

Activity 1.13.1

Multiply the number by 3

Example 1: Let us se how to find 3 x 10 = __.

a) We can use 3 groups of 10 matchsticks:



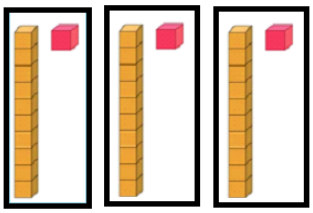
The total number of all matchsticks is 3 x 10 = **10 x 3 = 30**

b) We can use a vertical multiplication in a place value table or a formal written method:

Tens (T)	Ones (O)
1	0
X	3
3	0

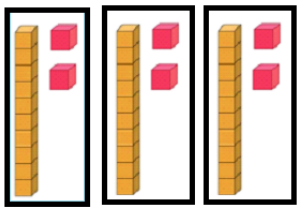
Then, 10 x 3 = 30

Example 2: Look at the groups of blocks.



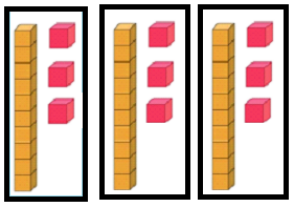
3 groups of 11 objects

a) 3 x 11 = **22**



3 groups of 12 objects

b) 3 x 12 = **36**



3 groups of 13 objects

c) 3 x 13 = ___

Do the same and try these:

d) 3 x 20 =
e) 3 x 21 =
f) 3 x 22 =
g) 3 x 23 =
h) 3 x 30 =
i) 3 x 31 =
j) 3 x 32 =
k) 3 x 33 =
l) 3 x 41 =

Activity 1.13.2

Multiply the number by 3.

Example: 31 x 3 =

$$\begin{array}{r} 3\ 1 \\ \times\ \ 3 \\ \hline 9\ 3 \end{array}$$

Ones: 1x 3 = 3;
Tens: 3x 3 = 9;
Then,
31 x 3 = 93

Note that : 31 x 3 = 3 x 31 = 93

Look at the example. Try these:

a) 21 ×3 b) 22 ×3 c) 23 ×3 d) 30 ×3

Application activity 1.13

Multiply the following numbers:

a) 41 × 3 b) 32 × 3 c) 33 × 3 d) 40 × 3

1.14 Word problems involving multiplication by 3

Activity 1.14

Read and find the answer

Example:

When planting trees, every pupil plants 3 trees. Find the number of trees planted by 51 pupils.

51 times 3 trees make ___trees

Solution:

Given:
The total number of pupils is 51
Each pupil plants 3 trees.
Question: Number of trees planted by 51 pupils is… ?
Operation: Multiplication
Answer : The number of trees planted by 51 pupils: 51 x 3 = 153
The number of trees planted by 51 pupils is 153.

Look at the example. Try these:

1. The school has 3 classrooms. Every classroom has 33 girls. Find the total number of girls of the school.

2. I buy 50 pens per term: the first, the second and the third term. Find the total number of pens at the end of the 3 terms.

Pens

3. Butera buys 3 boxes of soap. Each box contains 32 bars of soap. Find the number of bars of soap in 3 boxes.

Soaps

Application activity 1.14

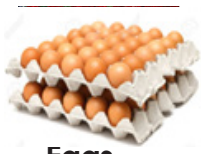
Do the following problems.

1. Our garden has 3 lines of flowers. Each line has 23 flowers. What is the number for all flowers in the garden?

Flowers

3 times 23 flowers make __flowers

2. Kamariza's hens lay 40 eggs per day. How many eggs do hens lay in 3 days?



Eggs

3 times 40 eggs make ___eggs

3. In our church people sit in 3 parts. Every part has 43 people. Find the number of people who sit in the church.

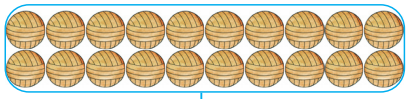
chairs

3 times 43 people make ___people

1.15 Division without a remainder of a two or three-digit number by 2

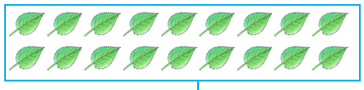
Activity 1.15.1

1. Count the number of objects you have.
2. Group them equally in 2 groups.
3. Count and write down the number of objects for each group.

a) 

20 ÷2 = 10

There are 20 balls. There are 10 balls in each group.

b) 

18 ÷2 = 9

There are 18 leaves. There are 9 leaves in each group.

Look at the example. Try these:

c) 

bananas

÷2 =

d) tomatoes 

÷2 =

e) 

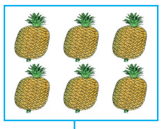
hats

÷2 =

f) 

flowers

÷2 =

g) 

pineapples

÷2 =

h) 

beans

÷2 =

Activity 1.15.2

1) Look at this example and fill in the division table

÷2	2	4	6	8	10	12	14	16	18	20
	1	...	...	...	5	...	...	...	...	...

2) Divide the following correctly

a) 20 ÷ 2 =
b) 18 ÷ 2 =
c) 16 ÷ 2 =
d) 14 ÷ 2 =
e) 12 ÷ 2 =
f) 10 ÷ 2 =

3) Fill in the missing number

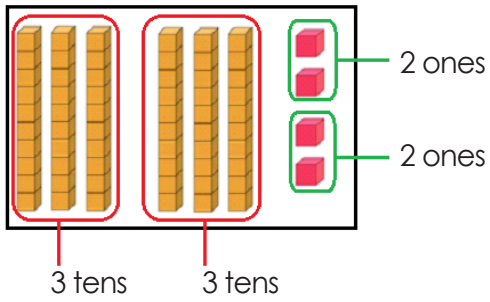
a) ☐ ÷ 2 = 7
b) ☐ ÷ 2 = 9
c) ☐ ÷ 2 = 5
d) ☐ ÷ 2 = 8
e) ☐ ÷ 2 = 3
f) ☐ ÷ 2 = 2
g) ☐ ÷ 2 = 6
h) ☐ ÷ 2 = 4

Activity 1.15.3

Divide numbers

Example:

Divide 64 ÷ 2= __



To divide 64 into 2 groups:

- You can divide the 6 bundles of tens into 2 groups and find 3 bundles of ten,
- Then divide the 4 units into 2 and get 2 units.

64 ÷ 2 = **32**

$$\begin{array}{r} 32 \\ 2\overline{)\,64} \\ -\,6 \\ \hline 04 \\ -\,4 \\ \hline 00 \end{array}$$

Explanation:

Tens (T)	Ones (O)
6 ÷ 2 = 3	4 ÷ 2 = 2

64 ÷ 2= 32

Look at the example. Try these:

a) $2\overline{)22}$ d) $2\overline{)26}$ g) $2\overline{)28}$

b) $2\overline{)88}$ e) $2\overline{)78}$ h) $2\overline{)24}$

c) $2\overline{)38}$ f) $2\overline{)76}$ i) $2\overline{)98}$

Example 2: Divide and complete: **120 ÷ 2** = ___

$$\begin{array}{r} 60 \\ 2\overline{)120} \\ -12 \\ \hline 000 \\ -0 \\ \hline 0 \end{array}$$

1 ÷ 2 **It is now impossible we take two digits (12)**

12 ÷ 2 = 6

0 ÷ 2 = 0

Therefore, 120 ÷2 = 60

Look at the example. Try these:

a) 200 ÷ 2 = c) 186 ÷ 2 = e) 182 ÷ 2 =

b) 188 ÷ 2 = d) 184 ÷ 2 = f) 180 ÷ 2 =

Application activity 1.15

Follow the example below to divide numbers using long division

a) 48 ÷ 2 = e) 66 ÷ 2 = h) 82 ÷ 2 = k) 168 ÷ 2 =

b) 60 ÷ 2 = f) 68 ÷ 2 = i) 42 ÷ 2 = l) 166 ÷ 2 =

c) 62 ÷ 2 = g) 80 ÷ 2 = j) 46 ÷ 2 = m) 164 ÷ 2 =

d) 64 ÷ 2 =

What have you learnt in this lesson?

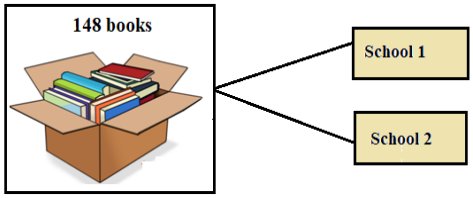
1.16 Word problems involving the division of a number by 2

Activity 1.16

Read and find the answer

Example:

If 2 schools have 148 books to be equally shared, how many books can each school get?



Solution:

Given:

Number of books = 148
Number of schools to share books = 2

Question:

Number of books for 1 school = ?

Operation: Division

The number of books for each school: 148 ÷ 2 = 74

The number of books for each school is 74.

Look at the example. Try this:

The teacher has 48 notebooks. The teacher shares the notebooks equally to Kaneza and Keza. How many notebooks can each get?

Application activity 1.16

Divide numbers

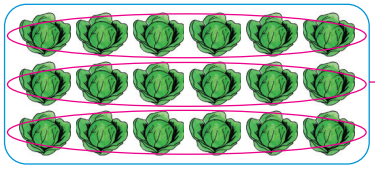
We put 80 chairs in two groups. Find the number of chairs for each group.

1.17 Division without a Remainder of a two or three-digit number by 3

Activity 1.17.1

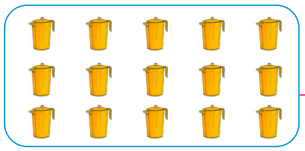
1. Count the number of objects
2. Write their number
3. Group them equally in 3 groups.
4. Write down the number of objects for each group.

Example:



18 ÷ 3 = 6

There are 18 cabbages. There are 6 cabbages in each group.

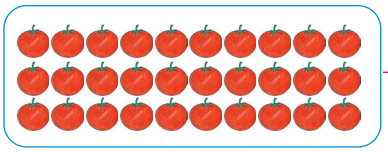


15 ÷ 3 = 5

There are 15 jugs. There are 5 jugs in each group.

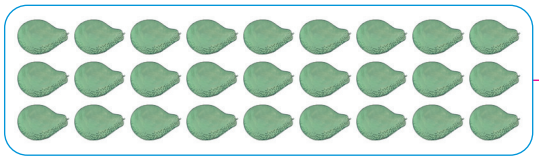
Look at the example. Try these:

tomatoes



☐ ÷ 3 = ☐

Avocados



☐ ÷ 3 = ☐

Activity 1.17.2

Divide and complete the following tables:

÷ 3 → ×3 ←

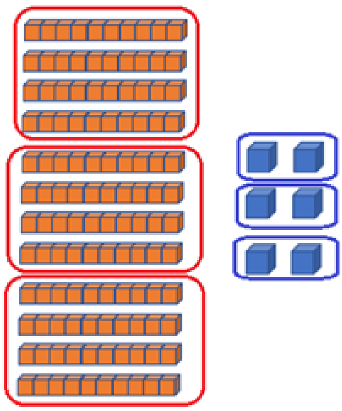
÷ 3	3	6	9	12	15	18	21	24	27	30
×3	1	2	...	...	...	6	...	...	...	10

÷ 3	3	...	9	...	15	...	21	...	27	...
×3	...	2	...	4	...	6	...	8	...	10

Activity 1.17.3

Divide by 3

Example: 126 ÷ 3 = ___



126 ÷ 3 = 42

```
     4 2
   ______
3 ) 126
  – 12
    006
  –   6
      0
```

1 ÷ 3 It is impossible we take two digits (12)

12 ÷ 3 = 4

copy down 6

6 ÷ 3 = 2

Look at the example. Try these:

a) 3) 189 b) 3) 156 c) 3) 123 d) 3) 159

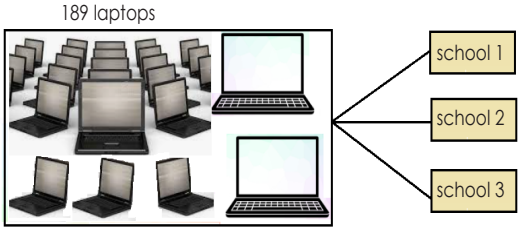
What have you learnt in this lesson?

1.18 Word problems involving the division of a number by 3

ctivity 1.18

Read and find the answer

Nyanza district receives 189 laptops. These laptops must be equally shared in 3 schools. How many laptops can each school get?



Solution:

Given:

Number of all laptops is 189

Number of schools to be given is 3

Question: Number of laptops for each school is…. ?

Operation: Division

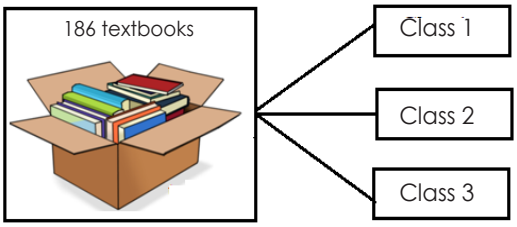
Laptops to be shared to each school: 189 ÷ 3 = 63

The number of laptops for each school is 63.

Look at the example. Try these:

1. There are 36 notebooks. Share the notebooks equally to 3 pupils. What is the number of notebooks for each pupil?
2. In our school we have 69 flowers on 3 lines. If the lines have equal number of flowers, find the number of flowers on each line.

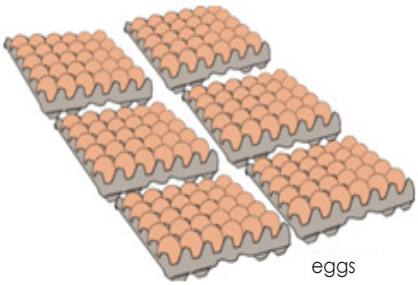
3. The head teacher of our school has 186 text books. He wants to share them equally to 3 classes. How many books can he give to each class?



Application activity 1.18

Read the word problem on division. Find the answer.

1. The health centre in our village has 159 mosquito nets to be shared equally among 3 villages. How many mosquito nets can each village get?
2. The hens for Butera produce the total of 180 eggs in 3 days. If hens produce the same number of eggs per day, How many eggs do hens produce in one day?



What have you learnt in this lesson?

END UNIT ASSESSMENT

1. Write in words or in figures

(a) 187:

(b) One hundred and ninety-seven:

2. Write the number

(a) 7 ones 1 hundreds 5 tens =

(b) 5 ones 1 hundreds 7 tens =

3. What is the place value for the digit underlined?

(a) 1̲86 (b) 14̲7 (c) 1̲34 (d) 12̲5

4. Use <, > and = to compare these numbers

a) 195 ☐ 159 (b) 171 ☐ 168 (c) 186 ☐ 186

5. Arrange the following numbers in increasing order.

179, 189, 198, 187, 178, 197

6. Arrange the following numbers in decreasing order.

198, 187, 178, 107, 189, 199

7. Add:

(a) 143 + 53 = (c) 75 + 118 =

(b) 87 + 108 = (d) 166 + 33 =

8. Subtract the following:

(a) 195 – 172 = (c) 151 – 109 =

(b) 167 – 136 = (d) 132 – 78 =

9. Complete the following multiplication tables

× 2											
	0	...	2	...	4	...	6	...	8	...	10
	...	2	...	6	...	10	...	14	...	18	...

× 3										
	...	1	...	3	...	5	...	7	...	9	...
	0	...	6	...	12	...	18	...	24	...	30

10. Multiply:

(a) 43 × 2 (b) 23 × 3 (c) 34 × 2 (d) 32 × 2

11. Fill in the missing numbers

× 2										
	0	...	4	...	8	...	12	...	16	...	20
	...	1	...	3	...	5	...	7	...	9	...

×3										
	...	3	...	9	...	15	...	21	...	27	...
	0	...	2	...	4	...	6	...	8	...	10

12. Work out the following division

(a) 86 ÷ 2 = (b) 159 ÷ 3 = (c) 180 ÷ 2 =

(d) 126 ÷ 3 = (e) 168 ÷ 2 = (f) 126 ÷ 3 =

13. Read and find the answer:

a) Gisa has 97 cows. His sister Keza has 98 cows. How many cows do they have altogether?

b) Butera had 159 bananas. He sold 98 bananas. How many bananas remained?

c) Kaneza has 2 boxes of biscuits. There are 64 biscuits in each box. How many biscuits does Kaneza have altogether?

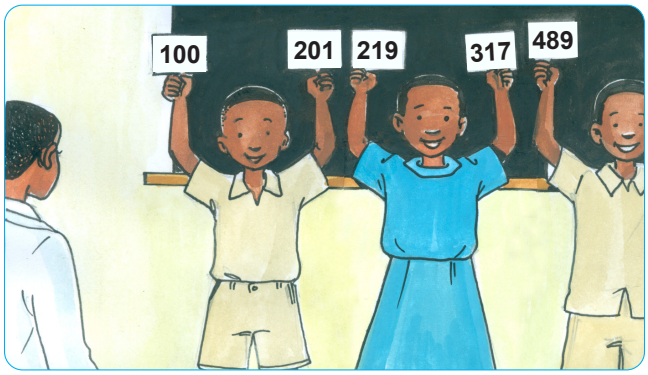
d) Jabo has 196 cows. He wants to share them equally between his 2 children. How many cows can each child get?

Unit 2

NUMBERS UP TO 500

2.0 Introductory activity

Look at the following picture.



1) What do you see?
2) How many children do you see in the picture?
3) How many cards do they have?
4) Can you read numbers on the cards?
5) What do you expect to learn in this unit?

2.1 Counting, reading and writing numbers up to 500

Activity 2.1.1

There are number cards with different numbers: 199, 200, 201, 210, 225 and 389.

Pick the number card. Read the number to your friends.

Activity 2.1.2

Copy and read the following numbers

200	210	220	230	240	250	260	270	280	290	300
300	310	320	330	340	350	360	370	380	390	400
400	410	420	430	440	450	460	470	480	490	500

Activity 2.1.3

Read numbers you see on the sign posts.
Then, complete sentences:

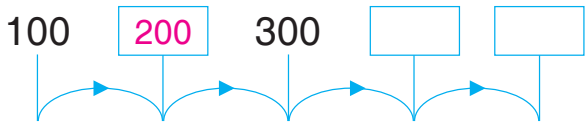
KG: Kigali

Teta Keza Manzi

1. There are 2 sign posts that show KG. Complete their numbers:
   - One sign post shows KG ____
   - Another sign post shows KG ____.
2. When you follow the road, the school is at ___ metres.

Activity 2.1.4

1) Count in hundreds and fill in the missing numbers:



2) Fill in the missing numbers:

400	401									
410										
420									429	
430						436				
440										
450						456				
460					465					
470		472								
480				484						
490										500

Activity 2.1.5

Fill in the missing numbers

200	201	202	....	...	...	...	207	...	...	...
240	...	....	....	...	...	...	.....	...	...	...
260	...	....	....	....	...	...	....	...	...	...
290	291	....	....	....	...	...	.....	...	...	...
320	...	....	....	....	...	...	.....	...	...	...
350	...	....	....	....	...	...	.....	...	...	...
370	...	....	....	374	...	...	.....	...	...	...
480	...	....	....	....	...	...	.....	...	...	...
490	...	....	493	....	...	...	.....	...	...	500

Activity 2.1.6

1. Look at the picture below. What do you see?
2. Copy and read numbers you see on number cards.

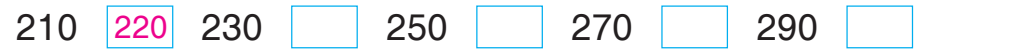
Application activity 2.1

1) Fill in the missing numbers:

a)

200 | 201 | 202 | ☐ | 204 | ☐ | 206 | ☐ | 208 | ☐ | 210

b)



c)

2) Say and complete the missing numbers:

a. 200 220 280 380

b. 310 320 330 350 370 390

c. 305 315 335 355 375 395

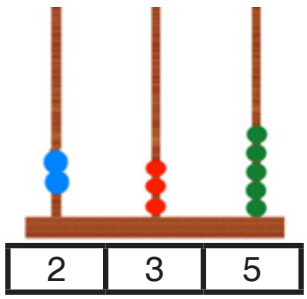
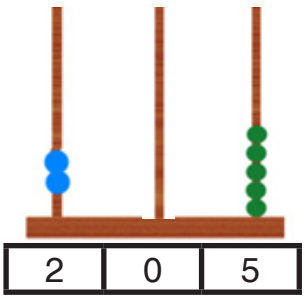
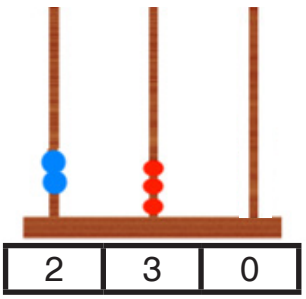
What have you learnt in this lesson?

2.2 Place values of numbers up to 500

Activity 2.2.1

1. Use the abacus to represent the number.
2. Complete the number in the place value table.

Example:

235	205	230
		
2 3 5	2 0 5	2 3 0

Hundreds (H)	Tens (T)	Ones (O)
2	3	5
235 = **2** hundreds **3** tens **5** ones		

Hundreds (H)	Tens (T)	Ones (O)
2	0	5
205 = **2** hundreds **0** tens **5** ones		

Hundreds (H)	Tens (T)	Ones (O)
2	3	0
230 = **2** hundreds **3** tens **0** ones		

Look at the examples. Try these:

a) 235 b) 228 c) 445 d) 267 e) 378 f) 484

Activity 2.2.2

Use the place value table to group numbers into hundreds (H), tens (T) and ones (O).

a) 231 = __ hundreds __ tens __ one
b) 214 = __ hundreds __ ten __ ones
c) 315 = __ hundreds __ ten __ ones
d) 461 = __ hundreds __ tens __ one
e) 417 = __ hundreds __ ten__ ones
f) 368 = __ hundreds __ tens __ ones

Activity 2.2.3

1) Write the numbers.

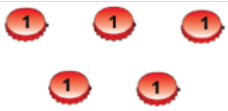
Example: 2 Hundreds **4** Tens **1** One = **241**

a) 2 Hundreds 1 Ten 4 Ones =
b) 3 Hundreds 6 Tens 2 Ones =
c) 4 hundreds 7 tens 6 Ones =
d) 2 Hundreds 4 Tens 7 Ones =
e) 3 Hundreds 5 Ones 8 Tens =
f) 2 Hundreds 6 Tens 8 Ones =
g) 3 Hundreds 9 Tens 0 Ones =
h) 4 Hundreds 0 Tens 8 Ones =
i) 3 Hundreds 0 Tens 2 Ones =

2) Use the abacus or base ten blocks to represent the number by hundreds (H), tens (T) and ones (O).

Example:

Use bottle tops (green for hundreds, blue for tens and red for ones) to fill the table below: (You can put the bottle tops on top of each other to fit them in)

	Hundreds (H)	Tens (T)	Ones (O)
165			
475			

Application activity 2.2

1) Write the following number in the place value table
   a) 469 b) 427
2) Complete with the correct digits.
   a) 298 =__hundreds ___tens ___ones
   b) 347 =__hundreds ___tens ___ones

What have you learnt in this lesson?

2.3. Expanding numbers up to 500

Activity 2.3.1

Expand these numbers.

Examples:

1) Expand 246.

Solution:

Hundreds(H)	Tens (T)	Ones (O)
2	4	6

246 = 2 hundreds 4 tens 6 ones

246 = 200 + 40 + 6 = (2x100) + (4x10) + (6x1)

2) Expand 383

Solution:

H	T	O
3	8	3

3 Hundreds 8 Tens 3 Ones

382 = 300 + 80 + 3 = (3x100) + (8x10) + (3x1).

Look at the examples. Try these:

Expand the numbers below:

a) 325 c) 312 e) 432

b) 429 d) 283

Activity 2.3.2

Find the expanded numbers.

Examples:

a) 400 + 60 + 9

Solution: Putting 4 hundreds and 6 tens and 9 ones together is 469

400 + 60 + 9 or

$$\begin{array}{r} 400 \\ 60 \\ +\ 9 \\ \hline 469 \end{array}$$

b) 300 + 80 + 7

Solution: Putting 3 hundreds and 8 tens and 7 ones together is 387

300 + 80 + 7

$$\begin{array}{r} 300 \\ 80 \\ +\ 7 \\ \hline 387 \end{array}$$

1) 100 + 30 + 6 2) 300 + 40 + 9 3) 400 + 0 + 6

Application activity 2.3

1) Expand the number:
   a) 257 b) 492
2) Find the expanded number: 300 + 90 + 9

What have you learnt in this lesson?

2.4 Writing numbers in words

Activity 2.4.1

Write numbers in words.

Example: 382

Hundreds	Tens	Ones
3	8	2

382= 3 Hundreds 8 Tens 2 Ones = (3 x 100) + (8 x 10) + (2 x 1).
Therefore, 382= three hundred and eighty-two.

200: two hundred
201: two hundred and one
202: two hundred and two
203: two hundred and three
204: two hundred and four
205: two hundred and five

Then, use the example and try these:

Write numbers in words:

a) From 265 up to 270
b) From 345 up to 350
c) From 295 up to 300
d) From 471 to 490
e) From 360 up to 365

Activity 2.4.2

Read and write these numbers in figures.

a) Two hundred and eighty.
b) Four hundred and thirty-seven.
c) Three hundred and five.

Application activity 2.3

Read and write these numbers in words

a) 325: b) 175 c) 298

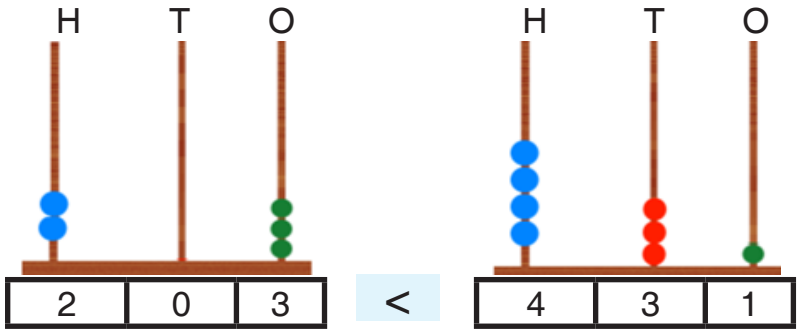
What have you learnt in this lesson?

2.5 Comparing numbers up to 500

Activity 2.5.1

1. Get number cards. Represent the number on the abacus.
2. Compare numbers using < (less than) > (greater than) or = (equal to)

Example: Compare 203 and 431



Then, 203 < 431.

Try these

a) 315 ___ 235 c) 479 ___ 479

b) 388 ___ 381 d) 393 ___ 500

Activity 2.5.2

Use <, > or = to compare numbers

a) 469 ☐ 469 d) 490 ☐ 404 g) 222 ☐ 222

b) 336 ☐ 467 e) 318 ☐ 285 h) 301 ☐ 301

c) 363 ☐ 431 f) 445 ☐ 358

Activity 2.5.3

Read and find the answer

In the second term, P2 pupils do an exam. Butera has 351 marks, Mutoni has 473 marks, Kabarisa has 380 marks, Uwase has 390 marks and Mukayiranga has 429 marks.

Compare marks for the pupils and say who has more or less marks.

a) Kabarisa and Mutoni
b) Butera and Kabarisa
c) Uwase and Mutoni
d) Butera and Mutoni
e) Uwase and Kabarisa
f) Uwase and Butera
g) Kabarisa and Mukayiranga
h) Mukayiranga and Butera
i) Uwase and Mukayiranga
j) Mukayiranga and Mutoni

Application activity 2.5

Compare numbers

Each class is growing carrots.

The number of carrots for each class is given in this table:

Class	P1	P2	P3	P4	P5	P6
Number of carrots	158	261	356	398	434	497

Compare the number of carrots for the following classes:

Example: As 158 < 356, the number of carrots for P1 is less than the number of carrots for P3.

a) P1 and P3
b) P2 and P3
c) P3 and P4
d) P4 and P5
e) P5 and P6
f) P2 and P5
g) P6 and P1
h) P4 and P2
i) P5 and P3

What have you learnt in this lesson?

2.6 Arrange numbers within 500 in increasing or decreasing order

2.6.1 Arrange numbers from the smallest to the biggest.

Activity 2.6.1

Read and find the answer

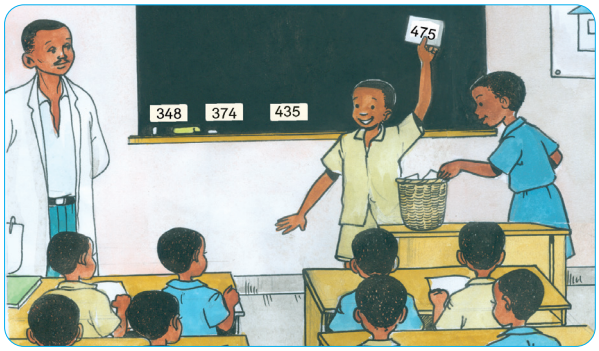
Use bundles of sticks / Base ten blocks or counters. Form the following numbers: **230, 200, 350, 300, 499** and **400**.

Arrange these numbers from the smallest to the biggest number.

Activity 2.6.2

Read and find the answer

Get the number cards and arrange them from one with the smallest number to the one with the biggest number. Read the number.



Activity 2.6.3

Arrange the following numbers from the smallest to the biggest

a) 425, 475, 303
b) 335, 284, 400
c) 497, 500, 251
d) 345, 482, 223
e) 242, 473, 365
f) 409, 499, 337
g) 247, 479, 352
h) 428, 500. 268
i) 394, 421, 275
j) 306, 360, 301
k) 415, 451,154
l) 226, 262, 215

2.6.2. Arranging numbers from the biggest to the smallest

Activity 2.6.4

Look at the number cards. Read and do the following.

1. How are they arranged? Read aloud the number on each number card.
2. Arrange your number cards from the one with the biggest to the one with the smallest number.

Application activity 2.6

Arrange the following numbers from the biggest to the smallest number

a) 252, 475, 330
b) 453, 248, 500
c) 479, 500, 315
d) 254, 328, 432

What have you learnt in this lesson?

2.7 Addition of numbers whose sum does not exceed 500

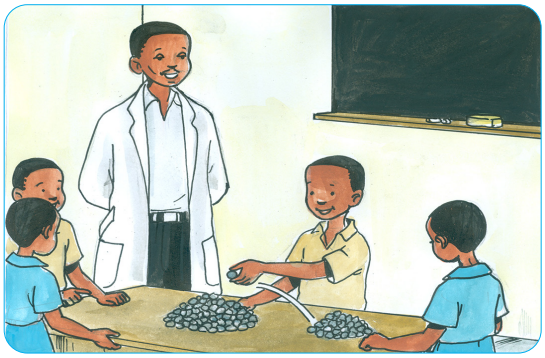
2.7.1 Addition without carrying

Activity 2.7.1

Read and do the following.

1) There are two groups of bundle of sticks/ base ten blocks or counters (beans).

The first group has 200 beans. The second group has 40 beans.



Put all the beans together. What is the total number?

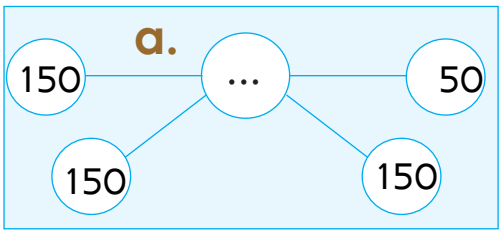
2) Think and give the sum of these numbers

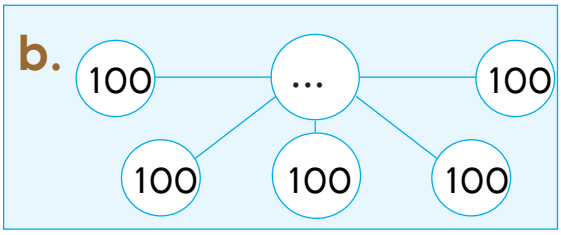
a) 200 + 50 = c) 220 + 30 = e) 300 + 50 =

b) 200 + 20 = d) 250 + 50 = f) 350 + 50 =

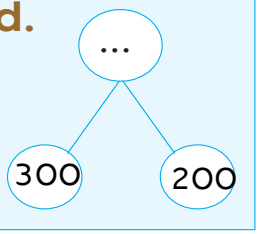
Activity 2.7.2

Add and write the answer in the correct circle

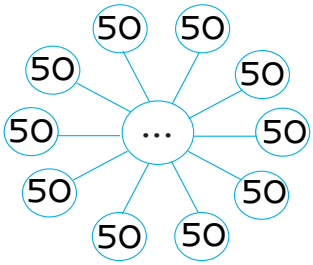




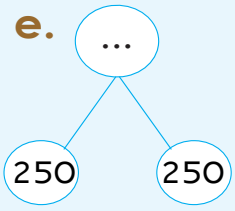
d.



c.



e.



Activity 2.7.3

Read and fill in the missing number.

Form two groups of bundle of sticks/ base ten blocks or counters (beans): the first group contains 225 objects; the second group contains 163 objects. Put all the objects together. The total number is 225 +163 =____

Activity 2.7.4

Add numbers.

Example: 223 + 274 = 497

Hundreds (H)	Tens (T)	Ones (O)
2	2	3
+ 2	7	4
4	9	7

- Add downwards;
- Start from the place of ones on your right.

Look at the example. Try these:

a) 223 + 175 =
b) 335 + 162 =
c) 312 + 177 =
d) 247 + 251 =
e) 352 + 145 =
f) 264 + 225 =
g) 382 + 116 =
h) 291 + 206 =
i) 315 + 181 =

Application activity 2.7.1

Add numbers

1) Add: a) 272 + 225 = b) 361 + 135 = b) 226 + 272 =

2) Use the number cards in A, B and C and the cards with + , = . Follow instructions and try the task below:

A.	221	214	253	262	281	235
B.	97	245	154	121	212	234
C.	318	469	407	383	459	493

1. Take one number card from A ;
2. Put the card with + .
3. Continue with a number card from B;
4. Put the card with the sign = .
5. Then, find the answer from number cards in C.

Note that in all cases, the answers are found by adding the A + B cards that are paired. The answer is the one of the number card that suits in C.

Example: 221 + 97 = 318

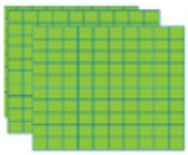
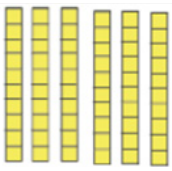
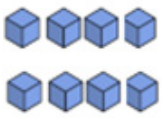
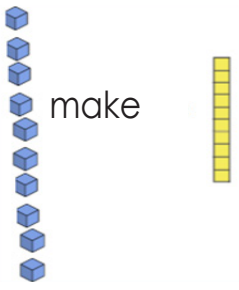
2.7.2 Addition with carrying

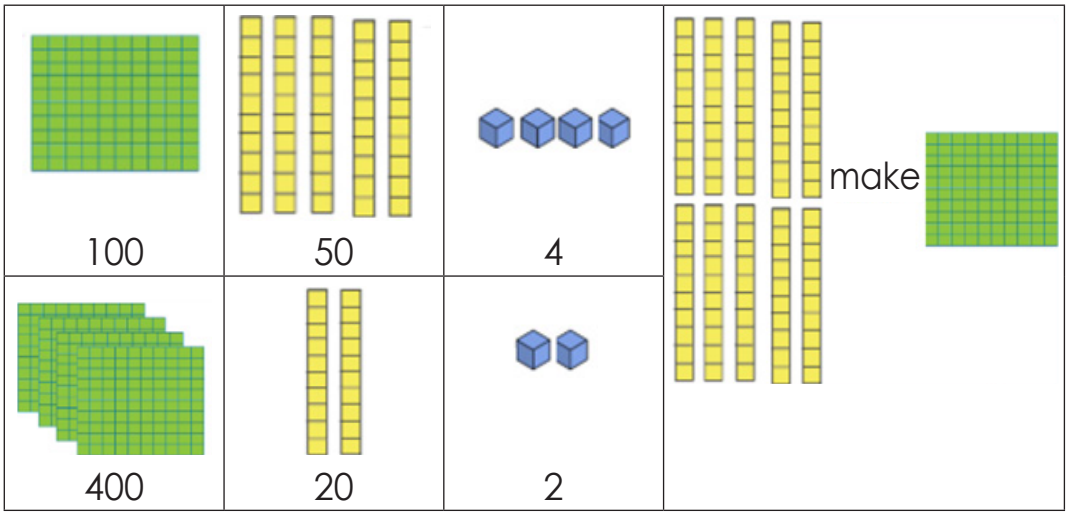
Activity 2.7.7

Add numbers

Example: 268 + 154 = ?

a) We can use base ten blocks to add:

H	T	O	
 200	 60	 8	 make



Therefore,

268	+	154	=	422

b) We can add in the table of place value:

Hundreds (H)	Tens (T)	Ones (O)
1	1	
2	6	8
+ 1	5	4
4	2	2

Therefore, 268 + 154 = 422

Use the example and try these:

a) 225 + 167 =
b) 334 + 148 =
c) 146 + 229 =
d) 117 + 375 =
e) 154 + 228 =
f) 265 + 228 =
g) 372+ 128 =
h) 185+ 315 =
i) 192+ 278 =

Application activity 2.7.2

Add numbers

a) 205 + 258 =
b) 277+ 196 =
c) 339 +1 43 =
d) 285+146 =
e) 337 + 126 =
f) 288 + 145 =

2.8 Word problems involving the addition of numbers

Activity 2.8

Read and find the answer

Example:

Nahimana has 225 marks in the first term. In the second term Nahimana has 215 marks. Find the total number of marks for Nahimana in two terms.

Solution:

Given: First term marks = 225

Second term marks = 215

Question: Total marks for two terms = ?

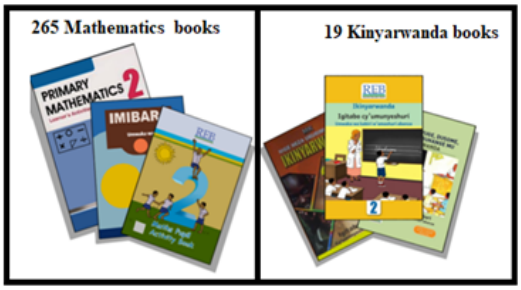
Operation: Addition

Calculation: The total marks for Nahimana: 225 + 215 = 440

The total marks for Nahimana is 440.

Try these:

Today the head teacher buys 265 books for Mathematics and 19 books for Kinyarwanda. How many books does the head teacher buy altogether?



Application activity 2.8

Read and find the answer

Kanyinya Village plants 312 trees on Umuganda. Muhima Village plants 188 trees. How many trees are planted altogether by the two Villages on the Umuganda day?

2.9 Subtraction of numbers within the range of 500

2.9.1 Subtraction without borrowing

Activity 2.9.1

Read and find the answer

Look at the pictures below. There are 10 books. Kamana gives 6 books to Erica. How many books can remain on the table?

Kamana gives 6 books to Erica

Activity 2.9.2

Find the answer.

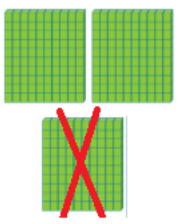
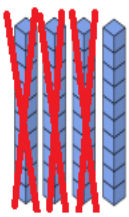
a) 500 - 50 =	d) 200 - 50 =	g) 450- 50 =
b) 400 - 50 =	e) 100 - 50 =	h) 350 - 50 =
c) 300 - 50 =	f) 50 - 50 =	

Activity 2.9.3

Find the answer.

Get 345 counters. Take away 132 of them. Then count the remaining counters. Say and write their number.

345 -132 = ___

Hundreds	Tens	Ones
		

Activity 2.9.4

Subtract numbers.

Hundreds (H)	Tens (T)	Ones (O)	- From ones: 6-3=3 - Tens: 9-2=7 - Hundreds: 4-2=2 Then, 496 - 223 = 273
4	9	6	
- 2	2	3	
2	7	3	

Look at the example. Try these:

a) 486 - 275 =
b) 365 - 162 =
c) 289 - 177 =
d) 487 - 351 =
e) 356 - 145 =
f) 464 - 252 =
g) 382 - 216 =
h) 396 - 156 =
i) 485 - 473 =

Activity 2.9.5

Fill in the missing numbers.

a) 376=☐ - 124
b) 420=☐ - 78
c) 315=☐ - 140
d) 250 = 475 - ☐
e) 455 = 495 - ☐
f) 330 = 478 - ☐
g) 287 - ☐ = 47
h) 366 - ☐ = 140
i) 474 - ☐ = 124

Application activity 2.9.1

- Use the number cards in A, B and C and the cards with [-] , [=]..
- Follow instructions and try the task below:

a.	324	232	414	282	353	444
b.	221	130	314	231	233	314
c.	100	120	130	103	51	102

Use them to do the task below:

1. Take one number card from A;
2. Put the card with [-].
3. Continue with a number card from B;
4. Put the card with the sign [=].
5. Then, find the answer from number cards in C.

Note that in all cases, the answers are found by adding the A + B cards that are paired. The answer is the one of the number card that suits in C.

Example: 324 | – | 221 | = | 103

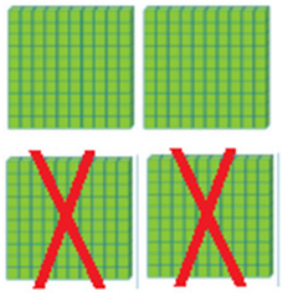
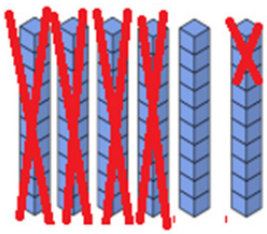
2.9.2 Subtraction with borrowing

Activity 2.9.6

Subtract numbers

Example: 462 – 245 = ___

a) We can use base ten blocks:

Hundreds	Tens	Ones
		

Therefore, **462 – 245 = 217**

b) We can use the place value table or a standard written method:

Hundreds (H)	Tens (T)	Ones (O)
	5	
4	~~6~~	10+2
- 2	4	5
2	1	7

For ones: 2-5 is now impossible.
I borrow one tens equivalent to 10 ones and then
10 Ones + 2 ones = 12
Then, 12 - 5 = 7
For tens: 5 - 4 = 1
For Hundreds: 4 - 2 = 2.

Therefore, **462 – 245 = 217**

Look at the example. Try these:

a) 452 - 247 =
b) 343 - 148 =
c) 264 - 139 =
d) 471 - 357 =
e) 345 - 228 =
f) 465 - 258 =

Application activity 2.9.2

Subtract numbers

a) 400 - 358 =
b) 397- 268 =
c) 493 - 334 =
d) 485 - 346 =
e) 336 - 327 =
f) 485 - 248 =

2.10 Word problems involving subtraction

Activity 2.10

Read and find the answer

Example:

1. Keza has 127 bananas. Keza takes away 100 bananas to sell. How many bananas does Keza remain with?

Solution:

Given: Total number of bananas is 127
Number of bananas to sell is 100
Question: Number of remaining bananas is….?
Operation: Subtraction
The number of remaining bananas is 127 -100 = 27.

Example:

2. Our school has 378 pupils. 132 pupils are in P6. How many pupils are in other classes than P6?

Solution:

Given: Total number of pupils = 378

Number of pupils in P6

Question: Number of pupils in other classes than P6 = ?

Operation: Subtraction

The number of pupils in other classes is 378 -132 = 246.

Look at the examples. Try this:

Tito has got 170 eggs. In this morning 87 are broken. How many eggs are remaining?

basket with eggs

Application activity 2.10

Read and find the answer.

Makuza has 466 sacks of beans.

His Sister has 387 sacks of beans.

a) Who has more beans?

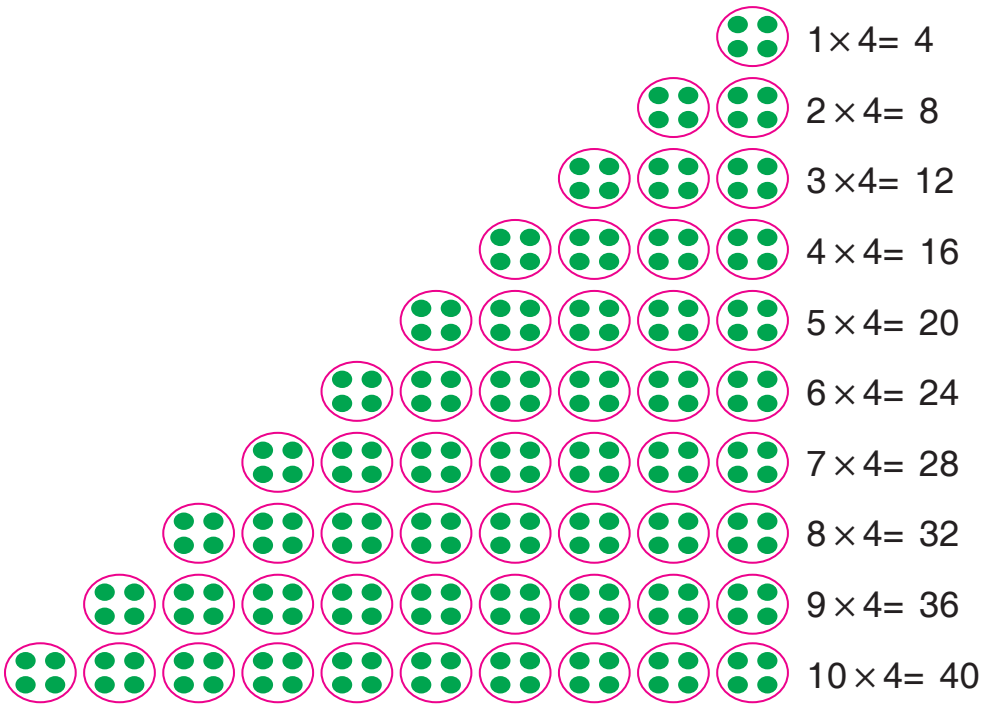
b) What is the difference between the number of sacks of Makuza and his sister?

sacks of beans

2.11 Multiplication of whole numbers by 4 and the multiples of 4

Activity 2.11.1

1) Form different groups of 2 objects (beans, bottle tops, small stones etc).
2) Count the number of objects for 2 groups, 3 groups, etc.
3) Complete the total number of objects for groups in the following table:



Note that 0 x 4 = 0

Activity 2.11.2

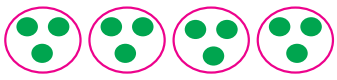
Fill in the missing number in the empty box

a) 4 = ☐ × 4
b) 8 = ☐ × 4
c) 12 = ☐ × 4
d) 16 = 4 × ☐
e) 20 = ☐ ×4
f) 24 = 4 × ☐
g) 28 = ☐ × 4
i) 32 = 4 × ☐
k) 36 = ☐ × 4

Activity 2.11.3

Observe the figure and complete the number sentence:

1)  3×4 = ___

2)  4×3 = ___

3) Complete by true or false

3×4 = 4×3 = ___

4) Complete: 12 x 4 = 48. Then, 4 x 12 = ___

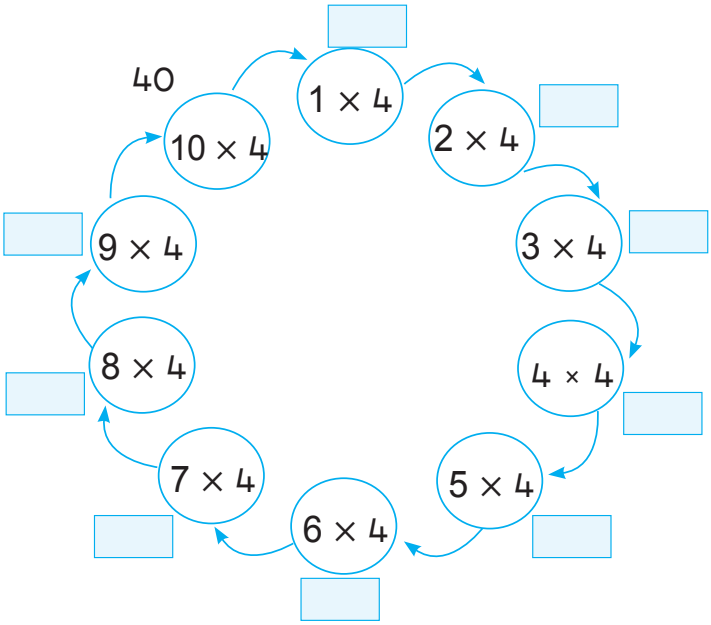
Application activity 2.11

Use the multiplication by 4 to complete the missing number

a)

X 4	1	2	3	4	5	6	7	8	9	10
	...	...	...	...	...	...	...	...	...	...

b)



2.12 Multiply a two-digit number by 4

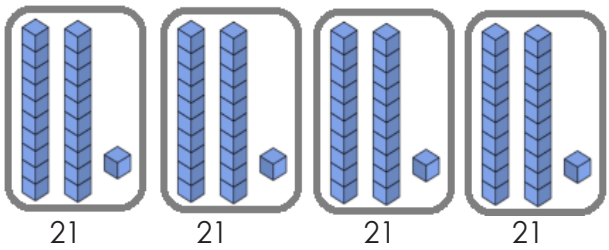
Activity 2.12.1

Multiply numbers

Look at base ten blocks. Then, complete.

Let us find 4 x 21= ___

21 x 4 = ___



We can multiply using the formal written method:

Example:

$$\begin{array}{r} 21 \\ \times\ 4 \\ \hline 84 \end{array}$$

Tens (T)	Ones (O)
2 ×	1 4
8	4

Look at the example. Try these:

a)

Tens (T)	Ones (O)
1	1
X	4

b)

Tens (T)	Ones (O)
3	0
x	4

c) 12 × 4 =

d) 21 × 4 =

e) 20 × 4 =

f) 31 × 4 =

g) 32 × 4 =

h) 4 × 40 =

Activity 2.12 .2

Multiply numbers by 4:

Example:

$$\begin{array}{r} 52 \\ \times\ 4 \\ \hline 208 \end{array}$$

a) $\begin{array}{r} 71 \\ \times\ 4 \\ \hline \ldots \end{array}$

b) $\begin{array}{r} 72 \\ \times\ 4 \\ \hline \ldots \end{array}$

C) $\begin{array}{r} 80 \\ \times\ 4 \\ \hline \ldots \end{array}$

d) $\begin{array}{r} 92 \\ \times\ 4 \\ \hline \ldots \end{array}$

Application activity 2.12

Multiply and complete:

a) 4 × 41 =

b) 4 × 40 =

c) 4 × 51 =

d) 4 × 61 =

2.13 Word problems involving the multiplication of a number by 4

Activity 2.13

Read and find the answer

Example:

We are 42 pupils in the classroom. Every pupil has 4 books. Find the number of books we have in our classroom.

Solution:

Given:

Number of pupils in the classroom = 42

Number of books per pupil = 4

Question: Number of books for all pupils = ?

Operation: Multiplication

Total number of books: 42 × 4 = 168

The total number of books is 168

Look at the example. Ty these:

1) At our school we are 82 pupils. We are going to plant trees so that every pupil plants 4 trees. How many trees can we plant?
2) In the morning assembly the P3 pupils stand on 4 lines in front of their classroom. If there are 22 pupils on each line, find the number of pupils in the morning assembly.

Pupils in front of the classrooms

Application activity 2.13

Read and do the following:

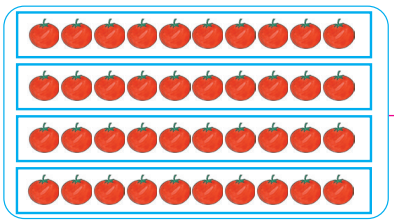
1) A car has 4 wheels. How many wheels are there on 35 cars?
2) A bus carries 36 people. How many people are carried by 4 such buses?

2.14 Division of a two or three-digit number by 4 without a remainder

Activity 2.14.1

1. Count the number of objects you have.
2. Group them equally in 4 groups.
3. Count and write down the number of objects for each group.

Example:



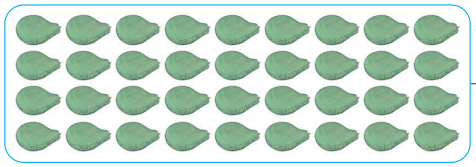
Tomatoes

40 ÷ 4 = 10

Look at the example. Try these:

1) Count and write down the number of objects for each group.

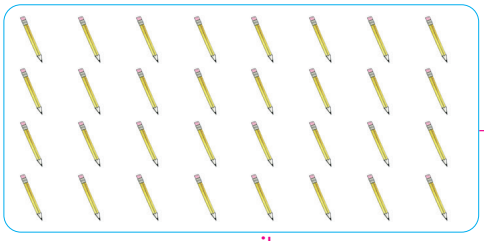
a.



Avocadoes

□ ÷ 4 = □

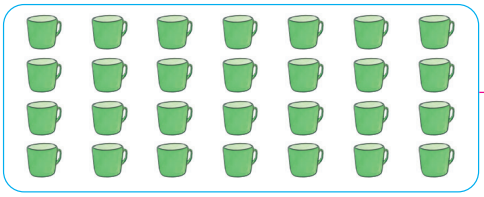
b.



pencils

□ ÷ 4 = □

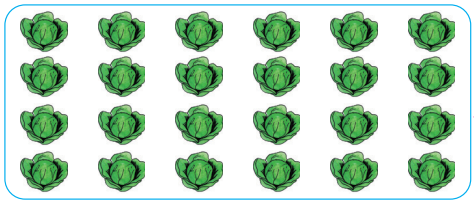
c.



cups

□ ÷ 4 = □

d.



cabbages

→ ☐ ÷ 4 = ☐

2) Use multiplication or division by 4 to fill in the missing numbers.

×4										÷4
	...	2	...	4	...	6	...	8	...	10	
	4	...	12	...	20	...	28	...	36	...	

Activity 2.14.2

Divide by 4

Example:

$$\begin{array}{r} 21 \\ 4\overline{)\,84} \\ -\,8 \\ \hline 04 \\ -\,4 \\ \hline 0 \end{array}$$

84 ÷ 4 = 21

a) $4\overline{)44}$ b) $4\overline{)64}$ c) $4\overline{)76}$

d) $4\overline{)56}$ e) $4\overline{)84}$ f) $4\overline{)68}$

Look at the example. Try these:

a) 80 ÷ 4 = b) 64 ÷ 4 = c) 88 ÷ 4 = d) 92 ÷ 4 =

Activity 2.14.3

Divide a 3-digit number by 4:

Example: 120÷4 = ?

$$\begin{array}{r} 30 \\ 4\overline{)\,120} \\ -\,12 \\ \hline 000 \\ -\,0 \\ \hline 0 \end{array}$$

1 ÷ 4 is now impossible

We take two digits (12)

12 ÷ 4 = 3

0 ÷ 4 = 0

Look at the example. Try these:

a) 500 ÷ 4 = c) 492 ÷ 4 = e) 284 ÷ 4 = g) 376 ÷ 4 =

b) 296 ÷ 4 = d) 388 ÷ 4 = f) 480 ÷ 4 = h) 472 ÷ 4 =

Application activity 2.14

Divide and write the answer

a) 96 ÷ 4 = c) 368 ÷ 4 = e) 260 ÷ 4 = g) 252 ÷4 =

b) 72 ÷ 4 = d) 464 ÷ 4 = f) 456 ÷ 4 = h) 448 ÷ 4 =

2.15 Word problems involving the division of a number by 4

Activity 2.15

Read and find the answer

Example:

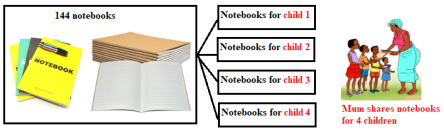
The head teacher buys 488 books. Head teacher shares the books equally to 4 classes. How many books does each class get?

Solution:

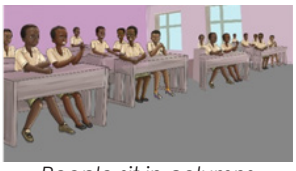
Given:
There are 448 books
There are 4 classes
Question: Number of books per class =?
Operation: Division
Each class received: 488 ÷ 4 = 122
Each class got 122 books.

Look at the example. Try these:

1. We are 4 children at home. Our Mum wants to share 144 notebooks equally. How many notebooks does each child get?



2. There are 368 people in the main hall. People sit in 4 equal columns. How many people are in each column?



People sit in columns

Application activity 2.15

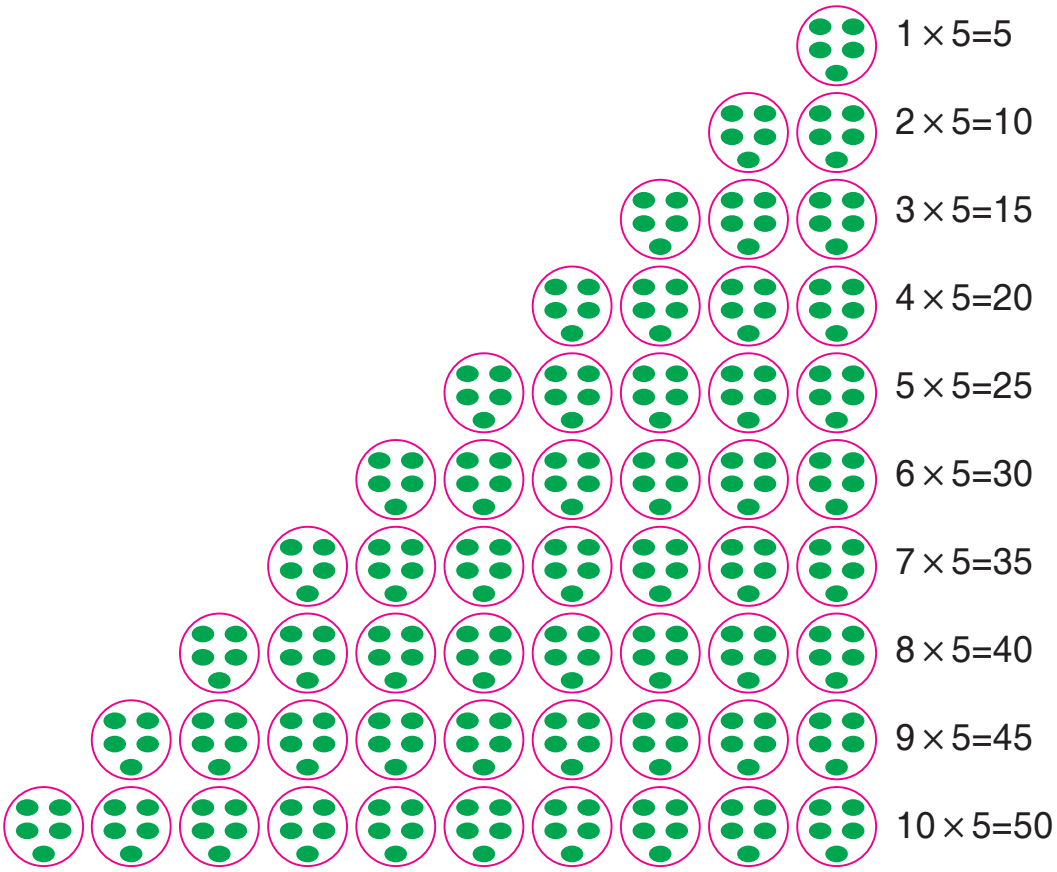
Read and find the answer.

Head teacher has 320 pens. He shares them equally among 4 classes. How many pens does each class get?

2.16 Multiplication of numbers by 5

Activity 2.16.1

1) Form different groups of 5 counters (beans or bottle tops).
2) Count the number of counters for 2 groups, 3 groups, etc.
3) Complete the total number of counters for groups in the following table:



Activity 2.16.2

1) Fill in the missing number in the box.

Example: 15 = 3 × 5

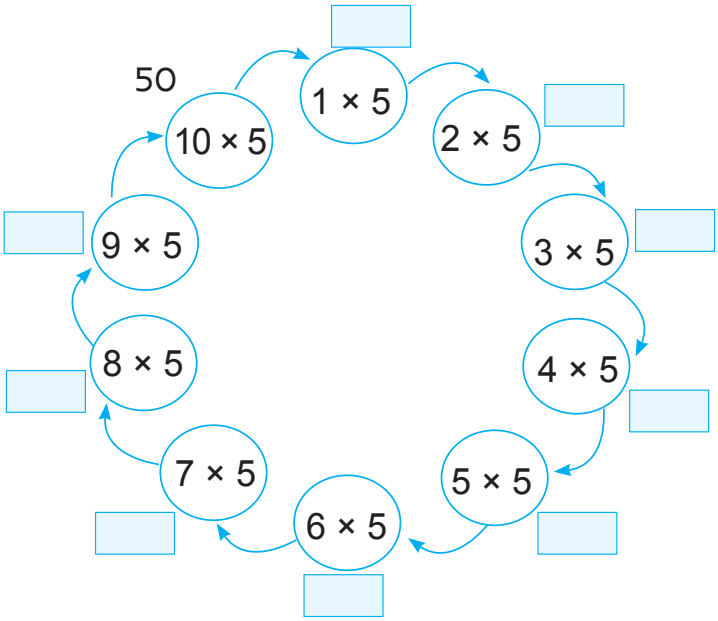
a) 5= ☐ × 5
b) 10= ☐ × 5
c) 15= ☐ × 5
d) 20= 5 × ☐
e) 25= ☐ × 5
f) 30= ☐ × 5
g) 35= ☐ × 5
h) 40= ☐ × 5
i) 45= ☐ × 5

2) Fill in the missing number in the multiplication table by 5

a)

× 5	1	2	3	4	5	6	7	8	9	10
	...	...	...	...	...	...	...	...	...	...

b)



Application activity 2.16

Complete the multiplication table by 5

× 5	...	2	...	4	...	6	...	8	...	10	÷ 5
	5	...	15	...	25	...	30	...	45	...	

2.17 Multiply a two-digit number by 5

Activity 2.17.1

Multiply by 5:

Example: 21 x 5 =

Hundreds (H)	Tens (T)	Ones (O)
	2 ×	1 5
1	0	5

Then, 21x 5 = 105

Look at the example. Try these:

a) 11 x 5 = c) 30 x 5 = g) 41 x 5 =

b) 20 x 5 = e) 31 x 5 = h) 50 x 5 =

c) 21 x 5 = f) 40 x 5 = i) 60 x 5 =

Activity 2.17 .2

Look at the example. Try these:

Example:

```
  6 1
×   5
-----
3 0 5
```

a)
```
  8 1
×   5
-----
  ...
```

b)
```
  9 1
×   5
-----
  ...
```

C)
```
  8 0
×   5
-----
  ...
```

d)
```
  5 1
×   5
-----
  ...
```

Application activity 2.17

Multiply:

a) 63 x 5 = b) 48 x 5 = c) 25 x 5 = d) 17 x 5 =

2.18 Word problems involving the multiplication by 5

Activity 2.18

Read and find the answer

Example:

In the main hall of our school there are chairs arranged in 5 columns. If each column has 91 chairs, find the total number of chairs in the main hall.

Solution:

Given: Number of columns = 5
Number of chairs per column = 91
Question: Number of chairs in the main hall = ?
Operation: Multiplication
The number of all chairs: **91 x 5 = 455**
The number of all chairs is **455**

Look at the example. Try these:

1. During the distribution of mosquito nets, each family receives 5 mosquito nets. How many mosquito nets are distributed to 81 families?


mosquito net

2. If there are 5 cups on each table, how many cups are there on 41 tables?


5 cups on 1 table

3. There are 61 benches in the hall. How many people can sit in the hall if 5 people can sit on each bench?


5 people on 1 bench

Application activity 2.18

Read and do the following:
There are 40 bottles of water in each box. How many bottles of water are in 5 boxes?

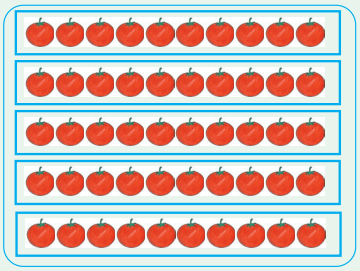

1 box has 40 bottles of water

2.19 Division of a two or three-digit number by 5 without a remainder

Activity 2.19.1

1. Count the number of objects you have.
2. Write their number. Group them equally in 5 groups.
3. Count and write down the number of objects in the box.

Example:



5 groups of tomatoes

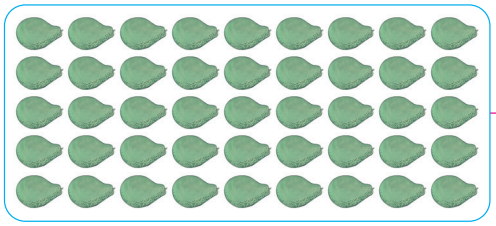
50 ÷ 5 = 10

Each group has 10 tomatoes

Look at the example. Try these:

1. Count and write down the number of objects in the box.

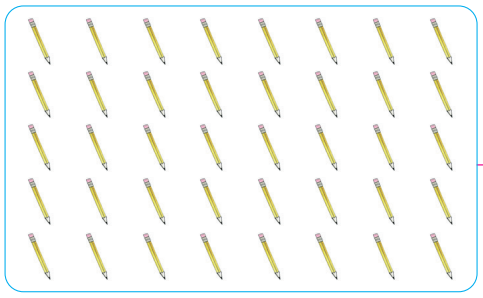
a)



Avocadoes

_____ ÷ 5 = _____

b)



pencils

_____ ÷ 5 = _____

2. Complete the division table

1)

÷ 5	5	10	15	20	25	30	35	40	45	50
	___	___	___	___	___	___	___	___	___	___

2)

÷ 5	___	10	___	20	___	30	___	40	___	50	x 5
	1	___	3	___	5	___	7	___	9	___	

3. Think and give the answer

a) 50 ÷ 5 =
b) 45 ÷ 5 =
c) 40 ÷ 5 =
d) 35 ÷ 5 =
e) 30 ÷ 5 =
f) 25 ÷ 5 =
g) 20 ÷ 5 =
h) 15 ÷ 5 =
i) 10 ÷ 5 =

Activity 2.19.2

Divide by 5.

Example:

55 ÷ 5 = 11

$$\begin{array}{r} 11 \\ 5\overline{)\,55} \\ -\,5 \\ \hline 05 \\ -\,5 \\ \hline 0 \end{array}$$

Tens (T)	Ones (O)
5 ÷ 5 = 1	5 ÷ 5 = 1

Look at the example. Try these:

a) $5\overline{)60}$ b) $5\overline{)80}$ c) $5\overline{)90}$ d) $5\overline{)50}$

e) $5\overline{)65}$ f) $5\overline{)85}$ g) $5\overline{)95}$

Application activity 2.19

Divide and write the answer

a) 105 ÷ 5 =
b) 210 ÷ 5 =
c) 315 ÷ 5 =
d) 220 ÷ 5 =
e) 330 ÷ 5 =
f) 135 ÷ 5 =
g) 440 ÷ 5 =
h) 145 ÷ 5 =

2.20 Word problems involving the division of a two or 3-digit number by 5

Activity 2. 20

Read and find the answer

Example:

There are 65 oranges for 5 people.

They share oranges equally. How many oranges each person can get?

Solution:

Given: Number of oranges = 65
Number of pupils = 5

Question: Number of oranges per pupil = ?

Operation: division
One pupil can get: 65 ÷ 5 = 13
One pupil can get 13 oranges.

Look at the example. Try this:

There are 5 farmers in one Village of Nyagatare District. The farmers have 495 cows in their farm. If they share their cows equally, how many cows can each farmer get?

Application activity 2.20

Read and do the following.

The Hospital has 385 mosquito nets to give equally to 5 villages. Find the number of mosquito nets for each village.

END UNIT ASSESSMENT

1. Write in words or in figures

(a) 497

(b) Three hundred and eighty-six.

2. Underline the correct answer

(a) 3 Ones 6Tens 4 Hundreds = 1) 364 2) 463 3) 346

(b) 3Hundreds 2 Ones 4Tens = 1) 324 2) 423 3) 342

3. Write the expanded number

(a) (4 × 100) + (8 × 10) + (7 × 1) =

(b) 300 + 70 + 6 =

4. Write each number in a place value table

(a) 268 (b) 475 (c) 473 (d) 352

5. Use <, > and = to compare the following numbers

(a) 295 ☐ 295 (c) 478 ☐ 467 (b) 458 ☐ 378

6. Arrange the following numbers in increasing order (from the smallest to the biggest)

439, 349, 493, 394,387 and 479

7. Arrange the following numbers in decreasing order (from the biggest to the smallest)

293, 239, 387, 470, 389 and 499.

8. Add the following

(a) 234 + 253 = (c) 378 + 114 =

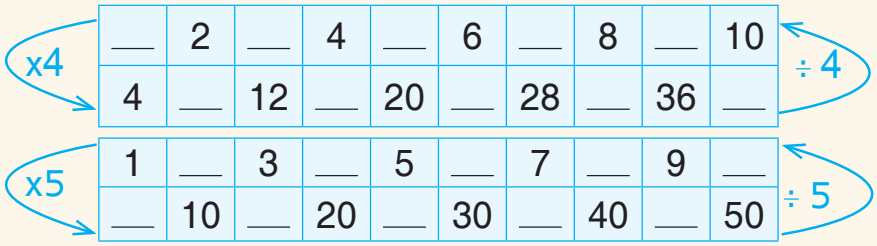
(b) 257 + 208 = (d) 369 + 128 =

9. Subtract the following:

(a) 459 – 327 = (b) 453 – 345 =

(c) 367 – 236 = (d) 381 – 274 =

10) Fill in the following tables



___	2	___	4	___	6	___	8	___	10
4	___	12	___	20	___	28	___	36	___

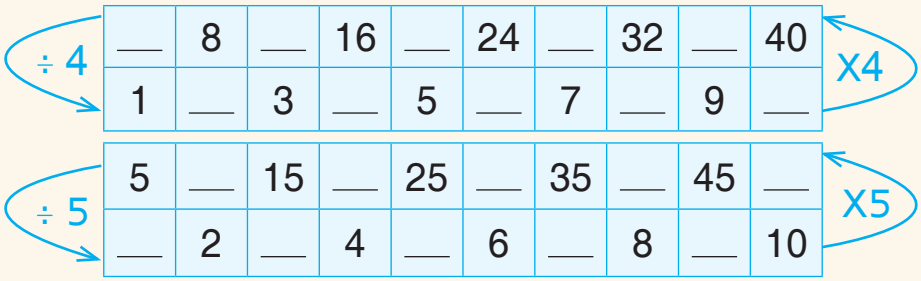
1	___	3	___	5	___	7	___	9	___
___	10	___	20	___	30	___	40	___	50

11. Multiply the following:

(a) 92 × 4 (c) 81 × 4 (e) 61 × 4 (g) 70 × 4

(b) 82 × 5 (d) 91 × 5 (f) 80 × 5 (h) 90 × 5

12. Find the missing numbers in the following tables



___	8	___	16	___	24	___	32	___	40
1	___	3	___	5	___	7	___	9	___

5	___	15	___	25	___	35	___	45	___
___	2	___	4	___	6	___	8	___	10

13. Try the following division by using long division method:

(a) 488 ÷ 4 = (c) 465 ÷ 5 = (e) 464 ÷ 4 =

(b) 368 ÷ 4 = (d) 450 ÷ 5 = (f) 295 ÷ 5 =

14. Read and find the answer

a) Our Village plants 256 trees. The neighbouring Village plants 239 trees. Find the total number of trees in the two villages.

b) Our school has 489 pupils. The number of boys is 297. Find the number of girls.

c) Head Mistress gives 4 books to every pupil. How many books does she give to 72 pupils?

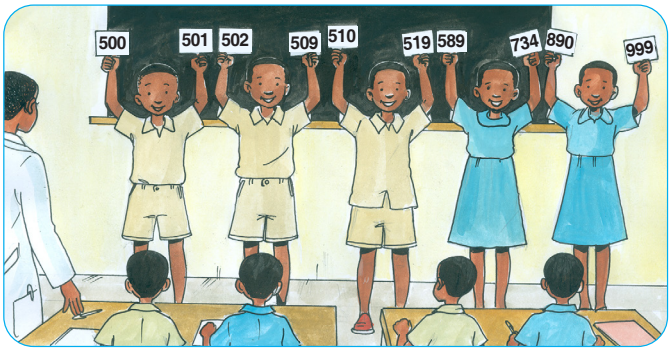
d) Share 496 books equally among 4 classrooms. How many books can each classroom get?

Unit 3

NUMBERS UP TO 1000

3. 0 Introductory activity

Look at the pictures below. Tell your friend the number you can read on the cards.

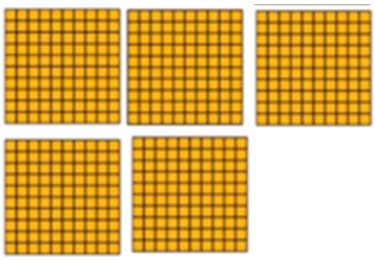


1) What do you see?
2) How many children do you see in the picture?
3) How many cards do they have?
4) Can you read the numbers written on the cards?
5) What do you expect to learn in this unit?

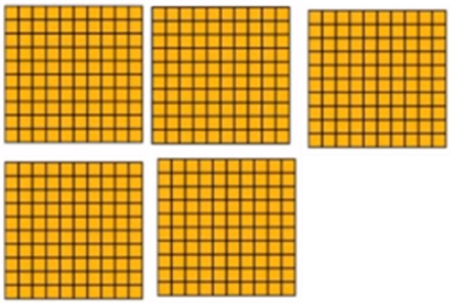
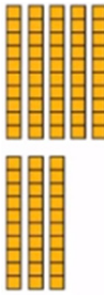
3.1 Count, read and write numbers from 0 up to 1000

Activity 3.1.

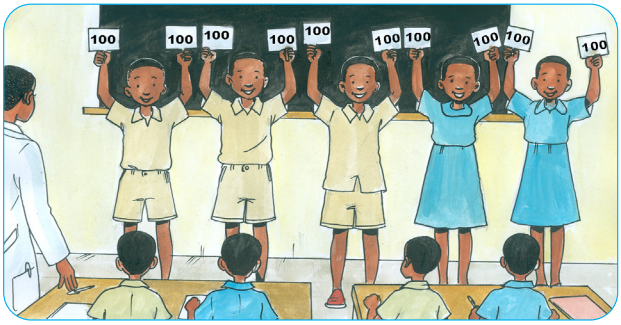
1) Look at the picture bellow. What is the number represented below?

Hundreds	Tens	Ones
		

2) Write the number and read it

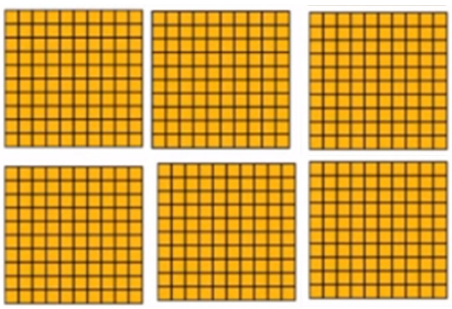
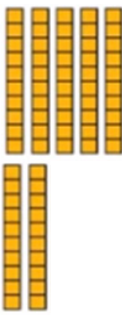
Hundreds	Tens	Ones
		

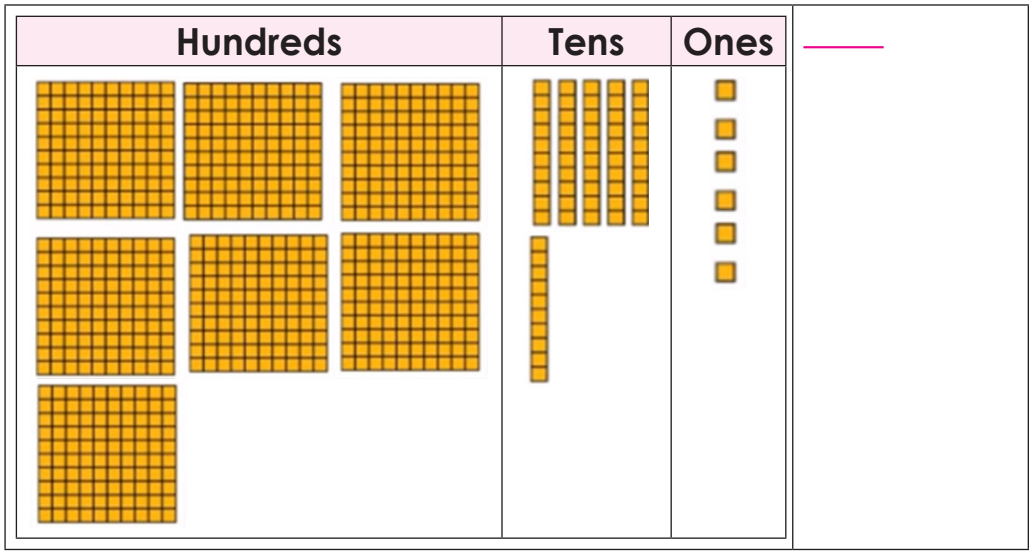
3) Look at the picture. How many times 100 is seen on the picture?



Application activity 3.1

1) Count, and write the number

Place values			Number
Hundreds	Tens	Ones	672
			



2) Look at numbers. Copy and read aloud.

500	510	520	530	540	550	560	570	580	590	600
600	610	620	630	640	650	660	670	680	690	700
700	710	720	730	740	750	760	770	780	790	800
800	810	820	830	840	850	860	870	880	890	900
900	910	920	930	940	950	960	970	980	990	1000

What have you learnt in this lesson?

3.2 Read and write numbers up to 1000

Activity 3.2.1

Look at the table. Read and fill in the missing numbers.

500	501									510
550	551		553							
600	601					606				
650	651	652								

700	701			704						
750	751								759	
800	801							808		
850	851						857			
900	901					906				
950	951									960
990	991				995					1000

Activity 3.2.2

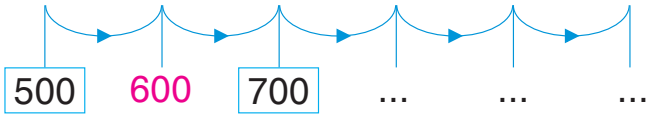
You have a container with number cards.

647	729	836	975	564	697	786	859	918	999

Pick any number card from the container. Say the number in words.

Activity 3.2.3

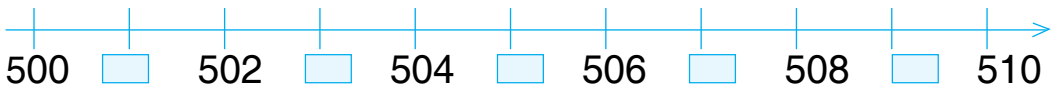
Count in hundreds. Complete with the correct numbers.



Application activity 3.2

1) Fill in the missing numbers

a)



b) 610 ☐ 630 ☐ 650 ☐ 670 ☐ 690 ☐

c) 710 ☐ 730 ☐ 750 ☐ 770 ☐ 790 ☐

d) 810 ☐ 830 ☐ 850 ☐ 870 ☐ 890 ☐

e) ☐ 920 ☐ 940 ☐ 960 ☐ 980 ☐ 1000

f) ☐ 200 ☐ 400 ☐ 600 ☐ 800 ☐ 1000

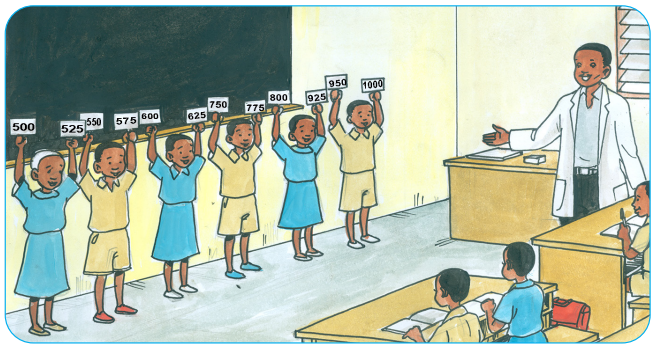
g) 500 510 ☐ ☐ 540 ☐ ☐ ☐ ☐ 590

h) 710 ☐ 730 ☐ 750 ☐ 770 ☐ 790 ☐

i) 905 915 ☐ 935 ☐ 955 ☐ 975 ☐ 995

j) 804 ☐ 844 ☐ 884 ☐ 924 ☐ 964 ☐

2) Look at the picture. Read the numbers from 500 up to 1000.



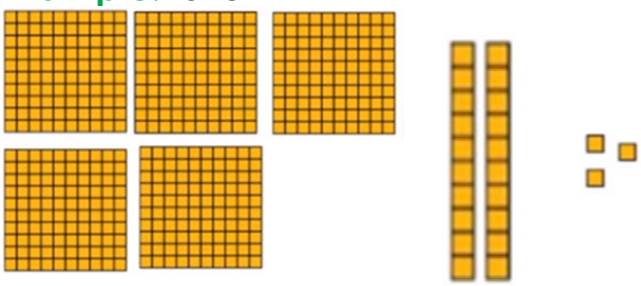
What have you learnt in this lesson?

3.4 Place value of each digit of numbers up to 999

Activity 3.4.1

Write the following numbers in the place value table.

Example: 523



Hundreds (H)	Tens (T)	Ones (O)
5	2	3

Therefore, 523= 5 hundreds 2 tens 3 ones.

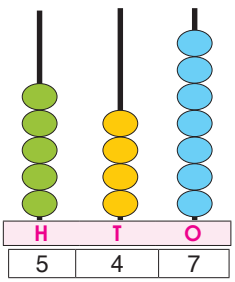
Look at the example. Try these

a) 523 c) 745 e) 943 g) 933 i) 584 k) 769 m) 998
b) 822 d) 627 f) 837 h) 513 j) 649 l) 827 n) 734

Activity 3.4.2

Use the abacus and complete the place values

Example: 547



547= 5 hundreds 4 tens 7ones

1) Write the place value:

a) 487 = __ hundreds ___tens ___ones
b) 814 = __ hundreds ___ten ___ones
c) 715 = __ hundreds ___ten ___ones
d) 641 = __ hundreds ___tens ___one
e) 917 = __ hundreds ___ten ___ones
f) 868 = __ hundreds ___tens ___ones

2) Write down the correct number

a) 6 hundreds 4 tens 5 ones = __
b) 4 hundreds 0 tens 8ones = __
c) 5 hundreds 1ten 9 ones = __

Application activity 3.2

1) Complete the place values

a) 719 = __ hundreds ___ten ___ones
b) 680 = __ hundreds ___tens ___ones
c) 919 = __ hundreds ___ten ___ones

2) Write down the correct number

a) 1hundred 7 tens 3 ones =__
b) 8Hundreds 2 tens 5ones =___
c) 9 hundreds 5 tens 6 ones =__
d) 3 hundreds 8tens 2 ones =___
e) 5Ones 7Tens 2Hundreds= ___
f) 2 hundreds 7 hens 6 ones =___

What have you learnt in this lesson?

3.5 Expanding numbers up to 1000

Activity 3.5.1

Expand these numbers.

Examples: **Solution:**

1) 916

H	T	O
9	1	6

9 Hundreds 1 Ten 6 Ones.
916 = 900 + 10 + 6

Solution:

2) 567.

H	T	O
5	6	7

5 Hundreds 6 Tens 7 Ones
567 = 500 + 60 + 7.

Look at the examples. Try these:

a) 452 b) 967 c) 888

Activity 3.5.2

Write the expanded numbers.

Examples: **Solution:**

1) 600 + 60 + 6

600 + 60 + 6 =

$$\begin{array}{r} 600 \\ 60 \\ +\ 6 \\ \hline 666 \end{array}$$

2) 900 + 60 + 3

900 + 60 + 3 =

$$\begin{array}{r} 900 \\ 60 \\ +\ 3 \\ \hline 963 \end{array}$$

Look at the examples. Try these:

a) 900 + 10 + 6= __ b) 300 + 30 + 3= __ c) 700 + 60 + 9= __

Application activity 3.5

Read and do the following.

i) Expand the number

a) 659 b) 344

ii) Write the number

a) 800 + 90 + 1= __ b) 500 + 20 + 6= __

What have you learnt in this lesson?

3.6 Writing the number up to 1000 in words

Activity 3.6.1

Read and Complete the table

Number	Expanded form	Number in words
Example; 875	800 + 70 + 5	Eight hundred and seventy-five.
725	700+20+5	___
998	__	Nine hundred and ninety-eight
693	600+90+3	___

Activity 3.6.2

Write the following numbers in words

a) From 500 up to 510
b) From 665 up to 675
c) From 595 up to 605
d) From 846 up to 856
e) From 968 up to 978

Application activity 3.6

Read and write these numbers in words

a) 680 b) 830 c) 505 d) 995

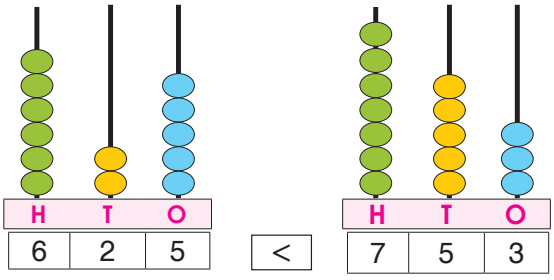
What have you learnt in this lesson?

3.7 Comparing numbers within 1000

Activity 3.7.1

Use the abacus to compare numbers

Example: 625 ____753



625 < 753

Look at the example. Try these:

a) 649 ☐ 946 b) 836 ☐ 967 c) 763 ☐ 531

d) 790 ☐ 604 f) 745 ☐ 745 h) 501 ☐ 601

e) 831 ☐ 528 g) 922 ☐ 627

Activity 3.7.2

1. Take number cards, refer to the example.
2. Compare the following numbers using >, < or =.

Example:

530 < 611

530 is less than 611

Look at the example. Try these:

a. 915 ... 835 c. 579 ... 579

b. 758 ... 681 d. 793 ... 900

Activity 3.7.3

Look at the picture below.

Pupils are harvesting sugar canes

The number of sugar canes for every class is in this table:

Class	P1	P2	P3	P4	P5	P6
The number of sugar canes	625	700	810	697	800	950

Say the class who has less or more sugar canes

Example:

P1 has 625 sugar canes. P3 has 810 sugar canes. P1 has less than P3.

Application activity 3.7

Complete with >, < or = to compare numbers

a) 742 ☐ 627

b) 654 ☐ 849

c) 881 ☐ 813

d) 729 ☐ 729

What have you learnt in this lesson?

3.8 Arranging numbers not more than 999 in increasing or decreasing order

3.8.1 Arranging numbers in increasing order (from the smallest to the biggest)

Activity 3.8.1

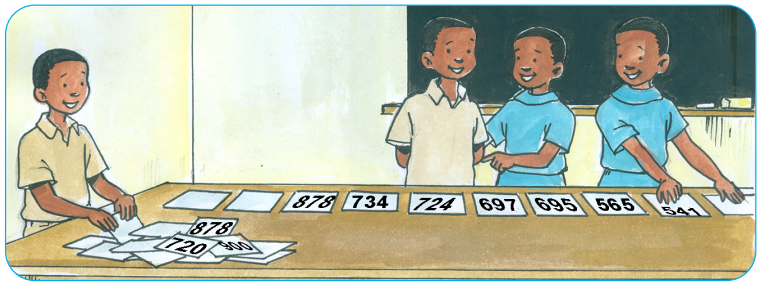
Read and find the answer

There are 5 bags that contain notebooks as follow: **515**, **650**, **720**, **817** and **905**.

Arrange the numbers from smallest to biggest. Explain how you can do it.

Activity 3.8.2

Look at the picture. Arrange the numbers from smallest to biggest.



Activity 3.8.3

Arrange the following numbers from the smallest to the biggest

a) 542, 745, 603
b) 835, 784, 910
c) 947, 598, 612
d) 756, 882, 623

Application activity 3.8.1

Arrange the following numbers from the smallest to the biggest

a) 777, 658, 831
b) 771, 717, 177

What have you learnt in this lesson?

3.8.2 Arranging numbers in decreasing order (from the biggest to the smallest)

Activity 3.8.4

Read and find the answer

There are 5 bags that contain notebooks as follow: 515, 650, 720, 847 and 905.

Arrange these bags from the one with the biggest number to the one with the smallest number.

Explain how you can do it.

Activity 3.8.5

Arrange the following numbers from the biggest to the smallest number

Activity 3.8.3

Arrange the following numbers from the smallest to the biggest

a) 522, 745, 830
b) 953, 848, 600
c) 779, 500, 615.
d) 854, 728, 932
e) 524, 556, 637
f) 990, 799, 673.

Application activity 3.8.2

Arrange the following numbers from the biggest to the smallest number

a) 612,621,672
b) 836,806,863
c) 924,908,942
d) 739,709, 793
e) 672,607,627
f) 549,509,594.

What have you learnt in this lesson?

3.9 Addition of numbers whose sum does not exceed 999

3.9.1 Addition without carrying

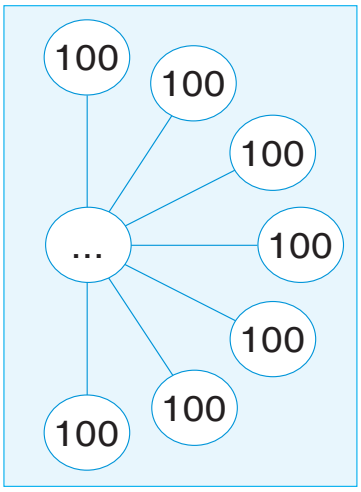
Activity 3.9.1

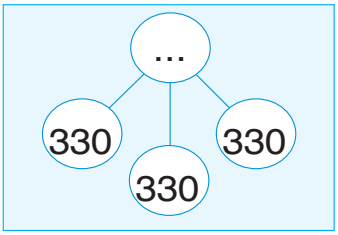
Think and give the sum of these numbers

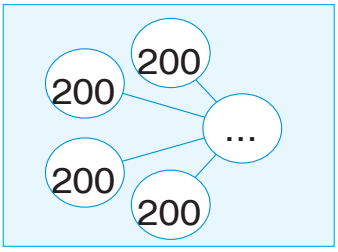
a) 500 + 50 =
b) 500 + 20 =
c) 720 + 30 =
d) 650 + 50 =
e) 800 + 50 =
f) 750 + 50 =

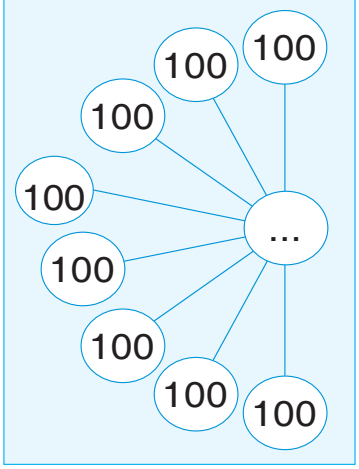
Activity 3.9.2

Add numbers. Write the answer in the correct circle









Activity 3.9.3

Add numbers

Example: 535 + 462 = 997

1) Using place value table:

Hundreds (H)	Tens (T)	Ones (O)
5	3	5
+ 4	6	2
9	9	7

2) Adding vertically:

$$\begin{array}{r} 535 \\ +\ 462 \\ \hline 997 \end{array}$$

Look at the examples. Try these:

a) 523 + 475 = c) 712 + 277 = e) 752 + 245 =

b) 635 + 262 = d) 347 + 551 = f) 664 + 325 =

Activity 3.9.4

- Use the number cards in A, B and C and the cards with + , = .
- Follow instructions and try the task below:

A.	875	964	787	649	584	938
B.	365	538	242	615	272	752
C.	34	312	426	186	510	545

Instructions:

- Take one number card from A ;
- Put the card with + ;
- Continue with a number card from B;

- Put the card with the sign = ;
- Then, find the answer from number cards in C.

Note that in all cases, the answers are found by adding the A + B cards that are paired. The answer is the one of the number card that suits in C.

Example: 521 | + | 425 | = | 946

Application activity 3.9.1

Add the numbers

a) 682 + 216 = b) 591+ 406 = c) 615 + 381 =

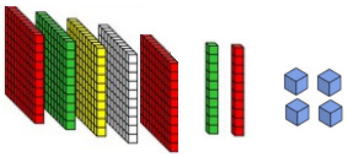
What have you learnt in this lesson?

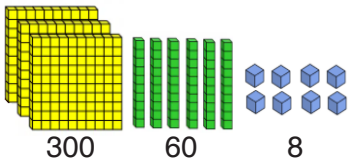
3.9.2 Addition with carrying

Activity 3.9.6

Add numbers

A. Addition using base ten blocks.

Base Ten blocks	Number	Addition
 500 20 4	524	**Hundreds** | **Tens** | **Ones** 5 | 2 | 4 + 3 | 6 | 8 **8** | **9** | **2** Note that: • 4 ones and 8 ones make 12. • From 12, there is 1 ten and 2 ones.

	368	• For better addition, 1 Ten is taken to the place value of tens and 2 ones remain in the place value of ones.

B. Using place value table

When adding numbers, start by ones

Hundreds (H)	Tens (T)	Ones (O)
	1	
3	6	8
+ 5	2	4
8	9	2

For ones : 8 + 4 , We write 2 and carry 1 to the tens

Example 2: Adding vertically

617+145 = 762

```
  1
  6 1 7
+ 1 4 5
-------
  7 6 2
```

7 + 5 = 12.
We write 2 and carry **1 for tens**

1 + 1 + 4 = 6.
To the tens we add 1 that was carried

Look at the example. Try these:

a) 625 + 167 =
b) 534 + 148 =
c) 446 + 229 =
d) 617 + 175 =
e) 415 + 228 =
f) 523 + 228 =
g) 376+ 128 =
h) 518+ 315 =

Application activity 3.9.2

Add numbers.

a) 520 + 258 =
b) 277 + 496 =
c) 539 + 143 =
d) 685 + 146 =
e) 737 + 126 =
f) 588 + 145 =
g) 449 + 336 =
h) 673 + 149 =

What have you learnt in this lesson?

3.10 Word problems involving the addition of numbers not more than 999

Activity 3.10

Read and find the answer

Example:

There were 567 kilograms of maize in the store yesterday. This morning they added 312 kilograms of maize. Find the total kilograms of maize that are in the store.

Solution:

Given: Number of kilograms of maize = 567

Number of kilograms of maize added = 312

Question: Total number of kilograms of maize

Operation: Addition

The total kilograms of maize: 567 + 312 = 879

There are 879 kilograms of maize.

Look at the example. Try these:

1) Pupils used 534 sheets of paper in mathematics exam. They used 365 sheets of paper in Kinyarwanda exam. Find the total number of sheets of paper used.

2) On Saturday party we served 450 mangoes. On Sunday we used 539 mangoes. How many mangoes did we serve altogether?

Application activity 3.10

Read and find the answer.

723 people came to the market in the morning. 276 more people came to the market in the afternoon. How many people came to the market altogether?

What have you learnt in this lesson?

3.11 Subtraction of numbers not more than 999

3.11.1 Subtraction without borrowing

Activity 3.11.1

Read and do quick calculations.

a) 800 - 50 =
b) 900 - 50 =
c) 700 - 50 =
d) 600 - 50 =
e) 500 - 50 =
f) 950 - 150 =
g) 850 - 150 =
h) 650 - 150 =
i) 450 - 50 =

Activity 3.11.2

Subtract:

Example: 995 - 463 =

Using a place value table:

Hundreds	Tens	Ones
9	9	5
- 4	6	3
5	**3**	**2**

Then, **995 - 463 = 532**

Standard written method:

$$\begin{array}{r} 995 \\ -\ 463 \\ \hline 532 \end{array}$$

Look at the example. Try these

a) 986 – 275 =
b) 864 – 162 =
c) 789 – 177 =
d) 687 – 351=
e) 648 – 145 =
f) 763 – 252 =

Activity 3.11.3

- Use the number cards in A, B and C and the cards with [-], [=]
- Follow instructions and try the task below:

A.	875	964	787	649	584	938
B.	365	538	242	615	272	752
C.	34	312	426	186	510	545

Instructions:

1. Take one number card from A ;
2. Put the card with [-];
3. Continue with a number card from B;
4. Put the card with the sign [=] ;
5. Then, find the answer from number cards in C.

Note that in all cases, the answers are found by adding the A + B cards that are paired. The answer is the one of the number card that suits in C.

Example: 875 — 365 = 510

Application activity 3.11

Subtract numbers

a) 987 – 216 = b) 896 – 154 = c) 786 – 473 =

What have you learnt in this lesson?

3.11.2 Subtraction with Borrowing

Activity 3.11.4

Subtract numbers

Example: 651 — 245 =

Using the table of place values:

Hundreds (H)	Tens (T)	Ones (O)
	4	10
6	5	1
– 2	4	5
4	0	6

10 + 1

651 – 245. When you subtract, start by ones .
1 – 5 is impossible. I borrow 1 tens from 5 this equals to 10 ones, and 10 Ones + 1 Ones = 11Ones.
then, 11- 5 = 6. For Tens: 4 - 4 = 0
For Tens 6 - 2 = 4

$$\begin{array}{r} {\scriptstyle 4} \\ 6\not{5}\,1 \\ -\ 2\,4\,5 \\ \hline 4\,0\,6 \end{array}$$

Subtracting vertically:

$$\begin{array}{r} {\scriptstyle 4\ \ 11} \\ 6\not{5}\,1 \\ -\ 2\,4\,5 \\ \hline 4\,0\,6 \end{array}$$

10 +1= 11
11 - 5 = 6

Look at the example. Try these:

a) 651 - 246 =
b) 542 - 147 =
c) 463 - 138 =
d) 774 - 359=
e) 845 - 226 =
f) 966 - 257 =
g) 577 - 228 =
h) 783 - 357 =
i) 694 - 389 =

Activity 3.11.5

Fill in the correct number

a) 30 + 30 ☐ 6 x 10
b) 15 + 15 ☐ 6 x 5
c) 30 + 24 ☐ 6 x 9
d) 10 + 14 ☐ 6 x 4
e) 24 + 24 ☐ 6 x 8
f) 15 + 3 ☐ 6 x 3
g) 20 + 22 ☐ 6 x 7
h) 6 + 6 ☐ 6 x 2

Application activity 3.11.2

Subtract numbers.

a) 785 - 356 =
b) 937 - 268 =
c) 693 - 339 =
d) 785 - 348 =
e) 836 - 327 =
f) 985 - 246 =

What have you learnt in this lesson?

3.12 Word problems involving subtraction in real life

Activity 3.12

Read and find the answer

Example:

There are 850 books in the library. If 615 are taken out, How many books remain in the library?

Solution:

Given:

Number of books in library = 850

Number of books taken out = 615

Question: Number of books to remain in library =?

Operation: Subtraction

850 - 615 = 235

235 books remain in the library.

Look at the example. Try these:

1) The teacher buys 500 pens. She gives us 342 pens. How many pens does the teacher remain with?
2) Butera has 837 sacks of sweet potatoes. His sister has 646 sacks of sweet potatoes.
   a) Who has more sacks of sweet potatoes?
   b) Find the difference of sacks between Butera and his sister.
3) Zigama has 954 shirts in his shop. He sells 719 shirts. How many shirts does he remain with?

Application activity 3.12

Read and find answer.

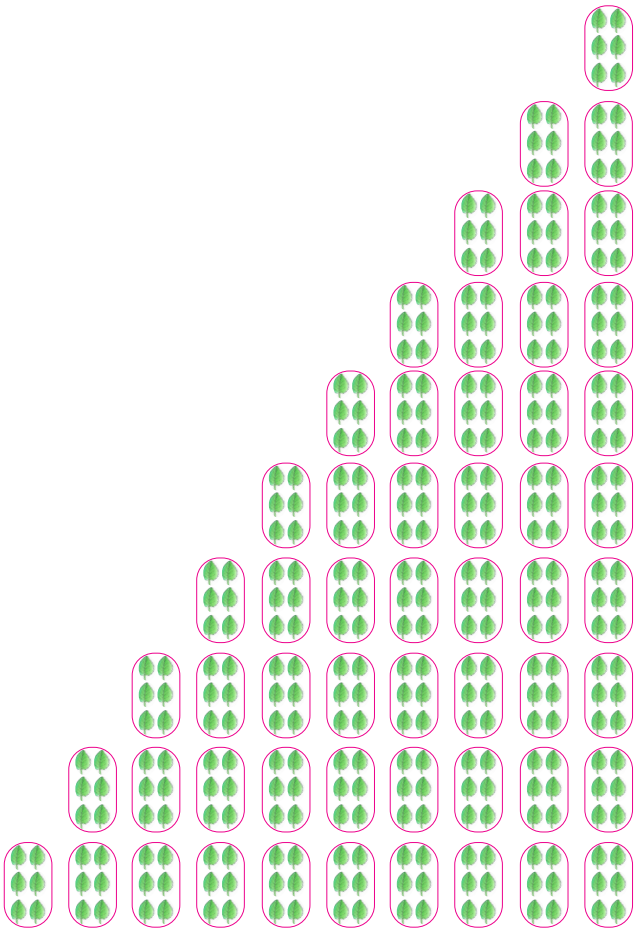
1) Our Sector buys 960 bottles of Fanta for a party. They use only 756 bottle of Fanta. How many bottles remain?
2) The government buys 942 cars. 749 cars are small. How many cars are big?

What have you learnt in this lesson?

3.13 Multiplication of whole numbers by 6

Activity 3.13.1

1) Form different groups of 6 counters (beans or bottle tops).
2) Count the number of counters for 2 groups, 3 groups, etc.
3) Complete the total number of counters for groups in the following table:



Activity 3.13.2

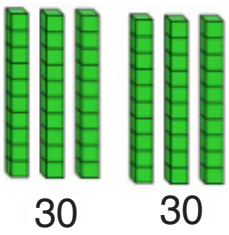
Fill in the missing numbers:

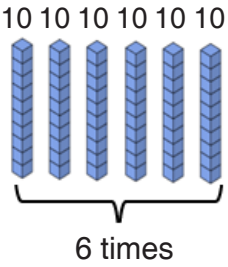
Example: 12 = 2 x 6

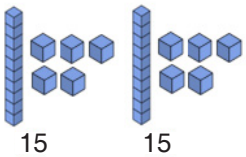
a) 6 = ☐ × 6
b) 12 = ☐ x 6
c) 18 = 6× ☐
d) 24 = ☐ x 6
e) 30 = 6× ☐
f) 36 = ☐ × 6
g) 42 = 6× ☐
h) 48 = ☐ × 6
i) 54 = ☐ × 6
j) 60 = 6 × ☐

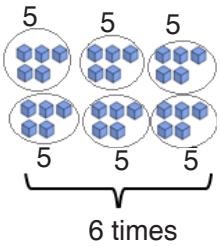
Activity 3.13.3

Compare the sum and the product









30 +30	=	6x 10	15 +15	=	6x5
60	=	60	30	=	30

Try these: Refer to example. Use =, > or < to compare expressions:

a) 30 + 24 ☐ 6 x 9
b) 10 + 14 ☐ 6 x 4
c) 24 + 24 ☐ 6 x 8
d) 15 + 3 ☐ 6 x 3
e) 20 + 22 ☐ 6 x 7
f) 6 + 6 ☐ 6 x 2
g) 15 + 21 ☐ 6 X 6
h) 3 + 3 ☐ 6 x 1

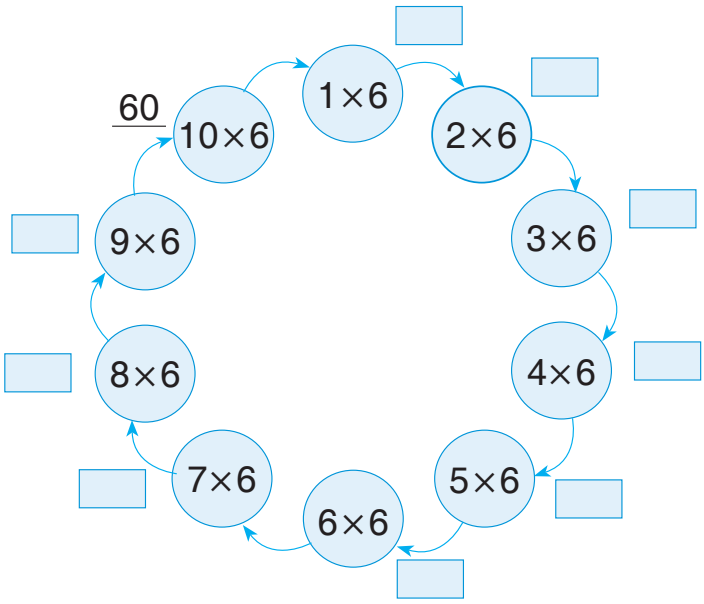
Application activity 3.13

Multiply and fill in the space

a)

×6	1	2	3	4	5	6	7	8	9	10
	...	...	...	...	...	...	...	...	...	...

b)



What have you learnt in this lesson?

3.14 Multiply a two or three-digit number by 6

Activity 3.14 .1

Multiply numbers by 6.

Example: Multiply: 21 x 6 =

- Using table of place value:

Hundreds (H)	Tens (T)	Ones (O)
×	2	1 6
1	2	6

21 x 6 = 126

- Use of vertical multiplication:

$$\begin{array}{r} 2\ 5 \\ \times\quad 6 \\ \hline 1\ 5\ 0 \\ \hline \end{array}$$

$5 \times 6 = 30$.
We write 0 and carry the tens **3**

$2 \times 6 = 12$.
We add **3** that was carried: **3** + 12 = 15

25 x 6 = 150

Look at the example. Try these:

a) 11 x 6 = c) 21 x 6 = e) 31 x 6 =
b) 20 x 6 = d) 30 x 6 = f) 40 x 6 =

Activity 3.14 .2

Multiply by 6:

Example: 70 x 6 =

$$\begin{array}{r} 7\ 0 \\ \times\quad 6 \\ \hline 4\ 2\ 0 \\ \hline \end{array}$$

Look at the example. Try these

a) $\begin{array}{r} 81 \\ \times\ 6 \\ \hline \end{array}$ b) $\begin{array}{r} 80 \\ \times\ 6 \\ \hline \end{array}$ c) $\begin{array}{r} 90 \\ \times\ 6 \\ \hline \end{array}$ d) $\begin{array}{r} 91 \\ \times\ 6 \\ \hline \end{array}$

e) $\begin{array}{r} 71 \\ \times\ 6 \\ \hline \end{array}$ f) $\begin{array}{r} 61 \\ \times\ 6 \\ \hline \end{array}$ g) $\begin{array}{r} 51 \\ \times\ 6 \\ \hline \end{array}$ h) $\begin{array}{r} 10 \\ \times\ 6 \\ \hline \end{array}$

Application activity 3.14

Multiply numbers by 6:

a) 6 x 11 = c) 6 x 21 = e) 6 x 31 = g) 6 x 41 =
b) 6 x 20= c) 6 x 30 = f) 6 x 40 = h) 6 x 50 =

What have you learnt in this lesson?

3.15 Word problems involving the multiplication of a number by 6

Activity 3.15

Read and find the answer

Example:

On Umuganda day, every student plants 6 trees. How many trees are planted by 91 students?

Solution:

Given:

Number of planted trees per a student = 6

Number of all students = 91

Question: Number of all planted trees =

Operation: Multiplication

The number of trees: 91 × 6 = 546

The number of trees planted is 546

$$\begin{array}{r} 91 \\ \times\ 6 \\ \hline 546 \end{array}$$

Look at the example. Try these:

1) In the church, 6 people sit on one bench. How many people can sit on 51 benches?
2) Every pupil has 6 notebooks. Find the number of notebooks for 41 pupils.

Application activity 3.15

Read and find answer.

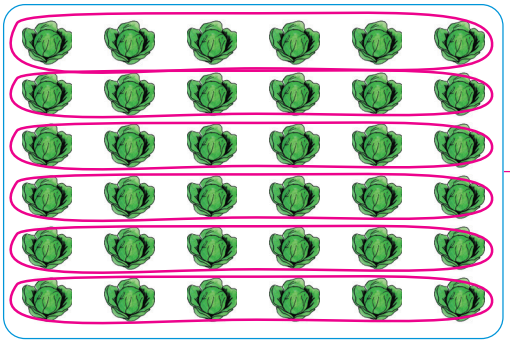
1) In the morning assembly P5 pupils stand in 6 lines. If there are 61 pupils on each line, find the number of P5 pupils.
2) The chairs of the main hall are arranged in 6 lines. Every line has 95 chairs. Find the total number of chairs in the main hall.

What have you learnt in this lesson?

3.16 Division of a two or three-digit numbers by 6 without a remainder

Activity 3.16.1

1. Count the number of objects.
2. Group them equally in groups of 6 objects.
3. Count and write the missing numbers.



36 cabbages 6 groups

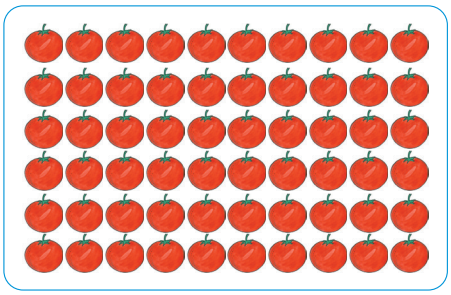
36 ÷ 6 = 6

Each group has 6 cabbages

Look at the example. Try these:

1. Count and fill in the missing numbers.

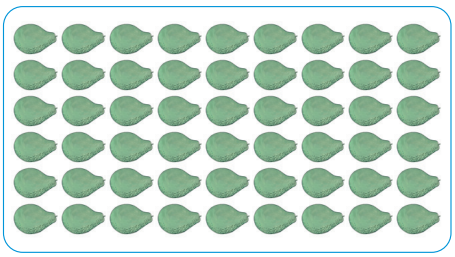
a)



Tomatoes

[ ] ÷ 6 = [ ]

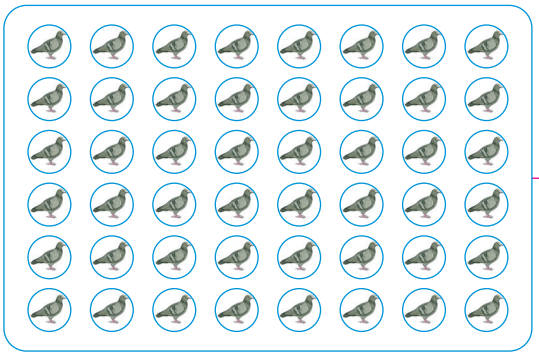
b)



Avocados

[ ] ÷ 6 = [ ]

c)



birds

2. Complete the division tables

1)

÷ 6	6	12	18	24	30	36	42	48	54	60
	...	...	...	...	...	...	...	...	...	...

2)

÷ 6	...	12	...	24	...	36	...	48	...	60
	1	...	3	...	5	...	7	...	9	...

x6

3. Divide by 6. Fill in the correct number:

(a) 60 ÷ 6 = ☐
(b) 42 ÷ 6 = ☐
(c) 24 ÷ 6 = ☐
(d) 54 ÷ 6 = ☐
(e) 36 ÷ 6 = ☐
(f) 18 ÷ 6 = ☐
(g) 48 ÷ 6 = ☐
(h) 30 ÷ 6 = ☐
(i) 12 ÷ 6 = ☐

Activity 3.16.2

Divide by 6

Example:

66 ÷ 6 = 11

```
   11
6 ) 66
   - 6
    06
   - 6
     0
```

Tens (T)	Ones (O)
6 ÷ 6 = 1 60 ÷ 6 = 10	6 ÷ 6 = 1

Look at the example. Try these

a) $6\overline{)72}$ b) $6\overline{)144}$ c) $6\overline{)78}$ d) $6\overline{)114}$

e) $6\overline{)720}$ f) $6\overline{)780}$ g) $6\overline{)204}$ h) $6\overline{)636}$

i) $6\overline{)666}$ j) $6\overline{)264}$ k) $6\overline{)930}$ l) $6\overline{)420}$

Application activity 3.16

Divide by 6.

a) 186 ÷ 6=☐ d) 300 ÷ 6=☐ g) 480 ÷ 6 =☐ j) 888 ÷ 6 =☐

b) 198 ÷ 6=☐ e) 366 ÷ 6=☐ h) 600 ÷ 6 =☐ k) 570 ÷ 6 =☐

c) 264÷ 6=☐ f) 396 ÷ 6=☐ i) 960 ÷ 6 =☐ l) 966 ÷ 6 =☐

What have you learnt in this lesson?

3.17 Word problems involving the division of a number by 6

Activity 3.17

Read and find the answer

Example:

The district shares 984 books among 6 schools equally. How many books does each school get?

Solution:

Given:

Number of books to be shared = 984

Number of schools to share books equally = 6

Question: Number of books for each school= ?

Operation: Division

Each school gets: 984÷ 6 = 164

Each school gets 164 books.

$$\begin{array}{r} 164 \\ 6\overline{)984} \\ -\,6\downarrow \\ \hline 38\downarrow \\ -\,36 \\ \hline 024 \\ -\,24 \\ \hline 00 \end{array}$$

Look at the example. Try these:

1. Share 246 notebooks among 6 pupils equally. How many notebooks does each pupil get?
2. My cows produce 486 litres of milk in 6 days. Find the number of litres they produce in one day.
3. Share 864 balls among 6 schools equally. How many balls does each school get?

Application activity 3.17

Read and find the answer.

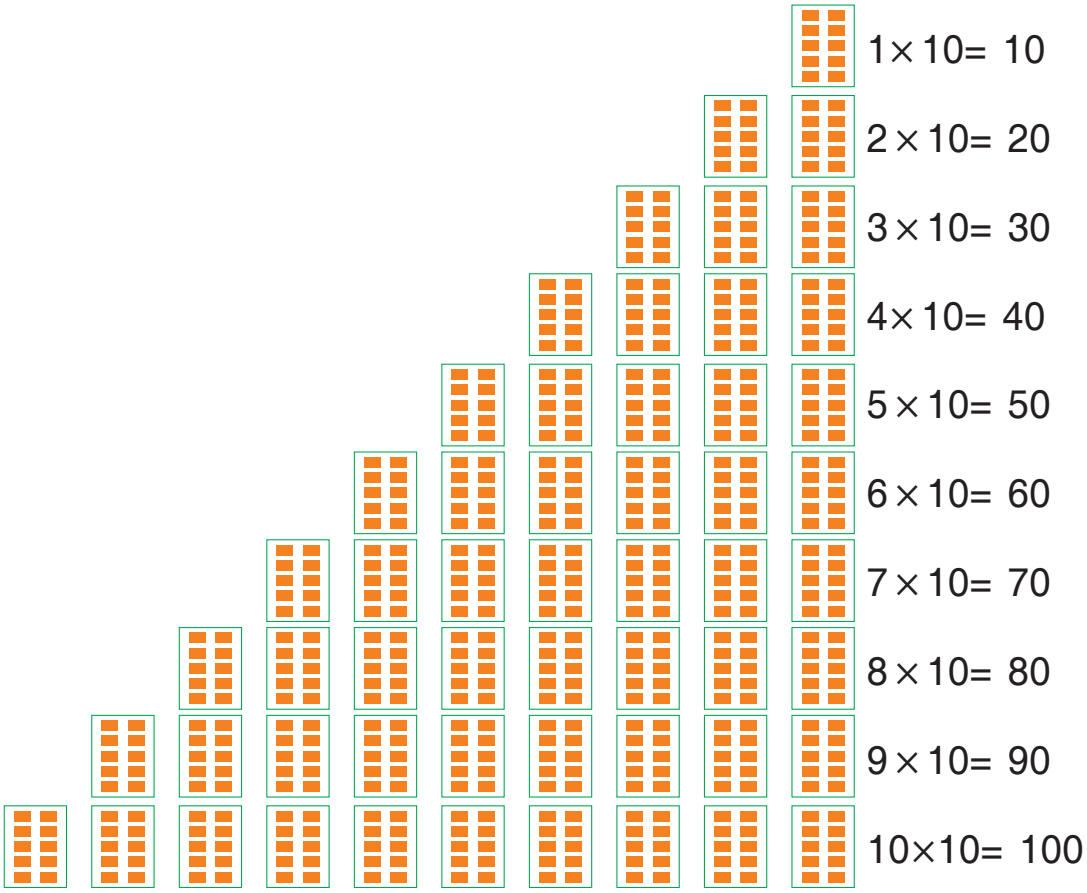
1. A box contains 126 mangoes. Share them among 6 children equally. How many mangoes does each child get?
2. There are 990 hens to be shared by 6 families. How many hens does each family get?

What have you learnt in this lesson?

3.18 Multiplication of numbers by 10 or by 100

Activity 3.18.1

1) Form different groups of 10 counters (Base ten blocks, bundles of sticks, bottle tops or beans).
2) Count the number of counters for 2 groups, 3 groups, etc.
3) Complete the total number of counters for groups in the following table:



Note that **0 x 10 = 0**

Activity 3.18.2

Example

a) 10 x 23 = 230 b) 10 x 60 = 600 c) 10 x 99= 990

Look at the example. Try these:

a) 10 x 11 = ☐ d) 10 x 48 = ☐ g) 10 x 71 = ☐

b) 10 x 22 = ☐ e) 10 x 53 = ☐ h) 10 x 86 = ☐

c) 10 x 35 = ☐ f) 10 x 68 = ☐ i) 10 x 97 = ☐

Activity 3.18.3

Multiply by 100

Example

i) 100 x 1= 100 ii) 100 x 2 = 200 iii) 100x 3 = 300

Look at the example. Try these:

a) 10 x 100 = b) 100 x 4 = c) 100 x 5 =

Activity 3.18.4

Complete the multiplication by 10 or 100

a) ☐ x 97 = 970
b) ☐ x 64= 640
c) ☐ x 83 = 830
d) ☐ x 4 = 400
e) ☐ x 7 = 700
f) ☐ x 9 = 900
g) ☐ x 59 = 590
h) ☐ x 29 = 290
i) 10 x ☐ =1000
j) ☐ x 10 = 100
k) ☐ x 77 = 770
l) ☐ x 5 = 500

Application activity 3.18

Read and fill in with the correct answer

1) Complete the multiplication by 10 or 100

a) 8 x ___= 800 c) 9 x 100 = ___ e) 7 x __ = 700

b) 98 x 10 = ____ d) 98 x __ = 980 f) 58 x 10 = ___

2) Work out the multiplication

a) 70 x 10 = ☐
b) 80 x 10 = ☐
c) 99 x 10 = ☐
d) 63 x10 = ☐
e) 71 x 10 = ☐
f) 40 x 10 = ☐
g) 8 x 100 = ☐
h) 21 x 10 = ☐

What have you learnt in this lesson?

END UNIT ASSESSMENT

1. Write in words or in figures

(a) 976:

(b) Eight hundred and thirty-five

2. Underline the correct number

(a) 7 hundreds 6 tens 9 ones = ... 1) 976 2) 796 3) 769

(b) 9 hundreds 4 tens 8 ones = ... 1) 948 2) 849 3) 498

3. Write the expanded number

(a) (8 × 100) + (7 × 10) + (9 × 1) =

(b) 900 + 90 + 9 =

4. Expand these numbers:

a) 789 b) 999 c) 809

5. Write numbers in a place value table. Then, fill in the box with <, > or = to compare numbers.

(a) 985 ☐ 895 (c) 768 ☐ 768

(b) 594 ☐ 854 (d) 972 ☐ 927

6. Arrange the following numbers from the smallest to the biggest

439, 349, 493, 394,387 and 479

7. Arrange the following numbers from the biggest to the smallest

793, 947, 986, 969, 678, 789 .

8. Add

(a) 534 + 453 = (c) 572 + 418 =

(b) 738 + 241 = (d) 693 + 289 =

9. Subtract

(a) 857 – 727 = (c) 935 – 798 =

(b) 967 – 856 = (d) 618 – 579 =

10) Complete the table

×6										÷ 6
	___	2	___	4	___	6	___	8	___	10
	6	___	18	___	30	___	42	___	54	___

11. Multiply

(a) 91 × 6 (c) 80 × 6 (e) 71 × 6 (g) 61 × 6

(b) 51 × 6 (d) 90 × 6 (f) 50 × 6 (h) 41 × 6

12. Multiply by 10 or by 100

(a) 9 × ☐ = 900 (c) ☐ × 98 = 980

(b) 89 × ☐ = 890 (d) ☐ × 8 = 800

13. Complete the table

÷ 6										× 6
	___	12	___	24	___	36	___	48	___	60
	1	___	3	___	5	___	7	___	9	___

14. Divide

(a) 966 ÷ 6 = (d) 624 ÷ 6 = (g) 774 ÷ 6 =

(b) 684 ÷ 6 = (e) 864 ÷ 6 = (h) 954 ÷ 6 =

(c) 564 ÷ 6 = (f) 870 ÷ 6 = (i) 978 ÷ 6 =

15. Read and find the answer

a) Shema had 780 cows. This morning he sells 568 cows. How many cows does Shema remain with?

b) There are 967 books in the library. If students take 765 books, how many books remain in the library?

c) Share 864 mosquito nets to 6 Villages equally. How many mosquito nets does each village get?

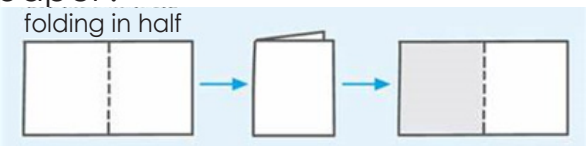
d) There are 6 classrooms of P2 in our school. If every classroom has 41 pupils, how many pupils are in P2?

Unit 4 Fractions $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$

4.0 Introductory activity:

Follow the steps.

1) - Take a sheet of paper;
   - Fold the paper in two equal parts.
   - Unfold the paper.
   - What is the number that represents one part compared to the whole paper?



2) - Take full sheet of paper.
   - Fold the paper in 2 equal parts.
   - Now fold again.
   - Unfold the paper
   - How many parts do you get?
   - Are those parts equal?
   - Can you write the number that represents each part?

4.1 The fraction $\frac{1}{2}$

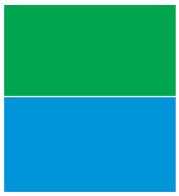
a) Reading and writing the fraction $\frac{1}{2}$ (a half)

Activity 4.1.1

Shade and name a half.

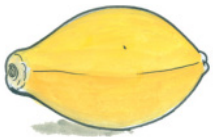
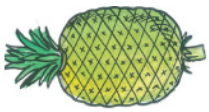
- Take a full sheet of paper.

- Fold the paper in 2 equal parts.
- Shade one part with green colour.
- Shade the second part with the blue colour.
- Is the blue part equal to the green part?



Activity 4.1.2

Follow the pictures. Complete by: whole or half

a)	 1 whole orange	 1 half	 1 half	 This is a___ of the whole orange
b)	 1 whole pawpaw	 1 half of a pawpaw	 1 half of a pawpaw	 This is a ___of a whole pawpaw
c)	 1 whole pineapple	 1 half of a pineapple	 1 half of a pineapple	 This is a ___ of a whole pineapple

Activity 4.1.3

Fill in with whole, half

1) A full orange is a ____.
2) If a full orange is cut into two equal parts, one of them is a ____.
3) One out of two ($\frac{1}{2}$) is a ____.
4) $\frac{1}{2}$ of an orange and another $\frac{1}{2}$ of the orange make a ___ orange.

Activity 4.1.4

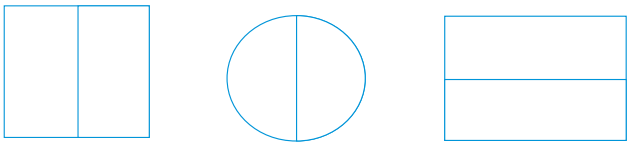
Follow and practice how to write the fraction $\frac{1}{2}$

b) Drawing and shading one half of an object

Activity 4.1.5

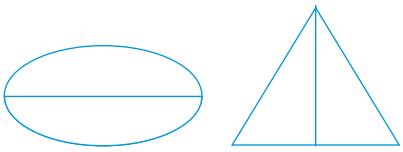
Draw and shade $\frac{1}{2}$ (one half) on each shape

a. b. c.



Application activity 4.1

1) Draw a circle and shade $\frac{1}{2}$.
2) Shade the half



What have you learnt in this lesson?

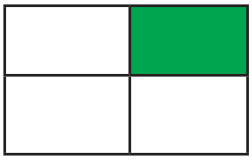
4.2 The fraction $\frac{1}{4}$

(a) Reading and writing the fraction $\frac{1}{4}$ (One- fourth or a quarter)

Activity 4.2.1

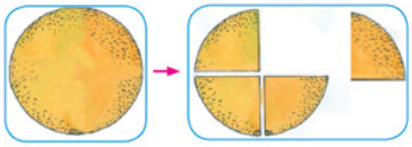
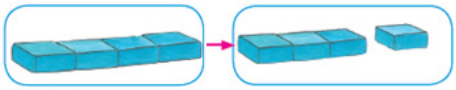
Shade and name one-fourth.

- Take a full sheet of paper.
- Fold the paper in 4 equal parts.
- Shade one part.
- How do you name the shaded part?



Activity 4.2.2

Look at the pictures. Write the name of one part of the full object.

a)  1 whole orange	 This is ____of the whole
b)  1 whole bar soap	 This is ____ of the whole

Activity 4.2.3

Fill in with whole, one- fourth or quarter

1) A full orange or a full soap makes a ___.
2) When a full orange is cut into 4 equal parts, one part is a ____. It is equal to $\frac{1}{4}$.
3) $\frac{1}{4}$ is read as a ___ or one out of four or one fourth.

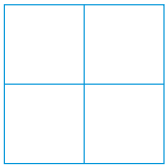
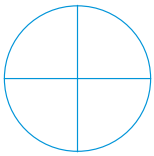
Activity 4.2.4

Follow, read, write and practice the fraction $\frac{1}{4}$

b) Drawing and shading a quarter of an object

Activity 4.2.5

Draw and shade $\frac{1}{4}$ (one-fourth) of each picture

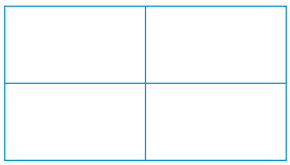
a.  b. 

Application activity 4.2

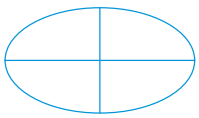
Read and give answer.

1) Draw a circle and shade $\frac{1}{4}$.
2) Shade a quarter

a.



b.



What have you learnt in this lesson?

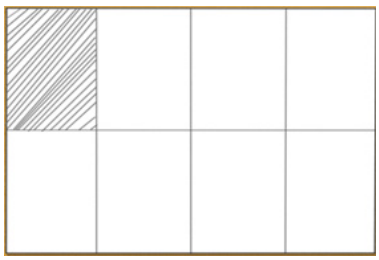
4.3 The fraction $\frac{1}{8}$

a) Reading and writing the fraction $\frac{1}{8}$

Activity 4.3.1

Shade and name $\frac{1}{8}$

- Take a full sheet of paper.
- Fold the paper in 8 equal parts.
- Shade one part.
- How do you name the shaded part?



Activity 4.3.2

1) Look at the pictures. Write the name for one part of the full object.

a)

1 whole orange

b)

2) Fill in with **eighth, whole, one out of eight**

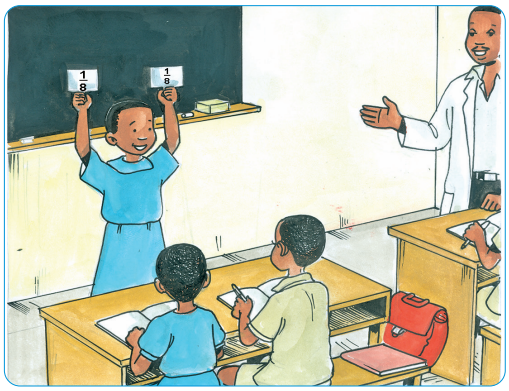
a) A full orange makes a ____

b) When a full orange is cut into 8 equal parts, one part is _____. We write it as $\frac{1}{8}$.

c) $\frac{1}{8}$ is an____ or one out of eight.

Activity 4.3.3

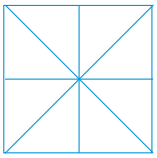
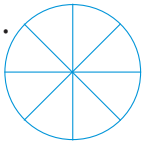
Read, write and find $\frac{1}{8}$ of a whole.



b) Drawing and shading one eighth of an object

Activity 4.3.4

Draw and shade $\frac{1}{8}$ on each shape

a.  b. 

c) Parts of a fraction

Activity 4.3 5

Read and find the answer

a) Read the parts of the fraction you see.

Fraction bar ← $\frac{1}{2}$ 1 → **Numerator**, 2 → **Denominator**

b) Fill in with denominator, numerator, or fraction bar

- The number of a fraction above the fraction bar is called a ___.

- A line of a fraction between a numerator and denominator is a ____.
- The number of a fraction under the fraction bar is called a ___.

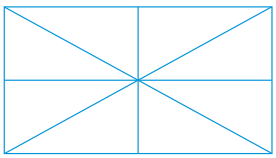
Note:

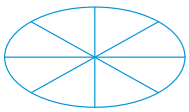
- The bottom number (denominator) is the total number of parts in the whole,
- The top number (numerator) is the number of parts you have or you shade.

Application activity 4.3

1) Draw a circle and shade $\frac{1}{8}$.

2) Shade the eighth

a. 

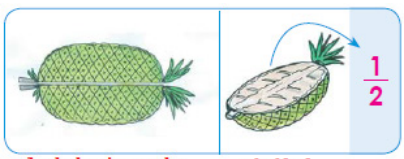
b. 

What have you learnt in this lesson?

4.4 Comparing fractions

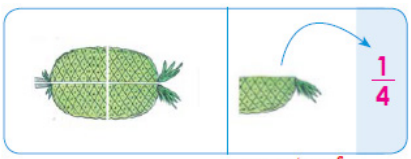
Activity 4.5.1

- Look at the parts of the objects.
- Compare fractions. Which one is greater?

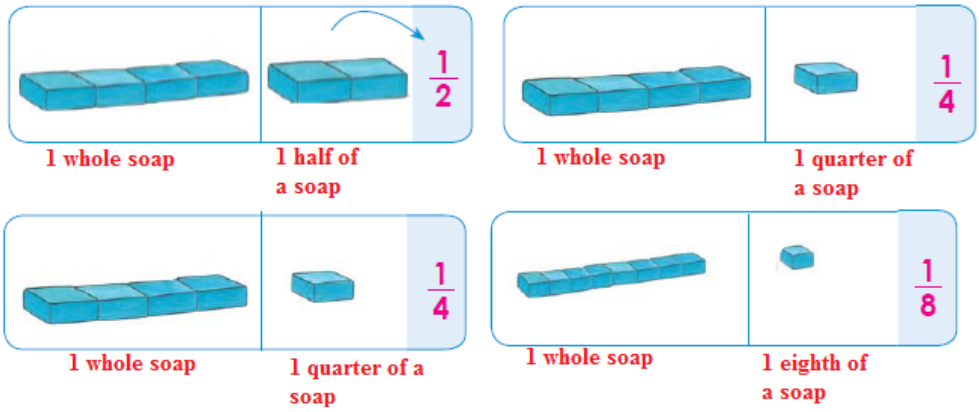


1 whole pineapple

a half of pineapple



a quarter of pineapple



Complete by using <, > or =

a) $\frac{1}{2}$ — $\frac{1}{4}$ b) $\frac{1}{2}$ — $\frac{1}{8}$ c) $\frac{1}{2}$ — $\frac{1}{8}$

Activity 4.5.2

Look at the shaded parts. Use >, < or = to compare fractions.

a) $\frac{1}{2}$ — $\frac{1}{4}$

b) $\frac{1}{4}$ — $\frac{1}{8}$

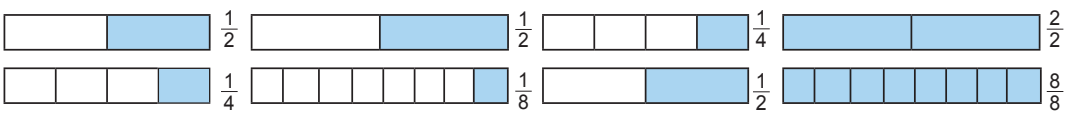
c) $\frac{1}{2}$ — $\frac{1}{8}$

Activity 4.5.3

Use ; < (less than), > (greater than) or = (equal to) to compare fractions

Examples

$\frac{1}{2} > \frac{1}{4}$ $\frac{1}{2} > \frac{1}{8}$ $\frac{1}{4} < \frac{1}{2}$ $\frac{2}{2} = \frac{8}{8}$



a) $\frac{1}{2}$ ☐ $\frac{2}{2}$ d) $\frac{2}{2}$ ☐ $\frac{8}{8}$ g) $\frac{1}{4}$ ☐ $\frac{1}{8}$

b) $\frac{2}{2}$ ☐ $\frac{4}{4}$ e) $\frac{1}{8}$ ☐ $\frac{1}{2}$ h) $\frac{1}{4}$ ☐ $\frac{1}{2}$

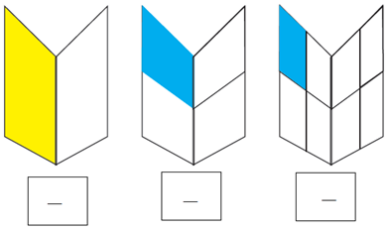
c) $\frac{1}{8}$ ☐ $\frac{1}{8}$ f) $\frac{1}{8}$ ☐ $\frac{1}{4}$

Application activity 4.5

Use >, < or = to compare fractions

1) $\frac{1}{4}$ ☐ $\frac{4}{4}$ 2) $\frac{2}{2}$ ☐ $\frac{1}{8}$ 3) $\frac{4}{4}$ ☐ $\frac{1}{8}$

2) Write the fraction of the shaded part



What have you learnt in this lesson?

4.6 Putting fractions together to make a whole and importance of fractions

Activity 4.6.1

Look at the picture. Tell your friend the number of parts to make a whole.

We have $\frac{1}{2}$ - of a pineapple.

We need 2 halves of a pineapple to make a whole pineapple.

How many do you need to make a whole?

	We need _____ halves of a pineapple to make a whole pineapple.
	We need _____ quarters of an orange to make a whole orange.
	We need ____ eighths of bar soap to make a whole bar soap.

Activity 4.7.2

- Look at the picture.
- What is the mother doing?
- Why is it necessary to know fractions?

Application activity 4.7

Read and Answer by True or False

a) $\frac{1}{2}$ is greater than $\frac{1}{8}$: ____

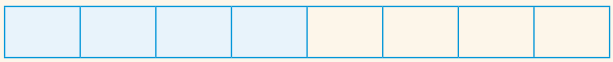
b) We need 4 halves to make a whole. ____

What have you learnt in this lesson?

END UNIT ASSESSMENT

1) Write in words and in figures the shaded fraction

a)  .....

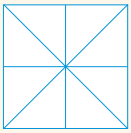
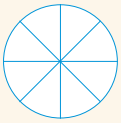
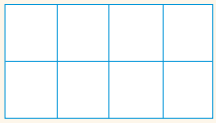
b)  .....

c)  .....

2) Draw a circle. Divide it into equal parts and shade the following fraction:

a) $\frac{1}{2}$ b) $\frac{1}{4}$ c) $\frac{1}{8}$

3) Shade $\frac{1}{8}$ of the following picture

a)  b)  c) 

4) Use >, < or = to compare the following fractions

a) $\frac{1}{2}$ ☐ $\frac{8}{8}$ d) $\frac{4}{4}$ ☐ $\frac{1}{2}$ g) $\frac{1}{4}$ ☐ $\frac{1}{2}$

b) $\frac{2}{2}$ ☐ $\frac{1}{4}$ e) $\frac{8}{8}$ ☐ $\frac{1}{8}$ h) $\frac{1}{8}$ ☐ $\frac{2}{2}$

c) $\frac{1}{4}$ ☐ $\frac{1}{8}$ f) $\frac{4}{4}$ ☐ $\frac{1}{8}$

5) Answer by "True" or "False"

a) In a fraction, the number above the fraction bar is called numerator. ____.

b) $\frac{1}{4}$ of an object is greater than $\frac{1}{2}$ of that object. ___.

c) $\frac{1}{8}$ makes a whole ____

d) $\frac{1}{2}$ of an object is greater than $\frac{1}{8}$ of that object____

e) $\frac{2}{2}$ makes a whole as it is made by $\frac{4}{4}$. ___

Unit 5

LENGTH MEASUREMENT

5.0 Introductory activity

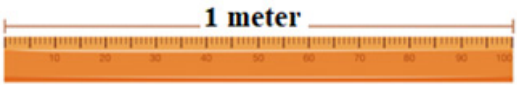
Look at the following picture.

- What do you see?
- What are pupils doing?
- What are they using to measure lengths?
- Do you think that the chalkboard and the teacher's table have the same lengths? Which is longer? Which is shorter?
- Which tool can be used to measure the length of the chalkboard or the table?
- What do you expect to learn in this unit?

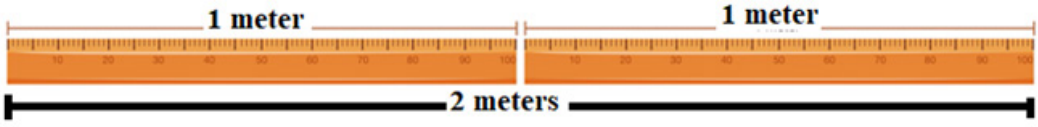
5.1 Measuring the length of objects using a meter ruler

Activity 5.1

1. Use a meter ruler



The distance of 2 meters (2m).



1. Measure the distance with 5meters (5m).
2. Use a meter ruler and measure: the length of your blackboard.

Application activity 5.1

Look at the counting stick from the school's box. The length of the whole stick is 1m.

Complete the gaps with the correct number:

1) The counting sticks has ____ sections.

2) Students measure the length of the wall using the counting stick. They find the distance that is equal to 5 sticks. The wall is _____ meters long.

5.2 Dividing a meter into 10 equal parts and a decimetre in 10 equal parts

Activity 5.2.1

Look at the pictures.

Complete with the correct number.

1. Get sugar cane of 1m long. Divide this cane into 10 equal parts.
   If one part is 1dm, complete: 1m =___dm
2. Get a counting stick of 1m long. It has 10 equal parts.

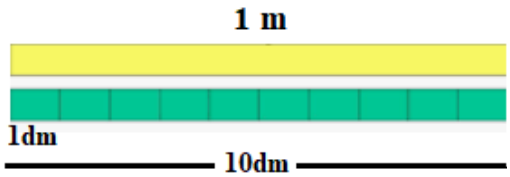
   If one part is 1dm, complete: 1m =___dm

Activity 5.2.2

Look at the picture.

Read and answer.

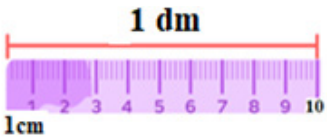
1) A stick of 1 m long is divided into 10 equal parts.



Answer by true or false.

- The length of one part is smaller than 1 m____
- The length of one part is greater than 1 m____
- The length of 1 part is 1dm. ___
- 1m is equal to 10dm ___

2) A stick of 1 dm long is divided into 10 equal parts.



Answer by true or false.

- The length of one part is smaller than 1 dm____
- The length of one part is greater than 1 dm____

- The length of 1 part is 1cm. ___
- 1dm is equal to 10cm ___

Application activity 5.2

Look at the following image of 1m divided in 10 equal parts.

Complete:

a) The length of 2 parts equals ___dm
b) The length of 5 parts equals ___cm
c) The length of 10 parts equals ___dm
d) The length of 10 parts equals __cm

What have you learnt in this lesson?

5.3 Conversion of length measurements

Activity 5.3.1

Look at the picture.

Read and complete with the correct number.

The sugarcane is 1m. It is divided in 10 equal parts

Complete: 1m = __dm

Activity 5.3.2

Use the conversion table to convert.

Example:

Meter (m)	Decimeter (dm)	centimeter (cm)
1	0	
1	0	0
	1	0
1	0	
1	0	0

1m = 10dm 1m = 100 cm 1dm = 10 cm

10dm= 1m 100 cm = 1m 10 cm = 1dm

Look at the example. Try these:

a) 1m = …dm

b) 3dm = …cm

c) 5 dm = … cm

d) 20dm = …cm

e) 90dm = …m

f) 2dm = …cm

g) 4 m =… dm

h) 6m = …dm

i) 80 cm = …dm

j) 7dm = …cm

Application activity 5.3

Convert and complete the following:

a) 6m = __cm

b) 40dm =__ m

c) 70dm = __cm

d) 900cm = __dm

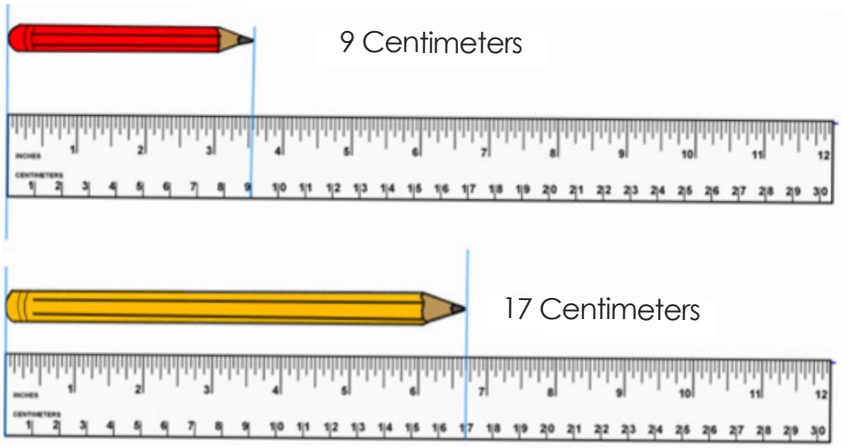
What have you learnt in this lesson?

5.4 Comparing and arranging length measurements

Activity 5.4.1

Look at the pictures.

Read and answer.



a) Between the red pencil and the yellow pencil, which pencil is shorter than the other?

b) Which pencil is longer than the other?

Activity 5.4.2

Convert the lengths in the small unit and complete the box by >, < or =.

Example:

2 m = 20 dm

2 m | **=** | **20 dm**

m	dm	cm
2	0	

Look at the example. Try these:

a) 2 m [=] 20 dm

b) 50 cm [ ] 50 dm

c) 90 cm [ ] 9 dm

d) 400 cm [ ] 4 m

e) 50 cm [ ] 5 dm

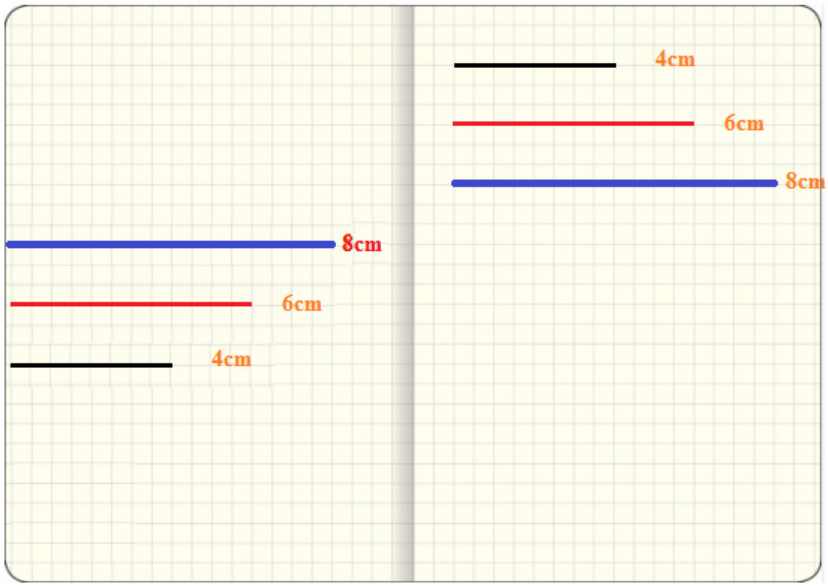
f) 100 cm [ ] 10 dm

Arranging lengths of objects

Activity 5.4.3

Read and do the following.

1) Use a ruler and find a stick of 4cm, a stick of 6cm and a stick of 8 cm.
   a) Which one is longer than others?
   b) Which one is shorter than others?
2) Look at the following picture



a) Draw the sticks of the same lengths in your notebook.

b) Complete by **True** or **False**:

- **4cm, 6cm, 8cm** are arranged from the shortest to the largest stick. ____
- **4cm, 6cm, 8cm** are arranged from the longest to the shortest stick. ____
- **8cm, 6cm, 4cm** are arranged from the longest to the shortest stick. ____

Activity 5.4.4

- Look at the example.
- Arrange the following lengths starting from the shortest to the longest

Example:

42 dm, 208 cm, 8 m

Answer

→ **8 m, 42 dm, 208 cm**

m	dm	cm
4	2	0
2	0	8
8	0	0

- Verify if lengths have the same unit.
- Compare them,
- Write them from the smallest number to the biggest number.

Try these:

a) 450 cm, 700cm, 350cm
b) 79 dm, 30dm, 40dm
c) 345 cm, 800cm, 650cm
d) 700cm, 985 cm, 750cm
e) 125 cm, 450cm, 900cm
f) 76 cm, 400cm, 576cm
g) 127 cm, 450cm, 900cm
h) 650cm, 900cm, 456 cm

Activity 5.4.5

- Look at the example.
- Arrange the following lengths starting from the longest to the shortest.

Example: 400 dm, 720 cm, 829 m

Answer

→ **829cm, 720dm, 400cm**

m	dm	cm
4	0	0
7	2	0
8	2	9

- Verify if lengths have the same unit.
- Compare them.
- Write them from the biggest number to the smallest number.

Try these:

a) 245 cm, 700 cm, 350cm
b) 79 cm, 300cm, 490cm
c) 450cm, 814 cm, 600cm
d) 5 cm, 540cm, 915cm
e) 780cm, 895cm, 700cm
f) 690cm, 780cm, 600cm

Application activity 5.4

1) Convert the lengths in the small unit. Use >, < or = to compare

a) 150dm [=] 150dm
b)130cm [ ] 130cm
c) 14dm [ ] 100dm
d) 975cm [ ] 900cm

2) Arrange from the smallest to the longest
270cm, 458cm, 900cm

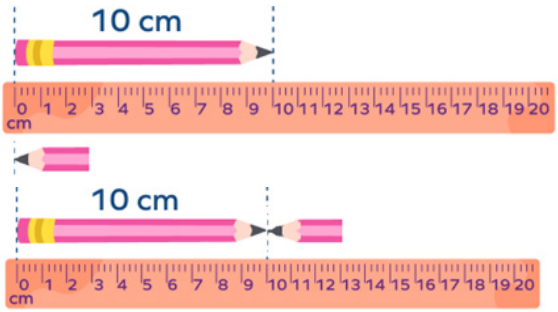
3) Arrange from the longest to the smallest: 768cm, 490cm, 500cm.

What have you learnt in this lesson?

5.5 Addition of length measurements

Activity 5.5.1

- Look at the pictures.
- What is the total length of the two pencils?



Activity 5.5.2

Add length measurements

Example: 80dm + 6dm = ___ dm. The required unit is dm

Required unit: dm

Answer: 80dm + 6dm = 86dm

m	dm	cm
8	0	
↓	6	
8	6	

- Verify the same unit
- Add numbers when they are in the same unit.

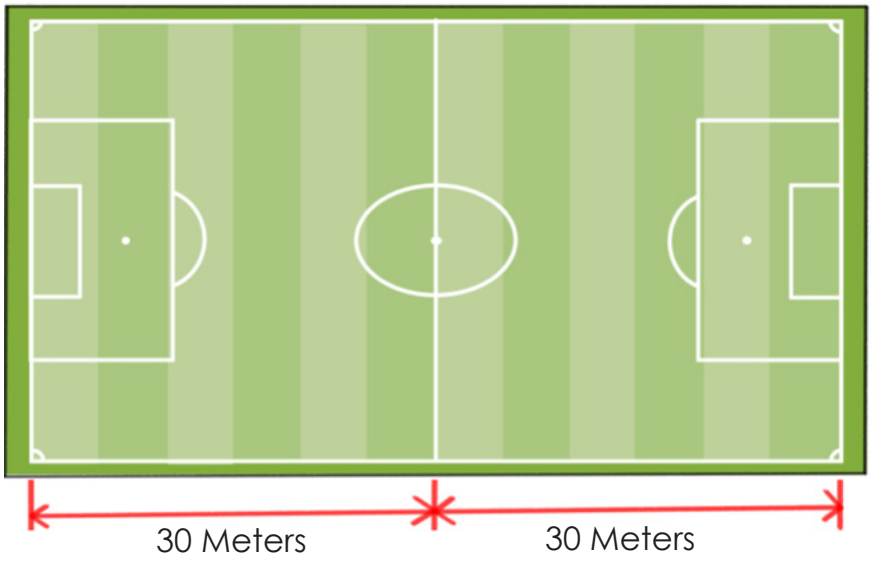
a) 100 cm + 77 cm = __cm
b) 15 dm + 50 dm = ___dm
c) 45 cm + 150cm = __cm
d) 23 dm + 17 dm = __dm
e) 56 dm + 44dm =___dm
f) 7 m + 30m = ___m

Activity 5.5.3

Read and do the following activities:

1. Use a meter ruler and measure the total length around your classroom.
2. Measure the length of **10 m** in the play ground.

3. Use a meter ruler and measure the length around a garden
4. Use a rope of 10 m to measure the length around the basketball playground.



Application activity 5.5

Read and do the following.

1) What is the total length of the 2 pencils?

2) Add and write the answer

a) 60 dm + 20dm = ___dm

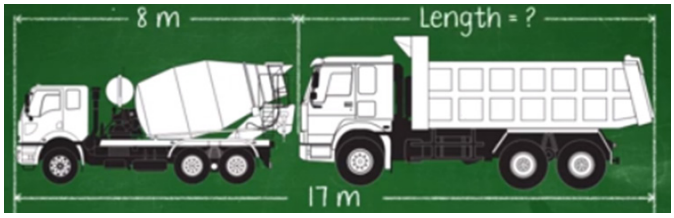
b) 550cm + 8cm = ___cm

What have you learnt in this lesson?

5.6 Subtraction of units of lengths

Activity 5.6.1

Look at the picture. How long is the truck?



Activity 5.6.2

Look at the example. Subtract.

Example: 47 dm – 30 dm = ___ dm.

The required unit is cm

Answer: 47 dm - 30 dm = 17 dm

	m	dm	cm
	4	7	
–	3	0	
	1	7	

– Subtract numbers when they are in the same unit.

Try these:

a) 123 cm –77 cm = …cm
b) 500 cm – 150 cm = …cm
c) 40 dm –15 dm = …dm
d) 23 dm –17 dm = …dm
e) 120 cm –70 cm = …cm
f) 600 cm –500 dm = ___cm = ___m
g) 56 dm –44 dm = …dm
h) 7 m –3 m = …m

Application activity 5.6

Subtract and write the answer.

a) 67 dm –13 dm = …dm
b) 55 dm –8 dm =... dm
c) 70 dm –20 dm = …dm
d) 600 cm –300 cm = ___cm = ___m.

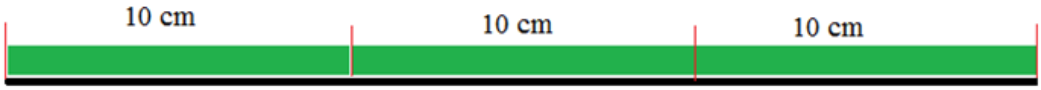
What have you learnt in this lesson?

5.10 Multiplication of units of length by a whole number

Activity 5.10.1

Read and find the answer.

When measuring the length of a rope, Amanda uses a ruler of 10 cm. Amanda found 3 times the length of the ruler.



Complete: The total length of the rope is 3 x 10 cm = ____

Activity 5.10.2

Look at the example. Multiply by a number.

Example: 70 cm x 2

70 cm x 2 = 140 cm

m	dm	cm
	7	0
x		2
1	4	0

- Multiply,
- Write the answer in the required unit.

a) 71 cm × 4 = …cm
b) 24 cm × 2 = …cm
c) 43 m × 2 = …m
d) 90 cm × 5 = …cm
e) 51 cm × 6 = …cm
f) 11 dm × 3 = …dm
g) 124 cm × 2 = …cm
h) 8 m × 4 = …m
i) 30 dm × 5 =… dm

Application activity 5.10

Multiply:

a) 22 dm × 4 = …dm
b) 60 cm × 6 = …cm
c) 14 cm × 2 = …cm

What have you learnt in this lesson?

5.11 Division of length by a whole number

Activity 5. 11.1

Read and find the answer.

Mutoni has a rope with 55cm. Mutoni cuts the rope in 5 equal parts.

55cm

Complete: Each part has the length of 55cm ÷ 5 = ___

Activity 5. 11.2

Look at the example.

Divide and write the answer in the required unit.

Example: 960 cm ÷ 3 = ...cm

Solution: The required unit is cm

960 cm ÷ 3 = 320 cm

960 cm ÷ 3 = 32 dm

$$3\overline{)960} = 320$$

$-\ 9$

06

$-\ 6$

00

$-\ 0$

0

– Divide the length in the given unit.

Try these:

a) 480 dm ÷ 4 = …dm

b) 126 cm ÷ 3 = …cm

c) 240 cm ÷ 2 = …cm

d) 720 dm ÷ 3 = …dm

e) 486 cm ÷ 2 = …cm

f) 128 dm ÷ 2 = …dm

g) 36 cm ÷ 6 = …cm

h) 25 cm ÷ 5 = …cm

Application activity 5.11

Divide:

a) 20 cm÷ 5 = …cm

b) 672 dm÷ 6 = …dm

c) 364 cm÷ 4 = …cm

d) 864 m÷ 2 = …m

What have you learnt in this lesson?

5.12 Word problems involving units of length

Activity 5. 12.1

Read and find the answer

Example:

The length of the pencil of Mary is 45 cm. The length of the pencil of Edna is 55 cm. Find the total length of the two pencils when they are put together.

Solution:

Given: Pencil of Mary = 45cm

Pencil of Edna = 50cm

Question: Total length = ?

Operation: Addition

Total length of pencils = 45cm + 50 cm = ?

45cm + 50 cm = 95cm.

Total length of pencils is equal to 95cm.

m	dm	cm
	4	5
+	5	0
	9	5

Look at the example. Try these:

1. Last year I planted a tree with 50dm of height. Today, the tree has 80dm. What is the difference in the height of this tree?

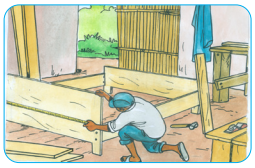
2. A carpenter bought a piece of timber measuring 100cm. He cut it into 5 equal parts. How long is each part?

3. Gatari bought a rope of 60 m. He wants to cut it in 3 equal ropes. What would be the length of each part?.

Activity 5.12.2

- Look at the pictures and read.
- Tell your friend where length measurements are used.





- We measure the length for: objects, sides of fields, roads, height of houses, etc.
- We use: a meter ruler; Tape measure, a folding ruler or Yard stick.
- To measure the length around an object, measure the length for each side, then add them altogether.

Application activity 5.12

Read and find answer.

1. Gatera has a field of 89 m of length. Munezero has a field of 97 m of length.
   a) Who has a field with longer length?
   b) Complete: The difference between their fields is 97m - 89m = ___m = ___dm
2. The distance from home to school is 120 dm. The distance from home to Kigali is 5 times the distance from home to school. What is the distance from home to Kigali?

What have you learnt in this lesson?

END UNIT ASSESSMENT

1. Convert:

(a) 7m = ...dm
(b) 850 cm = ...dm
(c) 5 m = ...dm
(d) 600 cm =....dm
(e) 70 dm = ... m
(f) 900 cm = ...dm
(g) 9dm = ...cm
(h) 70dm = ...cm
(i) 400 cm = ...dm
(j) 9m = ...dm

2. Use <, > or = to compare

(a) 60 cm ☐ 65 cm
(b) 9 8dm ☐ 98dm
(c) 650 cm ☐ 750cm
(d) 65cm ☐ 75cm
(e) 689cm ☐ 700cm
(f) 900cm ☐ 678cm

3. Arrange from the shortest to the longest: 900cm, 750cm, 800cm.

4. Arrange from the longest to the shortest: 756 cm, 870cm, 967cm.

5. Complete:

(a) 60dm + 9 dm = … dm
(b) 500 cm + 800cm =… cm
(c) 987 cm – 98cm = …cm
(d) 9 7dm – 7dm = …dm
(e) 848 m÷ 4 = …m
(f) 750 dm÷ 5 = ….dm
(g) 90 cm × 5 = …cm
(h) 72 cm × 4 = …cm

6. Read and find the answer

a) Gisa walks on foot to go to visit his friend. He covers a distance of 45m. Convert this distance in dm.

b) Keza buys a long cloth of 79 m. She sells 70 dm. How long is the remaining piece of cloth?

c) Mucuruzi buys a cloth of 75m. He divids it in 5 equal parts. Find the length for each part.

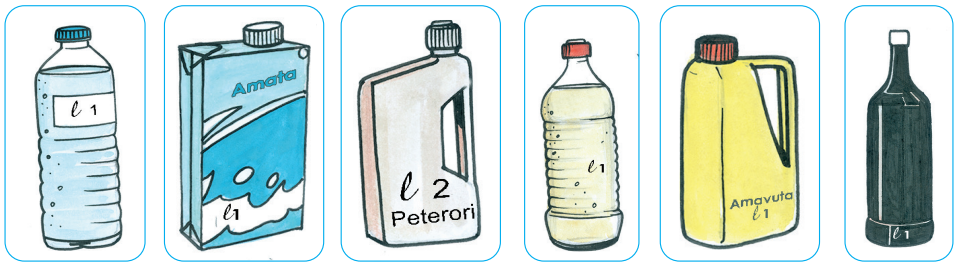
d) Gwiza runs a 100 m in one round. If Gwiza runs 6 rounds, find the total length he runs.

Unit 6

LITRE, THE STANDARD UNIT OF CAPACITY MEASUREMENTS

6.0 Introductory activity

Look at the following picture.



Water: 1ℓ Milk:1ℓ Fuel: 2ℓ Juice: 1ℓ Oil: 1ℓ Beer: 1ℓ

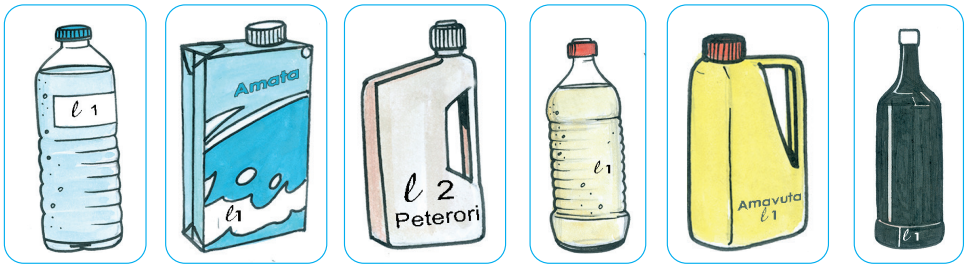
- What do you see?
- What are the materials used for?
- What do you expect to learn in this unit?

6.1 Measuring liquids

Activity 6.1.1

Look at the bottles and jerry cans.

Read and answer questions.



Water: 1ℓ Milk:1ℓ Fuel: 2ℓ Juice: 1ℓ Oil: 1ℓ Beer: 1ℓ

a) What is the quantity of each container?

b) What is the tool people use to measure the quantity of liquids such as water, oil, juice, and fuel?

Look at the picture

a) What are the children doing?
b) Try to do the same activity with your friends.

Activity 6.1. 2

Read and do the following:

Use bottles or jerry cans with different capacity: one for 5 ℓ and others with 1 ℓ.

Fill water in the jerry can of 5 ℓ.

Use this water to fill in different bottles of 1 ℓ.

How many bottles of 1ℓ can be filled by a 5 ℓ jerry can?

1ℓ

5ℓ

Application activity 6.1.3

Read and do the following:

Take a jerry can of 20 ℓ . Use a bottle of 1ℓ to fill water in the jerry can. How many bottles of water do you use to fill the jerry can?

1 litre of mineral water

6.2 Comparing measurements of capacity

Activity 6.2.1

Read and do the following:

Use "greater than 1 litre", "less than 1 litre" or "exactly 1 litre" to compare the capacity for containers.

Example:

a bucket is greater than 1 litre

a bottle is less than 1 litre

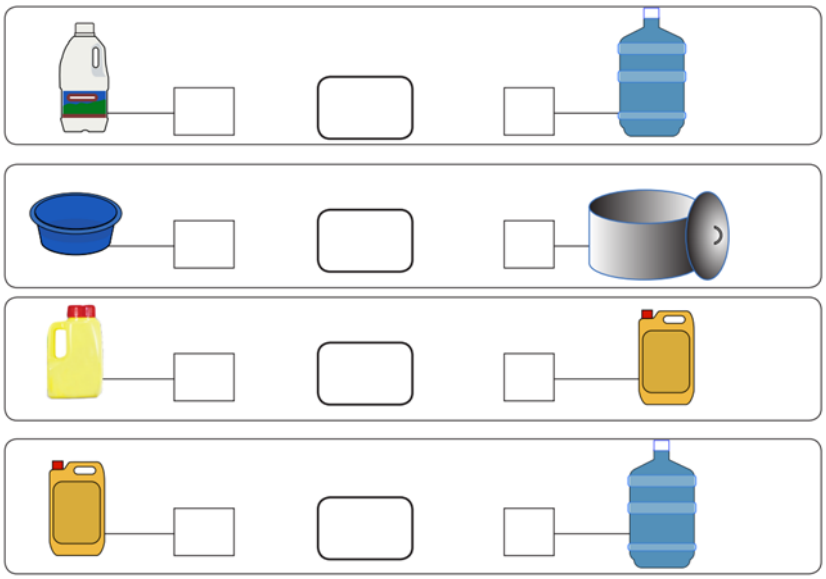
It is greater than 1 litre

Activity 6.2.2

- Look at the capacity of each container.
- Write the number and use <, > or = cards to compare capacity measurements.

Example:

Look at the example. Try these:



Activity 6.2.3

Use <, > or = to compare the capacity measurements

a) 15 ℓ ☐ 24 ℓ

b) 32 ℓ ☐ 712 ℓ

c) 345 ℓ ☐ 453 ℓ

d) 750 ℓ ☐ 697 ℓ

Activity 6.2.4

Read and do the following.

1) Take five different sized containers. Arrange them from the one with the smallest capacity to the one with the biggest capacity.

bucket

10 ℓ

bottle

1 ℓ

sauce pan

3 ℓ

cup

2 ℓ

watering can

5 ℓ

2) Arrange the following capacity measurements from the smallest to the biggest

a) 15 ℓ, 20 ℓ, 12 ℓ, 10 ℓ

b) 12 ℓ, 2 ℓ, 18 ℓ, 5 ℓ

c) 13 ℓ, 20 ℓ, 7 ℓ 15 ℓ

d) 24 ℓ, 5 ℓ, 20 ℓ, 8 ℓ

e) 22 ℓ, 10 ℓ, 25 ℓ, 6 ℓ

Activity 6.2.5

Arrange the following capacity measurements from the biggest to the smallest

Try these:

a) 51 ℓ, 20 ℓ, 21 ℓ, 12 ℓ

b) 21 ℓ, 28 ℓ, 81 ℓ, 52 ℓ

c) 31 ℓ, 20 ℓ, 75 ℓ,15 ℓ

d) 42 ℓ, 25 ℓ, 20 ℓ, 68 ℓ

e) 22 ℓ, 30 ℓ, 52 ℓ, 65 ℓ

Application activity 6.2

1) Complete by <, > or =

315 ℓ ☐ 351 ℓ

2) Arrange from the smallest to the biggest capacity measurement

23 ℓ, 15 ℓ, 7 ℓ, 6 ℓ

3) Arrange from the biggest to the smallest capacity measurement

32 ℓ, 15 ℓ, 72 ℓ, 36 ℓ.

What have you learnt in this lesson?

6.3 Addition of capacity measurements

Activity 6.3.1

Read and find the answer

A small jerry can contains 5 ℓ. A bigger jerry can contains 20 ℓ. If you pour these two quantities of water in a small tank, how many litters do you get in the tank?

Activity 6.3.2

- Look at the example.
- Add capacity measurements

Example:

172 ℓ + 124 ℓ =	172 ℓ	$\overset{1}{1}52$ ℓ	$\overset{1\ 1}{1}72$ ℓ
152 ℓ + 38 ℓ =	+124 ℓ	+ 38 ℓ	+ 38 ℓ
172 ℓ + 38 ℓ =	296 ℓ	190 ℓ	210 ℓ

a) 18 ℓ + 12 ℓ = b) 33 ℓ + 28 ℓ = c) 281 ℓ + 169ℓ =

Activity 6.3.3

Read and find the answer

I use a container of 15 ℓ to fetch water. My brother uses a container of 24 ℓ. Find the amount of water we fetch at once.

Application activity 6.3

Add

a) 615 ℓ + 204 ℓ = b) 186 ℓ + 512 ℓ =

What have you learnt in this lesson?

6.4 Subtraction of capacities measurements

Activity 6.4.1

Read and find the answer

Take a jerry can containing 5 ℓ of water. From this water, pour 1 ℓ in a bottle. How much water is remaining in the jerry can?

5 litres

1 litre of mineral water

Activity 6.4.2

Look at the example. Subtract capacity measurements

Example:

723 ℓ - 312 ℓ = 411ℓ

423 ℓ - 309 ℓ = 114ℓ

$$\begin{array}{r} 723\ \ell \\ -\ 312\ \ell \\ \hline 411\ \ell \end{array} \qquad \begin{array}{r} {\scriptstyle 1\ 1}\ \ \ \\ 423\ \ell \\ -\ 309\ \ell \\ \hline 114\ \ell \end{array}$$

Try these:

a) 45 ℓ - 29 ℓ = b) 112 ℓ - 89 ℓ = c) 234 ℓ - 197 ℓ =

Application activity 6.4

Subtract:

a) 678 ℓ - 178 ℓ = b) 975 ℓ - 485 ℓ = c) 125 ℓ - 95 ℓ =

What have you learnt in this lesson?

6.5 Word problems involving the addition or subtraction of capacity measurements

Activity 6. 5

Read and find the answer

Example 1:

We have two tanks of water. The first contains 213 ℓ , the second 378 ℓ. How many litres are in both tanks?

Solution:

Given:
The first tank: 213 ℓ
The second tank: 378 ℓ .
Question: Total= ?
Operation: addition
Both tanks: **213** ℓ **+ 378** ℓ**=**
Answer: There are **591** ℓ in the two tanks.

$$\begin{array}{r} 213\ \ell \\ +\ 378\ \ell \\ \hline 591\ \ell \end{array}$$

Example 2:

There is 225 ℓ of water in the tank. Today we used 75 ℓ of water from this tank. How much water is left in the tank?

Solution:

Given:
Water in the tank = 225 ℓ
water used = 75 ℓ
Question: water left =?
Operation: Subtraction
In the tank there were: 225 ℓ
We used : 75 ℓ
There left: 225 ℓ -75 ℓ =
Answer: There left **150** ℓ of water.

$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 225\ \ell \\ -\ 75\ \ell \\ \hline 150\ \ell \end{array}$$

Look at the examples. Try these:

1) At home we organized a party and my parents prepared 300 ℓ of juice. Our neighbours gave us 175 ℓ of juice. What is the total quantity of juice we had?
2) The oil seller has100 ℓ of oil. In this morning she sold 35 ℓ . Find the amount of oil which left.

Application activity 6.5

Read and find the answer

1) The generator uses 195 ℓ of fuel in the morning and 205 ℓ in the afternoon. Find the amount of fuel the generator uses per day.
2) There is 225 ℓ of water. We are going to use 24 ℓ of water to wash our clothes. How much water is going to remain?

What have you learnt in this lesson?

6.6 Multiplication of capacity measurements by a whole number

Activity 6.6.1

Read and do the following.

Butera fetches 4 big bottles of water per day.

Each bottle contains 10 ℓ.

Complete: Each day, Butera fetches: 4 x 10 ℓ = ___

Activity 6. 6.2

Look at the example. Multiply:

Example:

72 ℓ x 4 = 288 ℓ

$$\begin{array}{r} 72\ \ell \\ \times\ \ 4 \\ \hline 288\ \ell \end{array}$$

a) 24 ℓ x 2 =
b) 32 ℓ x 4 =
c) 31 ℓ x 6 =
d) 74 ℓ x 2 =

Application activity 6.6

Read and do the following.

1) One jerry can has 2 ℓ. Write the total quantity of 50 small jerry cans.

2) Multiply: a) 400 ℓ x 2 = b) 210 ℓ x 3 =

What have you learnt in this lesson?

6.7 Division of capacity measurements by a whole number

Activity 6.7.1

Read and find the answer

1) Take a big jerry can full of 20 ℓ of water. Pour that water in 4 small jerry cans of the same size.

Complete:

One small jerry can is going to contain

20 ℓ ÷ 4= ___ ℓ

Activity 6.7.2

Look at the example. Divide the capacity measurements

Example:

$255\ \ell \div 5 = \boxed{51\ \ell}$

$$\begin{array}{r} 51 \\ 5\overline{)\ 255\ell} \\ -\ 25\downarrow \\ \hline 005 \\ -\ 5 \\ \hline 0 \end{array}$$

a) $68\ \ell \div 2 =$

b) $188\ \ell \div 2 =$

c) $159\ \ell \div 3 =$

d) $324\ \ell \div 6 =$

Application activity 6.7

Read and do the following.

1) Divide

   a) $246\ \ell \div 2 =$

   b) $648\ \ell \div 3 =$

2) Read and find the answer

   Mugabo has $155\ \ell$ of fuel. Mugabo pours this fuel equally in 5 vehicles

What is the quantity of fuel for each vehicle?

What have you learnt in this lesson?

6.8 Word problems involving multiplication or division of capacities by a number

Activity 6. 8.1

Read and find the answer

Example 1:

Mugeni has 4 jerry cans of milk. Each jerry can contains 20 ℓ, How many litres does Mugeni have?

Solution:

Given: A jerry can = **20** ℓ

Number of jerry cans = **4**

Question: Capacity of 4 jerry cans = ?

Operation: Multiplication

One jerry can contains: **20** ℓ

Number of jerry cans: **4**

Total number of litres: **20** ℓ **x 4** =

Mugeni has **80** ℓ of water per day.

$$\begin{array}{r} 20\ \ell \\ \times\ \ 4 \\ \hline 80\ \ell \end{array}$$

Example 2:

Dushime has 20 ℓ of water. He pours this water in different small jerry cans of 5 ℓ. How many small jerry cans Dushime is going to fill the water?

Solution:

Given: Capacity of big jerry can = 20 ℓ

Capacity of small jerry can = 5 ℓ

Question: Number of small jerry cans

Operation: Division

The big jerry can contains: 20 ℓ

The small jerry can has: 5 ℓ

The number small jerry cans: 20 ℓ ÷ 5 ℓ=

The water will be pulled in 4 small jerry cans.

$$\begin{array}{r} \ \ 4 \\ 5\ \ell\ \overline{)\ 20\ \ell} \\ -\ 20 \\ \hline \ \ 00 \end{array}$$

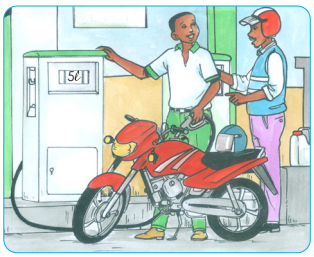
Look at the example. Try these:

1) We use 61 ℓ of water per day for washing the house. How much water do we use in 5 days?
2) Five children had a birth day on the same day. Their parents bought 50 ℓ of juice and shared it equally among their children. Find the quantity of juice given to each child.

Activity 6.8.2

Look at the picture. Answer the question.

a 

b 

What is the role of the litre?

Activity 6.8.3

Fill in with (litre, capacity, or meter)

1) The litre is the standard unit of ___ measurements
2) ____ is used to measure the quantity of liquids such as: milk, water, cooking oil, fuel, petrol, juice, beer, etc.

Application activity 6. 9

Read and find the answer:

1. Share 186 ℓ equally among 6 milk collection centres. How much milk will each centre get?
2. A Kind woman shared 72 ℓ of cooking oil equally to 3 families. How much oil does each family get?

What have you learnt in this lesson?

END UNIT ASSESSMENT

1. Fill in with "True" or "False"

a) Litre is the standard unit of capacity measurements. ___

b) We use the litre to measure the length of a field. ____

c) Litter is used to measure the quantity of liquids such as water. ____

2. Use <, > or = to compare

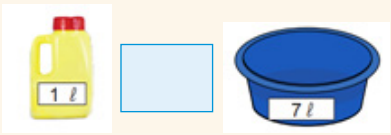
(a) 586 ℓ ☐ 856 ℓ

(b) 549 ℓ ☐ 478 ℓ

(c) 287 ℓ ☐ 287 ℓ

(d) 918 ℓ ☐ 908 ℓ

c) Complete by "is greater than", "is less than" or "equals"



3. Arrange the capacity of measurements for objects from the smallest to the biggest

785 ℓ, 758 ℓ, 857 ℓ, 875 ℓ, 578 ℓ, 587 ℓ.

4. Arrange the capacity measurements for objects from the biggest to the smallest.

908 ℓ, 890 ℓ, 980 ℓ, 809 ℓ.

5. Find the answer

(a) 548 ℓ + 387 ℓ =

(b) 81 ℓ x 5 =

(c) 978 ℓ - 789 ℓ =

(d) 720 ℓ ÷ 4 =

6. Read and find the answer

a) There are 975 ℓ of water in a tank. If I use 789 ℓ to wash clothes, how much water remains in the tank?

b) Kirabo has 20 ℓ of milk. She wants to keep it in small jerry cans with the capacity of 5 ℓ each. How many jerry cans will she use?

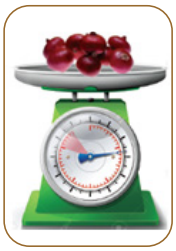
c) Our tank of water is filled by 6 drums. How much water can fill the tank if each drum has 91 ℓ ?

Unit 7

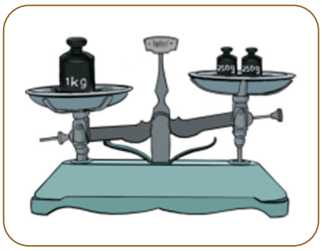
KILOGRAM, THE STANDARD UNIT OF MASS

7.0 Introductory activity

Observe the following picture.

a. 

b. 

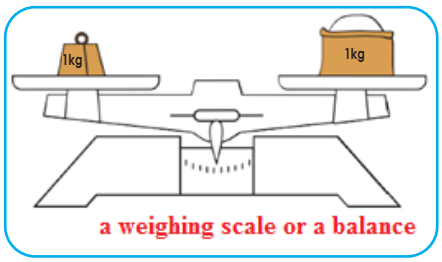
c. 

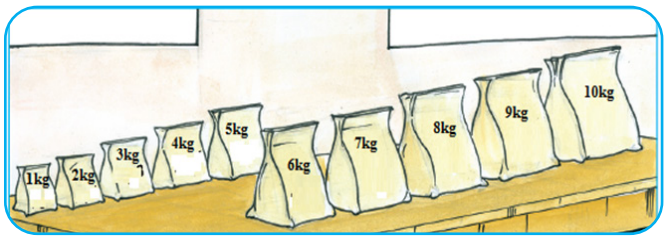
- What do you see?
- What are the following materials used for?
- Which material or tool can be used to find the mass of objects?
- Can you use a balance to measure the mass of the big sacks?

7.1 The Kilogram as the standard unit of mass

Activity 7.1

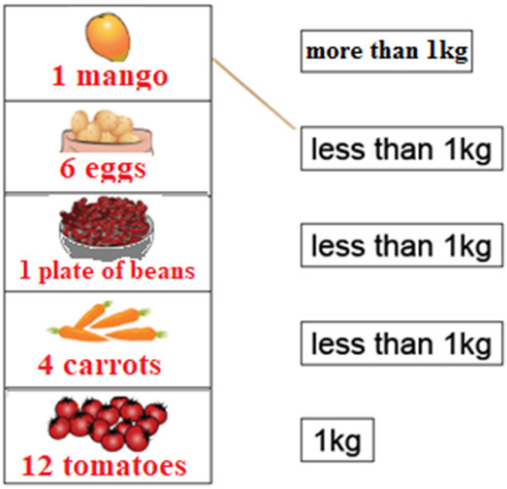
- Look at the objects.
- Write and say the mass for each envelop.





Activity 7.1.2

Look at the objects. Estimate and match the mass label to the picture



Application activity 7.1

Estimate the mass of the object and match:

What have you learnt in this lesson?

7.2 Measuring the mass using different types of balance

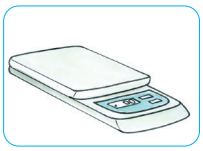
Activity 7.2.1

Compare objects. Lift different objects. Say which is **lighter** and which is **heavier**.

Activity 7.2.2

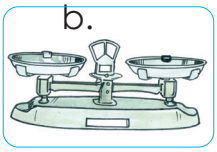
Look at the balances. Observe different types of balances.

a.



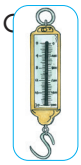
Electronic Balance

b.



Robeval balance

c



String balance

Activity 7.2.2

Look at the picture.

Measure and read the mass of different objects on the balances

-I can read the mass of beans on the balance
-I can read the mass of a cup on the balance
-I can read the mass of a battle on the balance
-I can read the mass of rice on the balance

Try the same and read the mass of different objects on the balances:

a.

a balance

b.

irish potatoes on a balance

c.

sack of maize flour

d.

How many kilograms does it have?

e.

f.

What does the shop keeper have?

Activity 7.2.4

Follow instructions, and say the mass of objects.

- Lift an object,
- Estimate its mass,
- Use a balance to measure,
- Say the exact mass after measuring.

Example:

Objects	Estimate	Measure
irish potatoes	I think that it is 2kg	The balance shows that it is 3kg

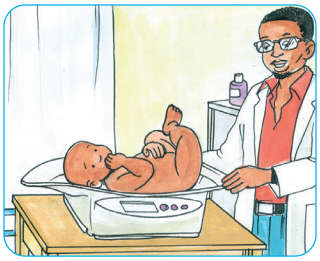
Application activity 7.4

Look at the pictures.

Where do you find people using the balances?

in the shop

at the market



at the health center

Example: - When we buy beans, my parents ask the shop keeper to use the balance.

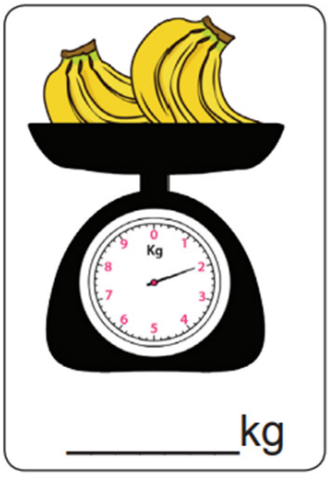
- At the health centre, nurses use the balance.

What have you learnt in this lesson?

7.3 Comparing masses of objects

Activity 7.3.1

Write down the mass of each object.



Use of less than or greater than	Use of lighter or heavier
2kg of bananas are **less than** 5 kg of pumpkin 2kg < 5kg	2kg of bananas are **lighter than** 5kg of pumpkin
5kg of pumpkin **are greater than** 2kg of bananas 5 kg > 2 kg	5kg of pumpkin are **heavier than** 2kg of bananas.

Complete by <, > or =

a) 2k ___ 5kg b) 5kg ___2kg

Activity 7.3.2

Use <, > or = to compare capacity measurements

a) 51kg ☐ 42kg

b) 23kg ☐ 172kg

c) 354 kg ☐ 345kg

Activity 7.3.3

Arrange the following masses from the lightest to the heaviest mass

a) 51 kg, 26 kg, 21kg

b) 21kg, 12kg, 81kg

c) 31kg, 24kg, 47kg

d) 42kg, 25kg, 27kg

e) 28kg, 40kg, 52kg

f) 32kg, 51kg, 57kg

Activity 7.3.4

Arrange the following masses from the heavies to the lightest mass

a) 15 kg, 27 kg, 12kg

b) 21kg, 82kg, 18kg

c) 31kg, 28kg, 75kg

d) 24kg, 52kg, 29kg

e) 27kg, 37kg, 25kg

f) 23kg, 15kg, 72kg

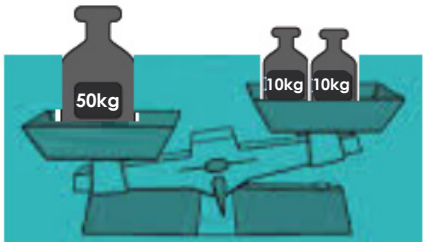
Application activity 7.3

1) Use <, > or = to compare capacity measurements

   a) 50kg ___ 54kg

   b) 224kg ___220kg

2) Observe the balance and complete by "**heavier than**" or "**lighter than**"



1) 50kg are _____ 20kg

2) 20kg are _____ 50kg.

What have you learnt in this lesson?

7.6 Addition of masses in kilogram

Activity 7.6.1

Look at the balance. Complete with the correct mass

Complete:

1) 5kg = 4kg + ___

2) 40kg +10kg = ___kg

Activity 7.6.2

Add mass measurements

Example:

205 kg + 414 kg = 619 kg

$$\begin{array}{r} 205\ \text{kg} \\ +\ 414\ \text{kg} \\ \hline 619\ \text{kg} \end{array}$$

Look at the example. Try these

a) 81 kg + 11 kg = ___

b) 33 kg + 82 kg = ___

c) 128 kg + 196 kg = ___

d) 73 kg + 36 kg = ___

Activity 7. 6.3

Read and find the answer

Example 2:

I weigh 32kg. My brother weighs 46kg. Find our total weight

Solution:

Given: My weight = 32 Kg

Weight of my brother= 46 Kg

Question: Total weight = ?

Operation: Addition

My mass: 32 Kg

The mass of my brother: 46Kg.

The total mass: **32Kg + 46 Kg** =

Our total weight is **78Kg**.

$$\begin{array}{r} 32\ \text{kg} \\ +\ 46\ \text{kg} \\ \hline 78\ \text{kg} \end{array}$$

Look at the example. Try these:

1) Kamanzi keeps 12kg of cassava in the store. His brother keeps 15 kg of cassava. How much cassava do they have altogether?

2) Ishimwe sells 50kg of rice in the morning. In the afternoon, he sells 25kg of rice. How much rice does Ishimwe sell on the same day?

Application activity 7.2

1) Add:

   a) 167 kg + 87 kg = …

   b) 234 kg + 85 kg = …

2) Read and find the answer

   a) At home we cook 5kg of bananas in the morning. In the evening we cook 4 kg of bananas. Find the mass of bananas we cook per day.

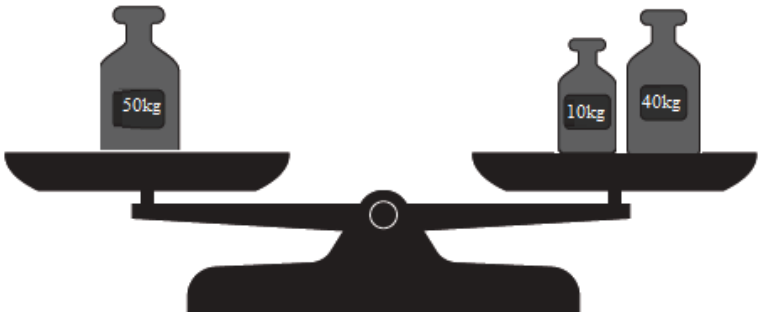
   b) Every day Mbabazi sells 15kg of sugar and 25kg of sorghum flour. Find the total number of kg Mbabazi sells per day.

What have you learnt in this lesson?

7.7 Subtraction of mass measurements

Activity 7. 8.1

Look at the balance. Complete with the correct answer.



What happens if we take away 10 kg from the second beam of the balance?

Complete: 50kg – 10kg = ___kg

Activity 7. 8.2

Subtract mass measurements

Example: **475 kg - 364 kg =**

475 kg - 364 kg = **111kg**

475 kg
- 364 kg
111 kg

Try these:

a) 54 Kg – 29 Kg = ___

b) 215 Kg – 59 Kg = ___

c) 121 Kg – 98 Kg = ___

d) 217 Kg –191 Kg = ___

Activity 7.8.3

Read and find the answer

Example:

My sack weighs 59 kg of rice when full. I take 28 kg of rice from it. How many kg remain in the sack?

Solution:

Given:

Total weight: **59 kg**

Weight removed: **28 kg**.

Question: Weight that remains = ?

Operation: Subtraction

Weight remains : **59 kg - 28 kg** =

There remains **31kg** in the sack.

59 kg
- 28 kg
31 kg

Look at the example. Try this:

A businessman has 150kg of beans. He sells 75 Kg from them. How many kilograms of beans does he remain with?

Application activity 7.8

1) Subtract:
   a) 324 kg –179 kg =… b) 546 kg – 329 kg =…
2) Read and find the answer

   Gisa has 247kg of rice. He gives her friend Queen 130 kg of rice. How many kilograms of rice does Gisa remain with?

What have you learnt in this lesson?

7.9 Multiplication of mass measurements by a whole number

Activity 7. 10.1

Look at 6 masses. Each one is 10kg.
What is their total mass?

The total mass is 10kg x 4 = ___kg

Activity 7.10.2

Look at the example. Multiply :

Example: 82 kg x 4 =

82 kg x 4 = 328 kg

$$\begin{array}{r} 82\ \text{kg} \\ \times\ 4\ \text{kg} \\ \hline 328\ \text{kg} \end{array}$$

a) 42 kg × 3 =... kg
b) 93 kg × 2 = ...kg
c) 81 kg × 6 = ... kg
d) 53 kg × 4 =... kg

Activity 7. 10.3

Read and find the answer

My parents have 6 sacks of beans. Each sack weighs 71kg. How many kilograms of beans do my parents have?

Solution:

Given:

Number of sacks = 6

Weight of one sack = 71 kg

Question: Total number of kg = ?

Operation: Multiplication

Total number of Kg: **71 kg x 6 = 426** Kg

Parents have 426 kg of beans.

71 kg
x **6 kg**
426 kg

Now, try these:

1) At home we cook 6 kg of potatoes. How many kg of potatoes do we cook in 5 days?


6kg of potatoes

2) Mugabo carries 61 kg of bananas on the wheelbarrow. How many kilograms will he have if he carries bananas 3 times?

Application activity 7.10

1) Multiply:
   a) 54 kg × 5 =… kg
   b) 15 kg × 6 = …kg
2) Read and find the answer

When preparing breads, Muhizi uses 31kg of millet flour per day. How many kilogram of millet flour can Muhizi use in 10 days?

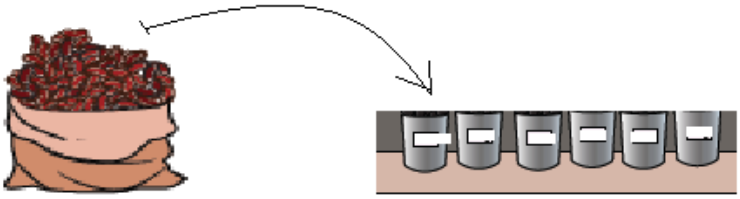
What have you learnt in this lesson?

7.12 Division of mass measurements by a whole number

Activity 7.12.1

Read and find the answer

Look at the sack of potatoes. There are 36kg. Share them equally in 6 buckets.



36 kg

Complete: The mass of potatoes to be put in each bucket
36kg÷6 = ____kg

Activity 7.12.2

Look at the example.

Divide mass measurements

Example: 75 kg ÷ 3 =

75 kg ÷ 3 = 25 kg

```
     25 kg
   ______
3 ) 75 kg
  - 6↓
    15
   -15
   ---
    00
```

Look at the example. Try these:

a) 4 kg÷ 2 = … kg

b) 84 kg ÷ 4 =… kg

c) 75 kg ÷ 5 = … kg

d) 95 kg ÷ 5 =… kg

e) 220 kg ÷ 4 = … kg

g) 864 kg ÷ 6 = … kg

Activity 7.12.3

Read and find the answer

Example:

Share 488Kg of maize flour to 4 families. How many kg will each family get?

Solution:

Given:

Quantity of maize flour: **488kg**

Number of families: **4**

Question: Number of kg per family =?

Operation: Division

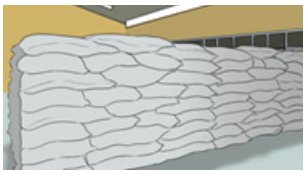
Number of kg per family: **488 kg ÷ 4** =

Each family will get: **122kg**

```
     122 kg
   _______
4 ) 488 kg
  - 4↓
    08
   - 8↓
     08
    - 8
    ---
      0
```

Look at the example. Try these:

1. Share 450 kg of rice equally among 5 people. How many kilograms for each person?
2. Four people buy 328 kg of sugar to be shared equally among them. Find the share for each person.



3. There are 284 kg of beans to be shared equally in 4 sacks. What is the mass for each sack?

Application activity 7.12

1) Read and do the following.
   a) 624 kg ÷ 4 = … kg
   b) 66 kg ÷ 6 = … kg
   c) 99 kg ÷ 3 =… kg

2) Read and find the answer
   a) During the harvesting of beans, a mother got 48kg. She equally shared this harvest among 4 children. What was the share of each child?
   b) At home we use 30kg of potatoes in 5 days. How many kilograms of potatoes do we use per day?

What have you learnt in this lesson?

END UNIT ASSESSMENT

1. Write True or False

a) Kg is the unit of mass measurements; .....
b) Kg is the unit of capacity measurements.....
c) The litre is the unit of mass measurements.....

2. Give 3 types of balances

....

3. Use <, > or = to compare masses

(a) 721kg ☐ 271 kg
(b) 657 kg ☐ 756 kg
(c) 74 kg ☐ 74 kg
(d) 67 kg ☐ 76 kg
(e) 582 kg ☐ 532 kg
f) 659 kg ☐ 559 kg

4. Arrange the mass measurements from the smallest to the biggest mass

478 kg, 874 kg, 487 kg, 784 kg, 847 kg, 748 kg.

5. Arrange the mass measurements from the biggest to the smallest mass

836 kg, 368 kg, 638 kg, 863 kg, 386 kg, 683 kg.

6. Find the answer

(a) 645 kg + 294 kg = ... kg
(b) 809 kg + 178 kg = ... kg
(c) 738 kg – 598 kg = ... kg
(d) 696 kg – 467 kg = ... kg
(e) 995 kg ÷ 5 = ... kg
(f) 960 kg ÷ 6 =... kg

7. Read and find the answer

a) Abatoni buys 4 sacks of cement. If one sack weighs 50 kg, Find the number of kg she buys.

b) Rwema shared 85 kg of rice to his 5 children. Find the mass of rice for each child.

c) In the first season we got 356 kg of rice. In the second season we got 278 kg of rice and we got 319 kg of rice in the third season. Find the total mass of rice we got in these three seasons.

Unit 8

RWANDAN FRANCS UP TO 1000 FRW

8.0 Introductory activity

Look at the picture or real money of Rwandan Francs.

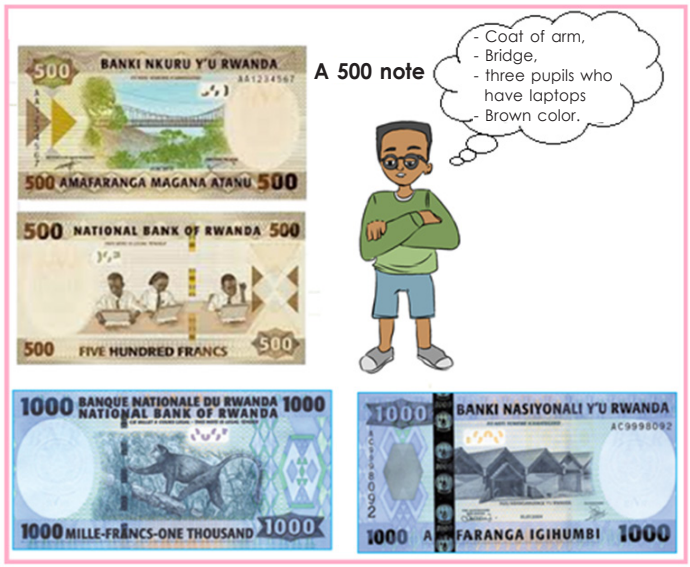
- What do you see?
- How many coins and notes do you see?
- Have you ever seen Some Real Rwandan francs?
- Who can tell the class some characteristics of Rwandan francs?
- What can you do with any coin or note of Rwandan francs?
- What do you expect to learn in this unit?

8.1 Characteristics and importance of Rwandan Francs up to 1000 Frw

Activity 8.1.1

a) Tell your friends what you see on the Rwandan coins:

b) Tell your friends what you see on the Rwandan notes :



Activity 8.1.2

Talk to your friend. What is the difference in features of a Rwandan coin and Rwandan note?

Activity 8.1.3

Look at the pictures. What do you see?

Activity 8.1.4

Answer the following questions:

1) When you have 100 Frw, what can you buy?
2) When you have 500 Frw, what can you buy?
3) Can you buy a house with 1000 Frw only?

Application activity 8.1

Talk with your friends about the uses of money.

What have you learnt in this lesson?

8.2 Exchange of Rwandan currency from 1 Frw up to 1000 Frw

Activity 8.2

Find the sum equivalent to the given money:

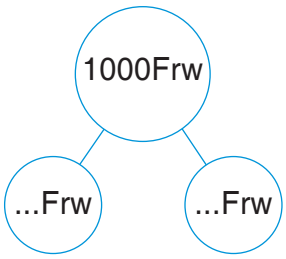
Example: 10 Frw = 5 Frw + 5Frw

a) 20 Frw = … Frw + … Frw
b) 20 Frw = … Frw + … Frw + … Frw + … Frw
c) 50 Frw = … Frw + … Frw + … Frw
d) 100 Frw = … + …
e) 100 Frw = …Frw + …Frw +… Frw + … Frw + … Frw
f) 500 Frw = …Frw + … Frw + … Frw + … Frw +… Frw

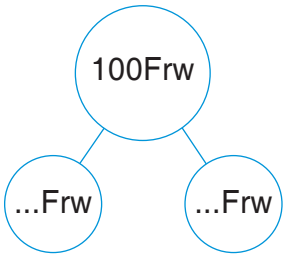
Application activity 8.2

Fill in the blanks with the correct values.

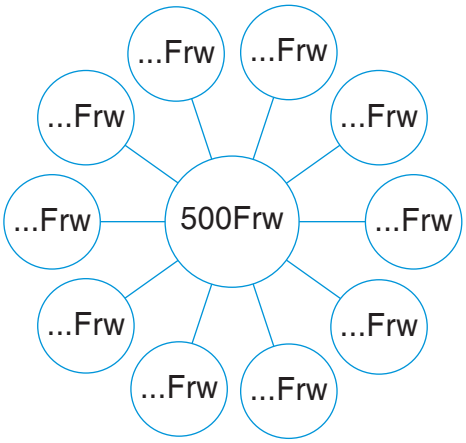
a)



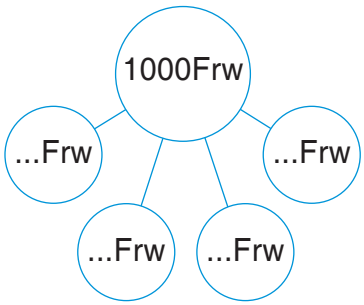
b)



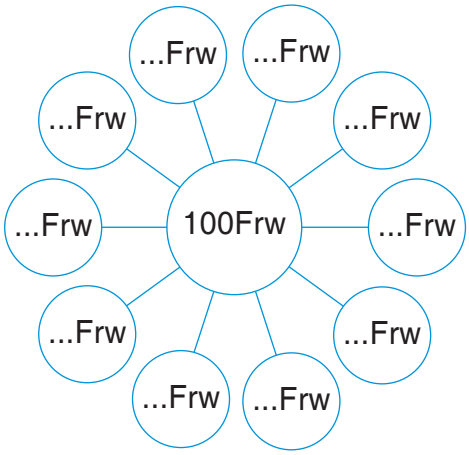
e)



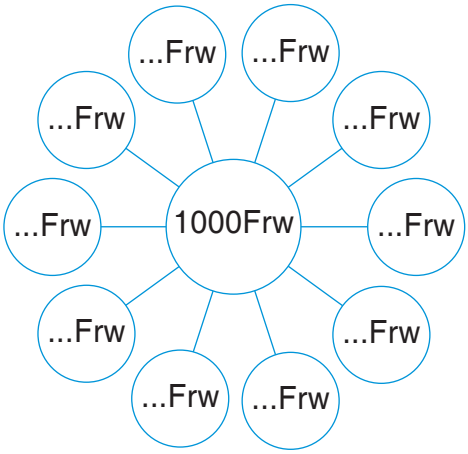
c)



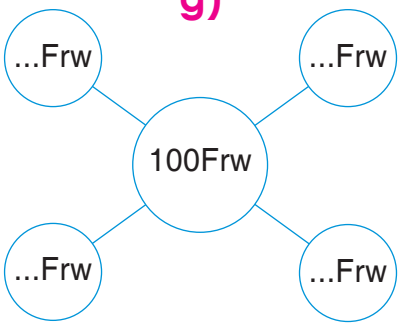
f)



d)



g)



What have you learnt in this lesson?

8.3 Comparing the amount of money up to 1000 Frw

Activity 8.3.1

a) Look at the pictures. Compare the value of money.

b) Use >, < or = to compare the following amount of money

a) 990 Frw ☐ 750 Frw
b) 900 Frw ☐ 100 Frw
c) 800 Frw ☐ 200 Frw
d) 700 Frw ☐ 900 Frw
e) 600 Frw ☐ 600 Frw
f) 500 Frw ☐ 500 Frw

Activity 8.3.2

Arrange these amounts of money from the smallest to the biggest.

a) 100Frw, 250 Frw, 50 Frw
b) 600 Frw, 800 Frw, 750 Frw
c) 900 Frw, 700 Frw, 600 Frw
d) F 450 Frw, F 300 Frw, F 150 Frw
e) 500 Frw, 750 Frw, 650 Frw

Application activity 8.3

Arrange these amounts of money from the biggest to the smallest

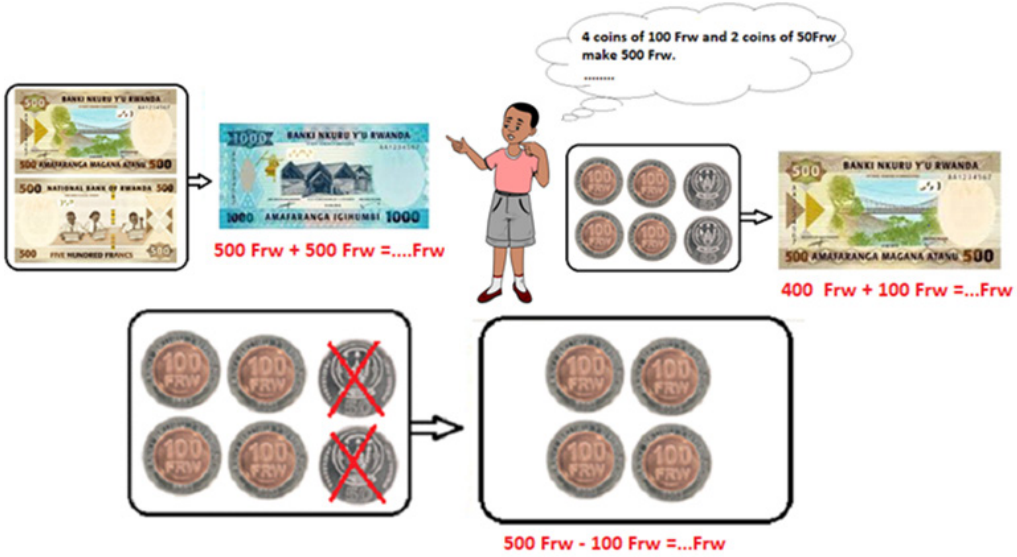
a) 250 Frw, 100 Frw, 200 Frw
b) 750 Frw, 620 Frw, 600 Frw
c) 700 Frw, 900 Frw, 800 Frw
d) 150 Frw, 850 Frw, 450 Frw
e) 800 Frw, 350 Frw, 950 Frw

What have you learnt in this lesson?

8.4 Addition and subtraction of Rwandan francs

Activity 8.4

1) Look at the picture. Talk about how to add or subtract Rwandan Francs



2) Add or subtract the following amount of money

a) 150 Frw + 500 Frw =
b) 910 Frw – 500 Frw =
c) 800 Frw – 200 Frw =

Application activity 8.4

Add or subtract

a) 350 Frw + 450 Frw =

b) 700 Frw – 600 Frw =

c) Uwamahoro buys bananas at 600Frw. She buys also one cabbage at 300Frw. How much money does she pay altogether?

What have you learnt in this lesson?

8.5 Word problems involving the addition or subtraction of money

Activity 8.5

Read and find the answer

Example:

Butera has 750 Frw. He wants to buy a book which costs 950 Frw. How much more money will he need to buy that book?

Solution:

Given:

The book costs : 950 Frw

Butera has: 750 Frw

Question: The money Butera needs = ?

Operation: Subtract

Butera needs: 950 Frw-750 Frw = **200 Frw**

Butera needs 200 Frw to buy that book.

$$\begin{array}{r} 950 \\ -\ 750 \\ \hline 200 \end{array}$$

Look at the example. Try these:

1) Mahoro buys a notebook at 350 Frw and pens at 200 Frw. How much money does Mahoro pay?
2) Shema has a note of 500 Frw. He buys a bottle of water at 300 Frw. How much money does Shema remain with?
3) Manirakiza has 900 Frw. He buys juice and remains with 200 Frw. How much money does he pay for juice?

What have you learnt in this lesson?

8.6 Multiplication and division of an amount of money by a number

Activity 8.6

1) Look at the example. Multiply or divide the amount of money by a number

Amount of money	Equal shares	Divide by 2
		100 Frw ÷ 2 = 50 Frw
		200 Frw ÷ 2 = ··· Frw
100 Frw x 2 =200Frw 	 2 coins of 100Frw make 200Frw	 3 coins of 100 Frw make....

2) Multiply or divide the amount of money by a number

a) 100Frw x 2 =…Frw

b) 80 Frw ÷ 4 = …Frw

c) 300 Frw ÷ 3 =… Frw

d) 120 Frw × 4 =…Frw

Application activity 8.6

Multiply or divide

a) 200 Frw × 3 =…Frw **b)** 100 Frw ÷ 5 =…Frw **c)** 65 Frw × 10 =…Frw

What have you learnt in this lesson?

8.7 Word problems involving the multiplication or division of money by a number

Activity 8.7

Read and find the answer

Example:

One bottle of soda costs 400 Frw. Tom is sent to the shop to buy two bottles of soda. How much money will he pay?

Solution:

Given:

One bottle of Fanta costs: 400 Frw

Number of bottles: 2

Question: The cost for 2 bottles

Operation: Multiplication

The cost for 2 bottles: 400 Frw x 2 =

Tom will pay **800 Frw.**

400 Frw
x **2**
800 Frw

Application activity 8.7

Read and do the following.

1) Peter has 800 Frw. If he shares it equally among 4 children, how much money will each child get?
2) Share 900 Frw equally among 3 pupils.
3) One notebook costs 200 Frw. If I buy 2 notebooks, how much money will I pay?
4) One pizza costs 100 Frw. How much money can I use if I buy 10 pizzas for my friends?

5) Ishimwe wants to buy 6 books. If one book costs 100 Frw, how much money will he pay?

8.8 Sources of money, the use of money and listing down items before buying them

Activity 8.8.1

Look at the picture and say what you see:

Activity 8.8.2

Talk with your friends about where people get money from.

Application activity 8.8

1. Read the list of different sources of money.
2. Select good and bad sources of money: **Agriculture**, **farming**, **salary**, **fraud**, **cheating**, **stealing**, etc.

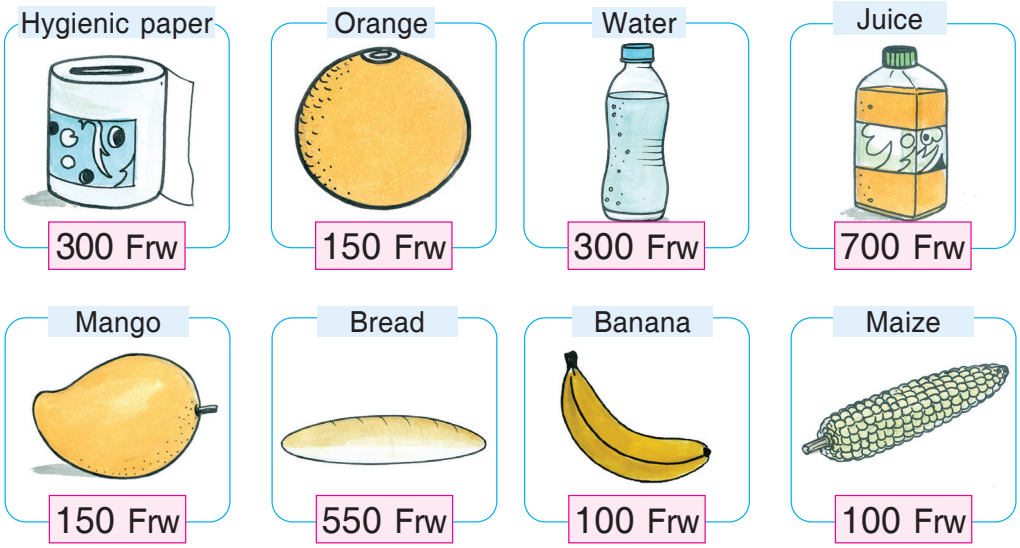
Good sources	Bad sources
Example: Salary	**Example:** Stealing
…	…

What have you learnt in this lesson?

8.9 Buying and selling

Activity 8.9.1

Look at the pictures. Answer the questions.



a) Mutoni wants to buy an orange and a mango. How much money does she pay?

b) Gisa buys a bottle of juice and one cob of maize. How much money does she pay?

c) Kangabe sends Uwase to buy one toilet paper, a banana and bread. How much money does she pay altogether?

d) Mahame asks Butera to buy one cob of maize and one piece of bread. How much money does he pay altogether?

Activity 8.9.2

1. Look at the picture below.
2. What do you see?
3. What is the importance of making a list of what you want to buy?

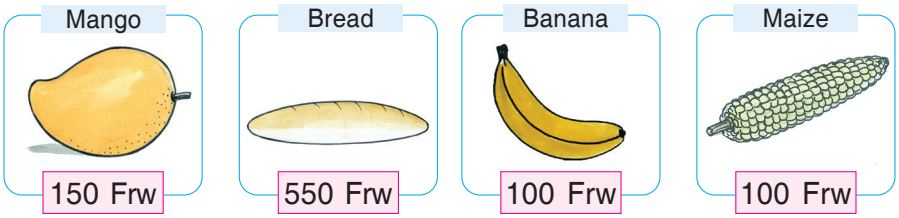
To make a list of items to buy helps

- To buy only what we want;
- To count our money well.

...

Activity 8.9.3

Look at the picture. Write down things you can buy with 1000 Frw.



Activity 8.9.4

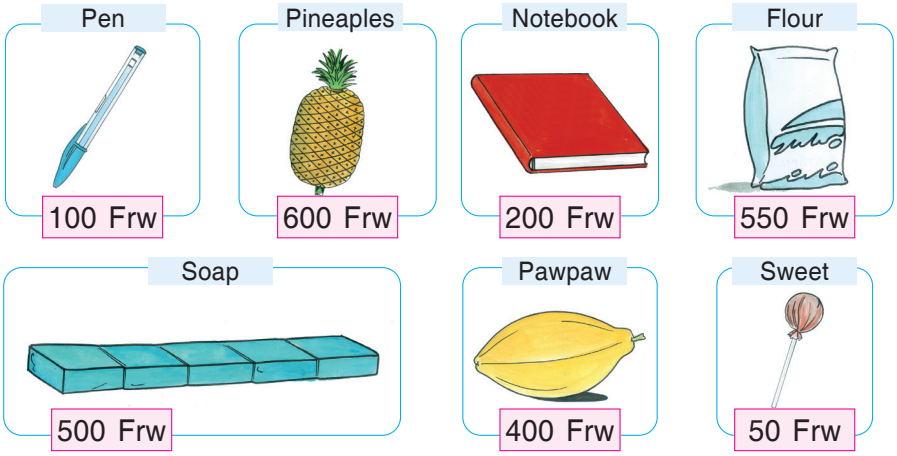
The following is the shopping list for Gahima.

1. Onions = 200 Frw
2. Soap = 200 Frw
3. Ground nuts = 200 Frw
4. Irish potatoes= 300 Frw

Find the sum of money Gahima pays for all items.

Application activity 8.9

Look at the pictures. Answer questions.



a) Muhizi has 750 Frw. He buys a notebook and a soap. Find the balance.

b) Ingabire has a note of 500 Frw. She buys one pawpaw and a sweet. How much money does she remain with?

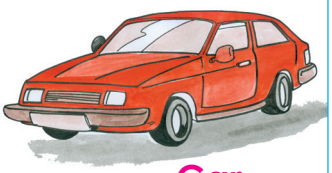
What have you learnt in this lesson?

8.10 Good use, management and saving of money

Activity 8.10.1

Choose the most important things to buy first. Explain why.

a.



Car

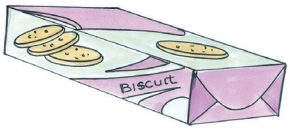
b.

Food

c.

Bicycle

d.

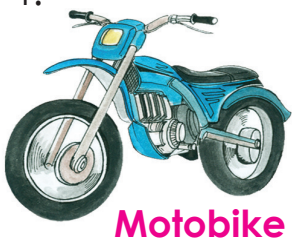


Biscuit

e.

Ball

f.



Motobike

g.

Computer

h.

Oranges

i.

Dress

j.

Sweet

k.

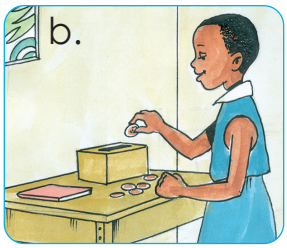
Cap

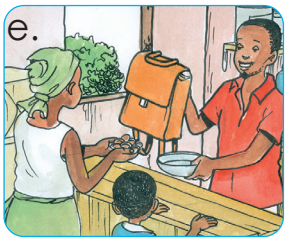
l.

Book

Activity 8.10.2

1. Look at the pictures. There are Doreen, Mike and their mother.
2. What are they doing?
3. Is it good to save money for the future? Explain.





Activity 8.10.3

Fill in with (spend, save)

- Rwandan money helps to solve problems in the future. It is good to …… money.
- Rwandan money helps to buy things. We ……some money when we buy things.

Application activity 8.10

1. Look at the pictures.
2. Tell what these people are doing?
3. Why do you think they are doing so?
4. How can we keep money safely?

What have you learnt in this lesson?

8.11 Preparing small income generating projects

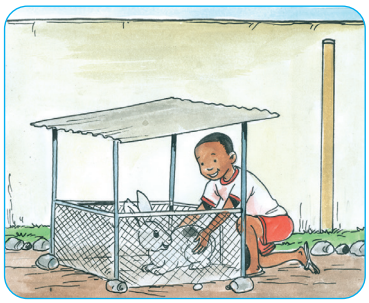
Activity 8.11

1. Look at the following pictures carefully. There is Kagabo and his father.
2. What do you see?
3. Can you do the same?
4. Do you have an activity that can help you to get money?

a

Kagabo and his father

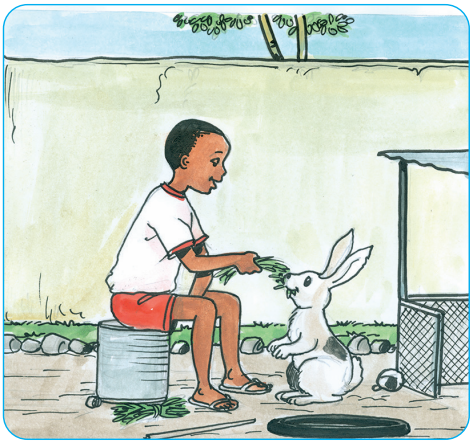
b



Kagabo

c

Kagabo



d

Application activity 8.11

Write 3 activities a primary pupil can do at home to get money.

What have you learnt in this lesson?

END UNIT ASSESSMENT

1. Answer by True or False

a) Rwandan francs are coins only. ____

b) Rwandan francs are notes only. ____

c) Rwandan francs are made of different coins and different notes.___

d) All Rwandan coins and notes have the coat of arm. ____

2. Fill in the blanks the missing value

a) 1000 Frw = 500 Frw + ☐ Frw

b) 100 Frw = 50 Frw + 20 Frw + ☐ Frw + 10 Frw

c) 50 Frw = 20 Frw + 10 Frw + ☐ Frw

3. Choose the good source of money

Salary, fishing, art-craft, farming, commerce, agriculture, lying, stealing, playing football.

4. Compare amount of money using "greater than", "less than", "equal to"

a) A note of 1000Frw is … 2 notes of 500 Frw

b) 300 Frw are … two coins of 100Frw

5. Arrange the following amount of money from the smallest to the biggest

a) 650Frw, 900Frw, 750Frw, 800Frw

b) 400Frw, 700Frw, 650Frw, 300Frw

6. Arrange the following amounts of money from the biggest to the smallest

a) 450Frw, 550 Frw, 350Frw, 250Frw, 650Frw.

b) 850 Frw, 250Frw, 500Frw, 950Frw, 400Frw.

7) Write the number of coins or notes in the boxes:

a) 1000Frw equals to ☐ notes of 500Frw

b) 500Frw equals to ☐ coins of 100Frw

c) 100Frw equals to ☐ coins of 50 Frw.

8) Read and find the answer

a) Muhizi has 900Frw. He buys 1kg of sugar at 850Frw. How much money does he remain with?

b) Keza buys the bread at 500Frw, eggs at 200Frw and one pizza at 200Frw. How much money does she pay?

c) Share 750Frw equally among 5 children. How much money does each child get?

d) Masabo goes to school every day. If he pays 400Frw per day, how much money does he pay in 2 days?

e) I have 950Frw. I want to buy 1 kg of rice at750Frw. How much money can I remain with?

Unit 9

HOUR, MONTHS OF THE YEAR AND DAYS OF EACH MONTH

9.0. Introductory activity

Observe the following pictures.

- What do you see?
- What can you do with each material above?
- What do you expect to learn in this unit?

9.1 Parts of the day

Activity 9.1.1

1. Look at the picture. What do you see?
2. Is it in the morning? Is it in the evening? Is it at night? Is it at midday?

Activity 9.1.2

What are the main parts of a day?

Application activity 9.1

- What do you do in the morning?
- What do you do in the evening?

9.2 Reading and Telling Time on a clock face

(a) Reading exact time: An hour o'clock

Activity 9.2.1

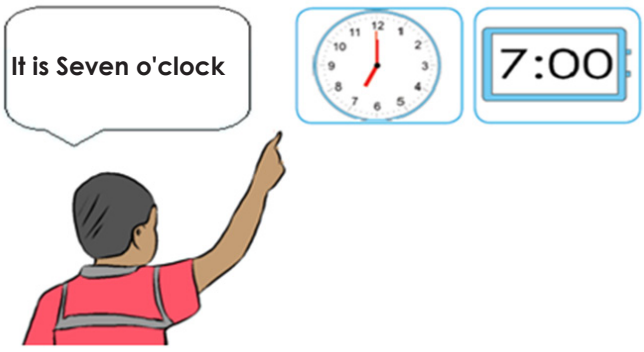
1. Look at the picture.
2. What do you see? Tell your friends.

The long hand is the minute hand.

The short hand is the hour hand.

Activity 9.2.2

Look at the clock faces. Tell the time

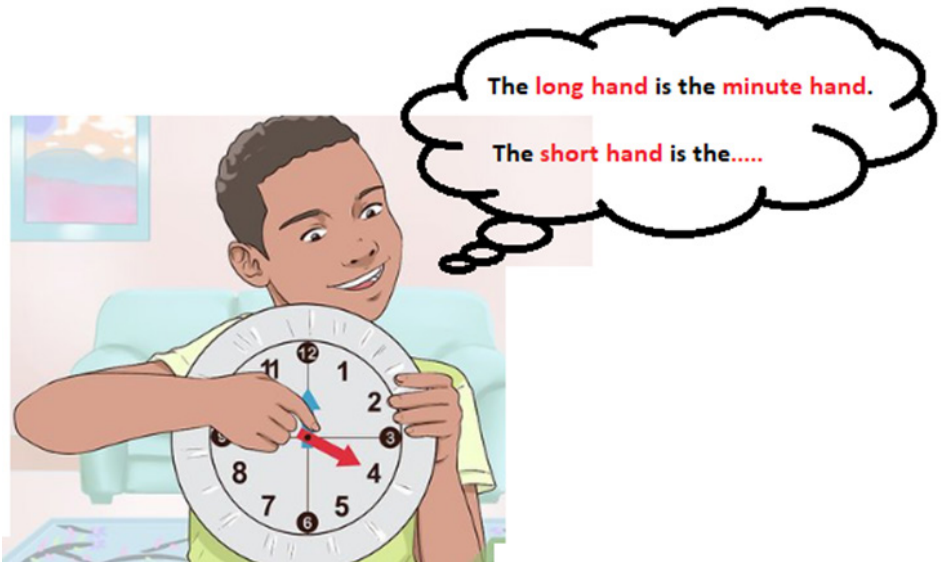





Activity 9.2.3

a) Look at the picture. What do you see?

What numbers do you see on the clock/ watch?



b) Look at the picture. What do you see?

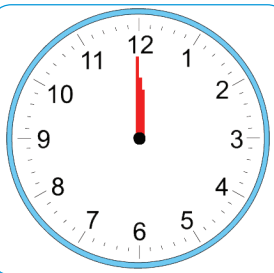
- What does the first number show?
- What does the second number show?

The first number shows **Hours**
The second number shows .....
It is .....

Activity 9.2.4

Read and tell the time:

Example:



It is 12 O' clock

It is 12 O' clock

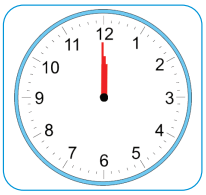
a

It is _____

b

It is _____

c

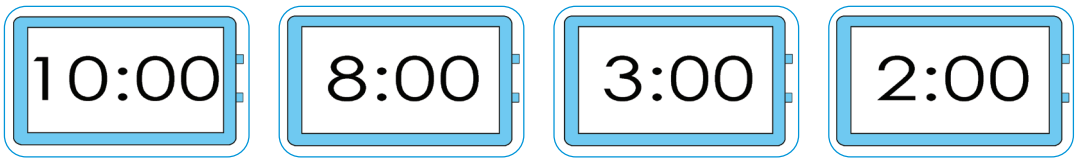


It is _____

d

It is _____

a. b. c. d.



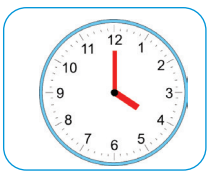
It is _____ It is _____ It is _____ It is _____

Activity 9.2.5

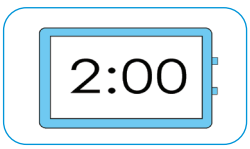
Writing the time	Reading the time
1 : 00	It is two o'clock
2 : 00	It is one o'clock.
3 : 00	It is five o'clock
4 : 00	It is six o'clock
5 : 00	It is three o'clock
6 : 00	It is four o'clock
7 : 00	It is eight o'clock
8 : 00	It is seven o'clock
9 : 00	It is Twelve o'clock/midnight/noon
10 : 00	It is ten o'clock
11 : 00	It is nine o'clock
12 : 00	It is eleven o'clock

Application activity 9.2.1

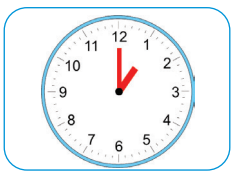
1) Read and tell the time:

a. 

It is _____

b. 

It is _____

c. 

It is _____

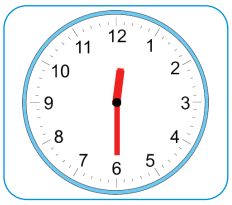
2) Draw clock faces. Show the minute and hour hands correctly.

a) Twelve o'clock
b) Eight o' clock
c) Eleven o'clock
d) Ten o'clock

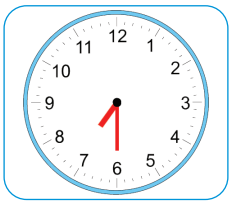
b) Half past an hour

Activity 9.2.6

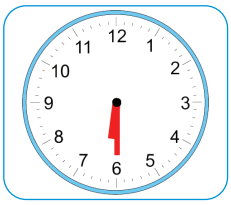
Read and tell the time

a. 

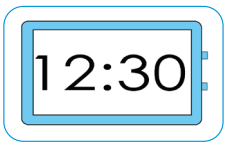
Example: It is a half past 12

b. 

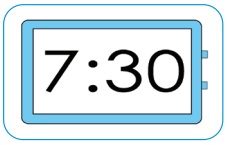
It is_____

c. 

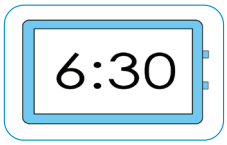
It is_____

a. 

Example: It is a half past 12

b. 

It is_____

c. 

It is_____

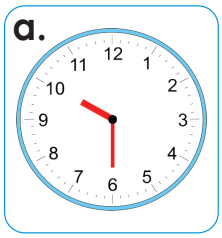
Activity 9.2.7

Draw clock faces. Show the minute hand and the hour hand.

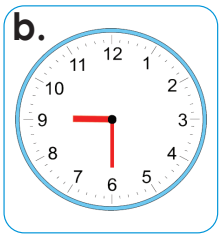
a) 11 : 00
b) 8 : 30
c) 10 : 30
d) 3 : 00
e) 2 : 30
f) 5 : 00

Application activity 9.2.2

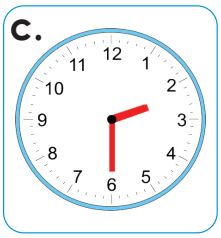
Read and tell the time:

a. 

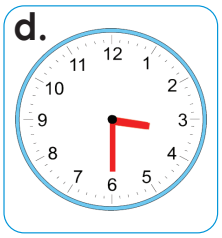
it is _____

b. 

it is _____

c. 

it is _____

d. 

it is _____

a. 10:30 it is_____

b. 9:30 it is_____

c. 2:30 it is_____

d. 3:30 it is_____

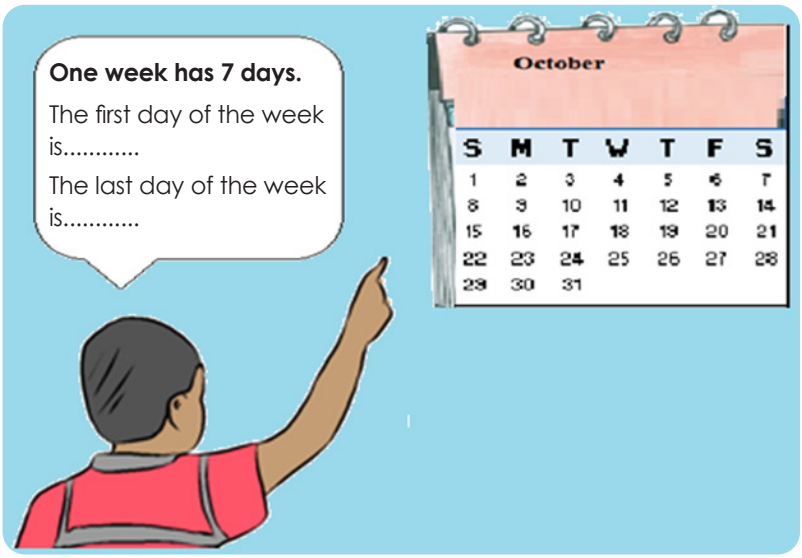
What have you learnt in this lesson?

9.3 The Calendar

Days of the week

Activity 9.3.1

Look at the calendar and answer the questions:



S: Sunday

M: Monday

T: Tuesday

W: Wednesday

T: Thursday

F: Friday

S: Saturday

a) How many days make a week?

b) What is the first School day of the week?

c) What is the last day of the week?

d) How many working days does a week have?

Application activity 9.3.1

Read and answer questions.

a) How many weekend days does a week have?
b) How many days do you go to school in a week?.
c) When do people go to the church?

What have you learnt in this lesson?

Months of the year

Activity 9.3.2

1) Look at the calendar. **Count** the number of **months of the year**.

a) How many months are in a year?

b) List the months of the year

2) Look at the calendar. Count the number of days for each month

2023

January						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Febuary						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

March						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

April						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

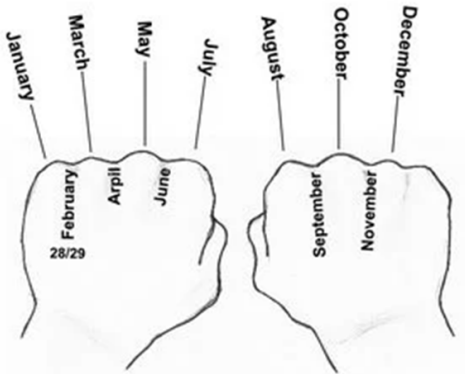
August						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

December						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						



a) Do all months have the same number of days?

b) List down the months which have 30 days.

c) List down the months which have 31 days

d) Which month of the year has fewer days?

Application activity 9.3.2

Write all months of the year and the number of days for each month.

Example: January has 31 days.

What have you learnt in this lesson?

Weeks of the month and weeks of the year

Activity 9.3.3

Look at the calendar.

a) How many weeks are in a month?
b) How many weeks are in a year?
c) Which month has the least number of weeks?

2023

January

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Febuary

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

March

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

April

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

August

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

December

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Application activity 9.3.3

Make a calendar for the current month and hang it in the classroom.

What have you learnt in this lesson?

9.4 Schools' activities and timetable

Activity 9.4

Look at the pictures. Talk to your friends about what you see. At which time is it done in your school?

a.

Morning assembly

b.

studying

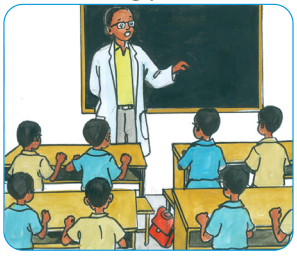
c.

playing

d.

Entering in the classroom

e.



studying

f.

going home

Application activity 9.4

Look at the table. Talk to your friend about the time to do each activity.

Activities
Arrive at school
School assembly
Start lessons
Break
Go home

What have you learnt in this lesson?

9.5 Preparing a daily activity plan

Activity 9.5

Read the following daily activities of Edna.

Time	Activities
6:00 in the morning	Waking up
6:00 – 6: 30 in the morning	Washing the body
7: 00 in the morning	Doing the homework
7:30 – 8: 00 in the morning	Going to school
8:30 - 12:20	Studying
12:20 – 1: 30	Lunch
1:30 – 5: 00	Studying
5:00 – 5: 30	Returning home
5:30 – 6: 00 in the evening	Discussing with parents, sisters and brothers.
6: 00 in the evening	Bathing
7:00 in the evening	Revising the notes and doing the homework
8:00 in the evening	Supper
9:00 in the evening	Sleeping

Application activity 9.5

Use the daily activities of Edna above and plan your daily activities of tomorrow.

9.6 Preparing a weekly activity plan

Activity 9.6

1. Look at the weekly activity plan for Kagabo.
2. Prepare your own weekly activity plan.

Day	Activity
Monday	Go to school; Wash home utensils.
Tuesday	Go to school; Mopping.
Wednesday	Go to school; Feeding hens.
Thursday	Go to school; Fetch water.
Friday	Go to school; Mopping.
Saturday	Doing homework; Washing clothes.
Sunday	Go to church; Preparing the room.

Application activity 9.6

Write 4 activities you do on Sunday. Start from the first to the last activity:

1. _____
2. _____
3. _____
4. _____.

END UNIT ASSESSMENT

1. Complete

(a) One year has ____ months.

(b) The long hand of the clock face shows ____

(c) The short hand of the clock face shows ____

(d) One day has ____ hours.

(e) One hour has ____ minutes.

(f) A day has two main parts: the first is ____, the second is ____

(g) Each part of the day has ____ hours.

(h) one week has ____ days.

2) Draw a clock face with hands showing:

(a) Ten o'clock.

(b) Ten o'clock.

3) Complete the table below

Months	Days
January	31
…	28 or 29
March	…
…	30
May	…
…	30

Months	Days
July	…
…	31
September	…
…	31
November	…
…	31

Unit
10

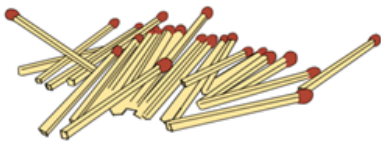
TYPES OF LINES AND ANGLES

10.0 Introductory activity

Take 2 straight sticks or 2 matchsticks as in (1)

(1)

(2)



- Form the figure as in in (2). How does it look like? Is it an angle?
- Use the 2 sticks to form other different angles. Do you know their names?

10.1 Types of lines

(a) Straight lines

Activity 10.1.1

Look at the following pictures.

Which of the following objects is not vertically placed?

Vertical sticks

A door in the room

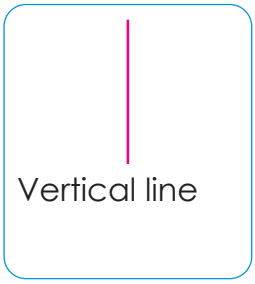
A book lying on the table

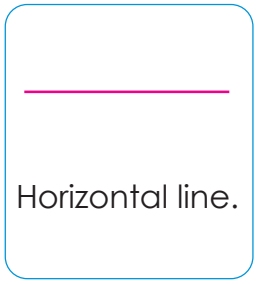
A cupboard in the classroom

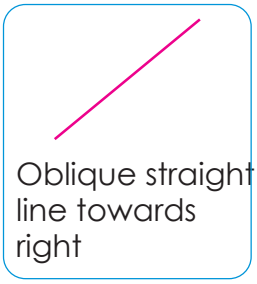
A glass filled with water

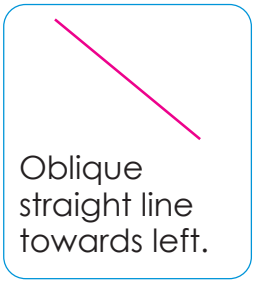
Activity 10.1.2

1. Look at the following lines.
2. Write their characteristics









Activity 10.1.3

Use a ruler to draw:

a) Oblique straight line
b) Horizontal line.
c) Two vertical lines.

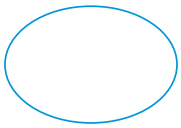
(b) Closed lines

Activity 10.1.4

1. Look at these lines.
2. Say their characteristics: are they open or closed?

a.

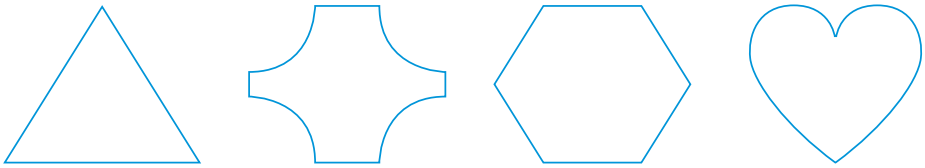
b.



c.

d.

e. f. g. h.



i. j. k. l.

Activity 10.1.5

Use a ruler to draw the following:

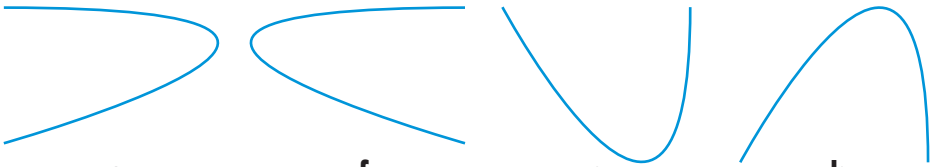
a) a zigzag closed line
b) a closed line

(c) Non straight open lines

Activity 10.1.6

Look at these lines. Talk about each of them to your friends.

a. b. c. d.



e. f. g. h.

Activity 10.1.7

Draw:

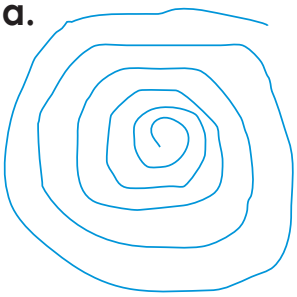
a) Left open line
b) Top open line

(d) Curved lines

Activity 10.1.8

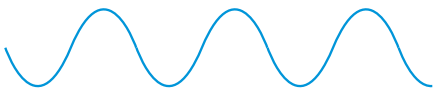
1. Look at these lines.
2. Say the characteristics of each line

a.



b.

c.



d.

e.

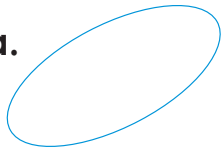
f

Application activity 10.1

Name different lines

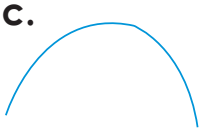
1) Give the name of the following line

a.

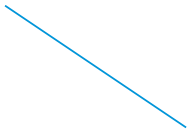


b.

c.



d.



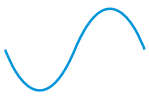
e.

f.

2) Write the name of the following lines

a.

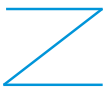
b.



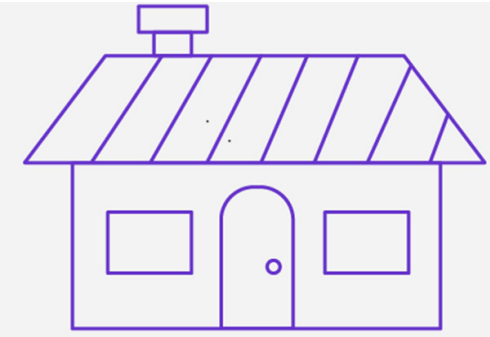
c.

d.

e.



3) Look at the following picture



a) How many vertical lines are there in the given picture?

b) How many horizontal lines are there in the given picture?

c) How many oblique lines are there in the given picture?

What have you learnt in this lesson?

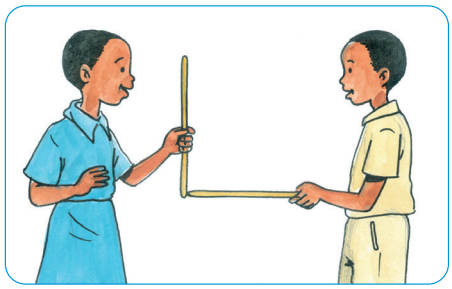
10.2 Types of angles

(a) Right angle

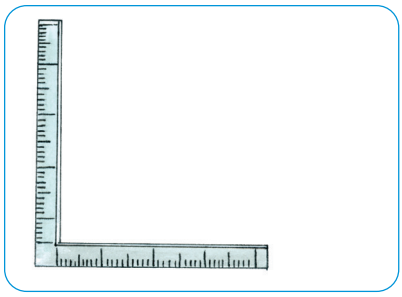
Activity 10.2 1

Use two sticks to make a right angle

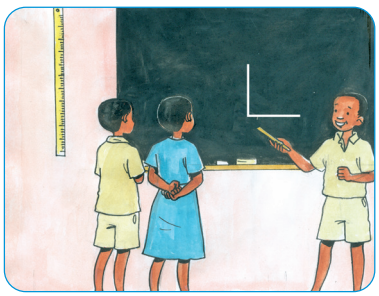
a



b



c



d

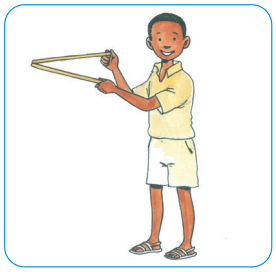
Activity 10.2.2

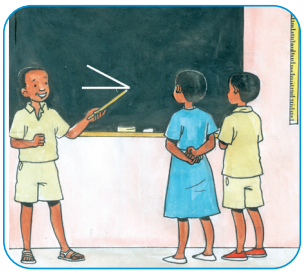
Draw a right angle.

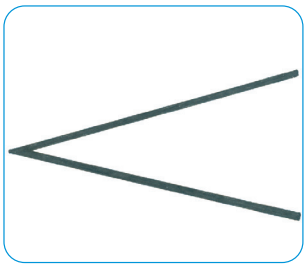
(b) Acute angle

Activity 10.2.3

Use two sticks to make an acute angle.

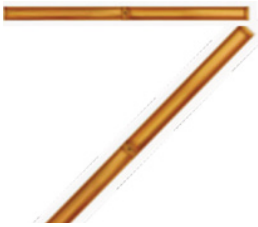
a 

b 

c 

Activity 10.2.4

Use small sticks or rulers to make an acute angle



(c) Obtuse angle

Activity 10. 2.5

Look at the picture and make an obtuse angle.

a. 

b. 

c. 

Activity 10. 2.6

Draw an obtuse angle made by:

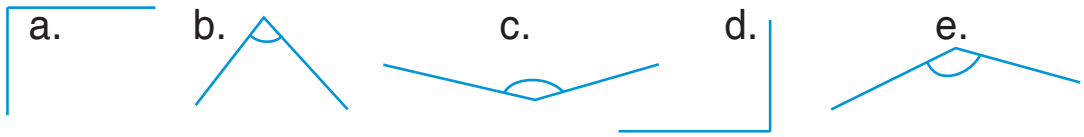
a) Two oblique lines

b) Horizontal lines and an oblique line.

Application activities 10.2

1) Look around your classroom and mention the objects with a right angle.

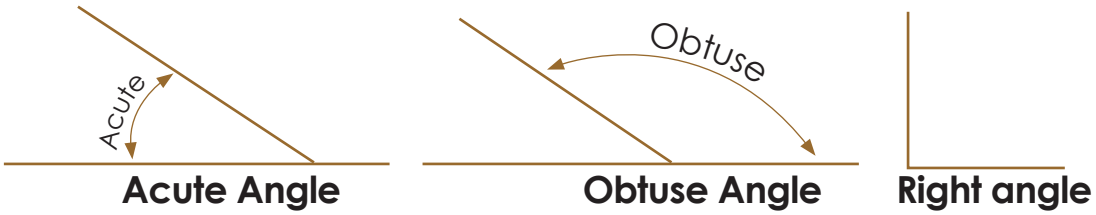
2) Write the name of each of the following angles:



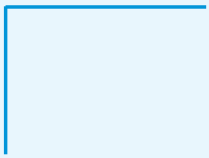
10.3 Comparing right angle, obtuse angle and the acute angle

Activity 10.3

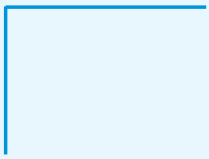
1) Look at the picture. Which angle is smaller than the other?



2) Look at the following angles. Fill in box by "**is greater than, is less than or is equal**"

a)  **is greater than** 

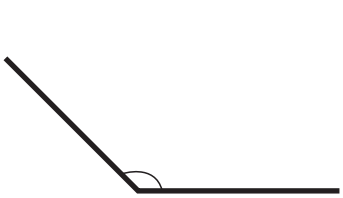
b)  

c)  

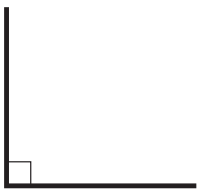
d)  

Application activity 10.3

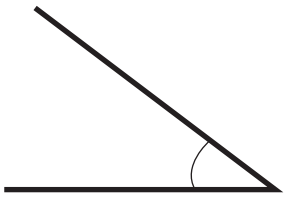
Fill in by "**Less than the right angle**", "**Greater than the right angle**" or "**Equal to the right angle**



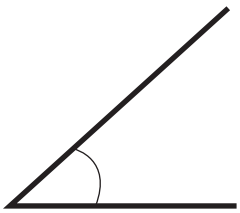
.....



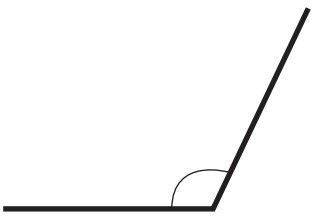
.....



.....



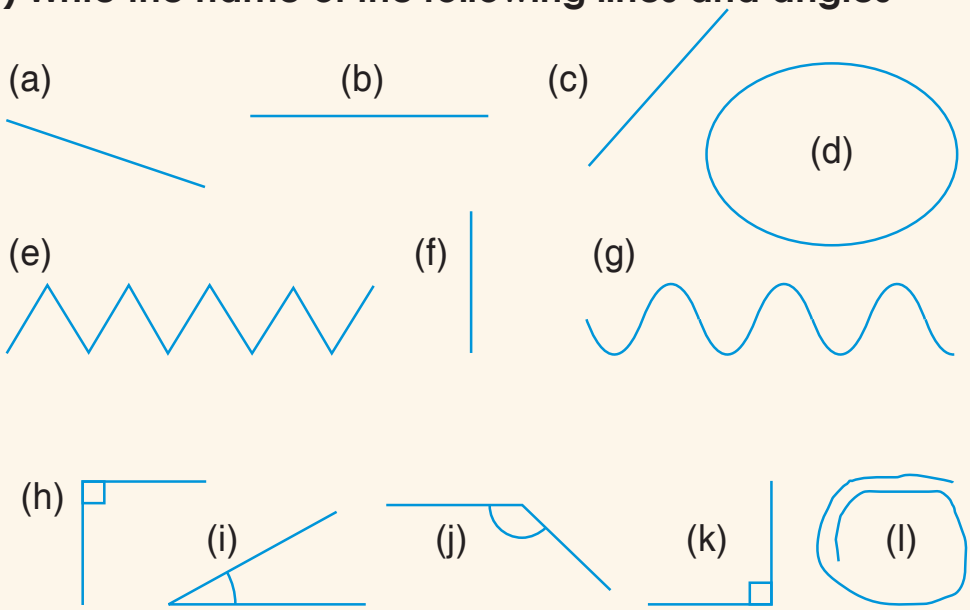
.....



.....

END UNIT ASSESSMENT

1) Write the name of the following lines and angles



2) Complete by True or False:

(a) An obtuse angle is greater than a right angle. ____

(b) An obtuse angle is less than an acute angle.____

(c) A right angle is greater than an acute angle.____

3. Draw

(a) A right angle

(b) A closed line

(c) An oblique straight towards the right

(d) An obtuse angle

(e) A vertical straight line

(f) An acute angle

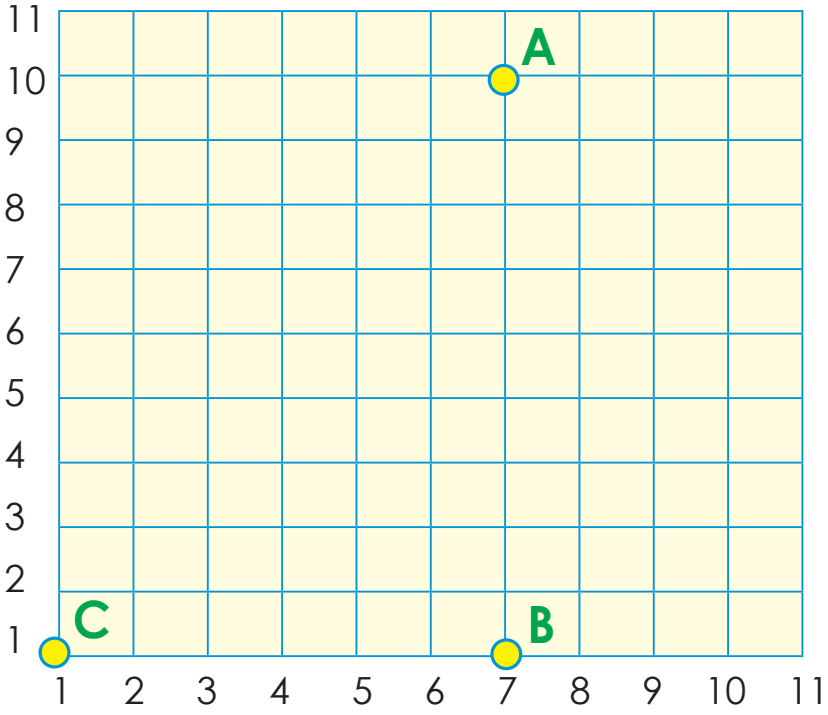
g) A horizontal straight line

Unit 11

GRID

11.0 Introductory activity

Look at the diagram below.



1) What can you obtain when you join A and B, B and C, C and A?
2) What type of line that joins A and B?
3) Show the horizontal line that passes at the point A. Is it the 9^{th} or the 10^{th} horizontal line?
4) What are we going to learn in this unit?

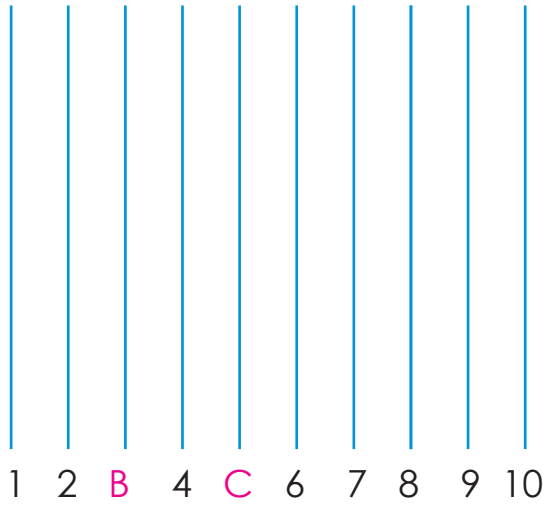
11.1 Characteristics of a grid and construction of a grid

Activity 11.1.1

Use the square paper.

1) Draw the vertical lines and number them from the first:

Vertical lines



Complete:

a) The Vertical line B is the vertical line number ___

b) The vertical line C is the vertical line number ___

2) Draw the horizontal lines and name them from the first:

Horizontal lines

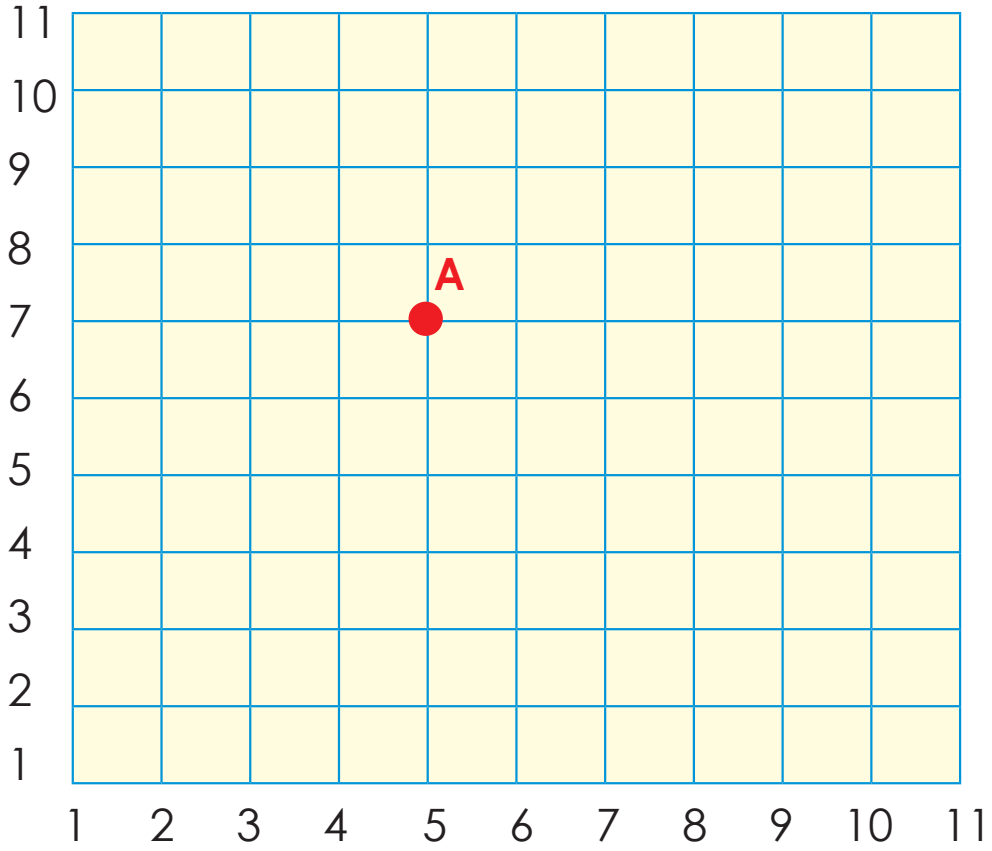
Complete:

a) The letter B is at the horizontal line number ___

b) The letter C is at the horizontal line number ___

Activity 11.1.2

Look at the grid below:



1) How many horizontal lines does the grid have?

2) How many vertical lines does the grid have?

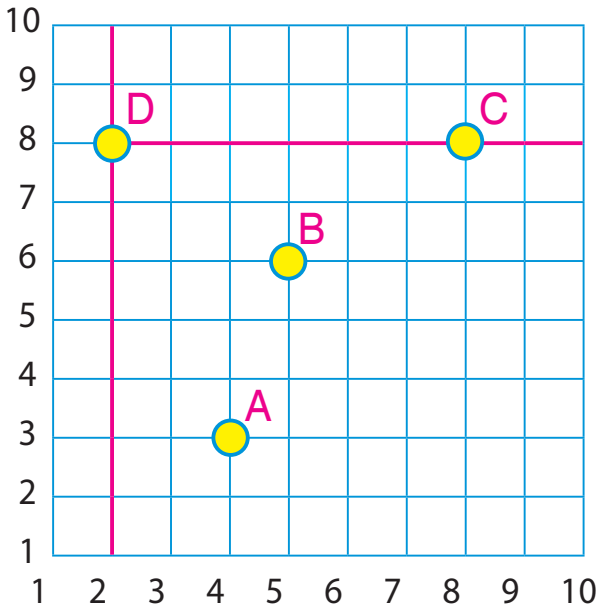
3) Complete by true or false:

   a) Horizontal lines are counted from left to right. ____

   b) Vertical lines are counted from top to bottom. ____

Activity 11.1.3

Look at this grid:



The grid above is made by 10 Vertical lines and 10 horizontal lines. Then, Complete:

a) The point **A** is at the vertical line number ___

b) The point **B** is at the horizontal line number ___

c) The point D is at the vertical line number ____ and the horizontal line number ___

Application activity 11.1

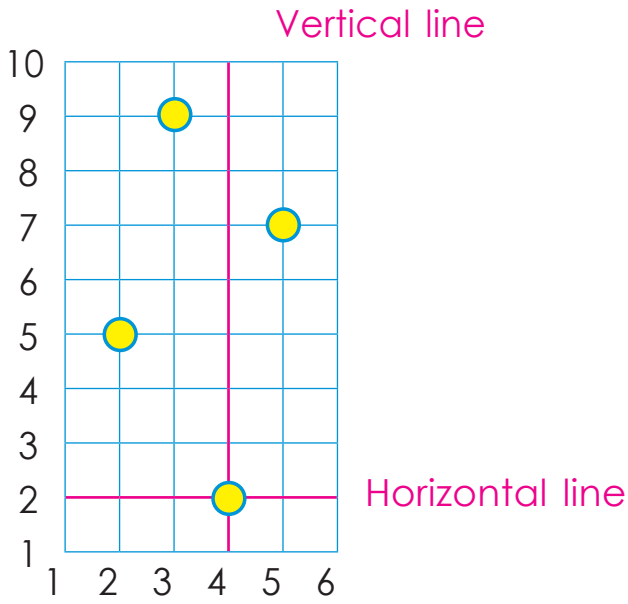
Draw a grid with 8 vertical lines and 8 horizontal lines. Number them.

What have you learnt in this lesson?

11.2 Putting a point on a grid

Activity 11.2.1

Look at points in a grid.



Show the following point:

a) The point A is at the vertical line number 4 and the horizontal line number 2.

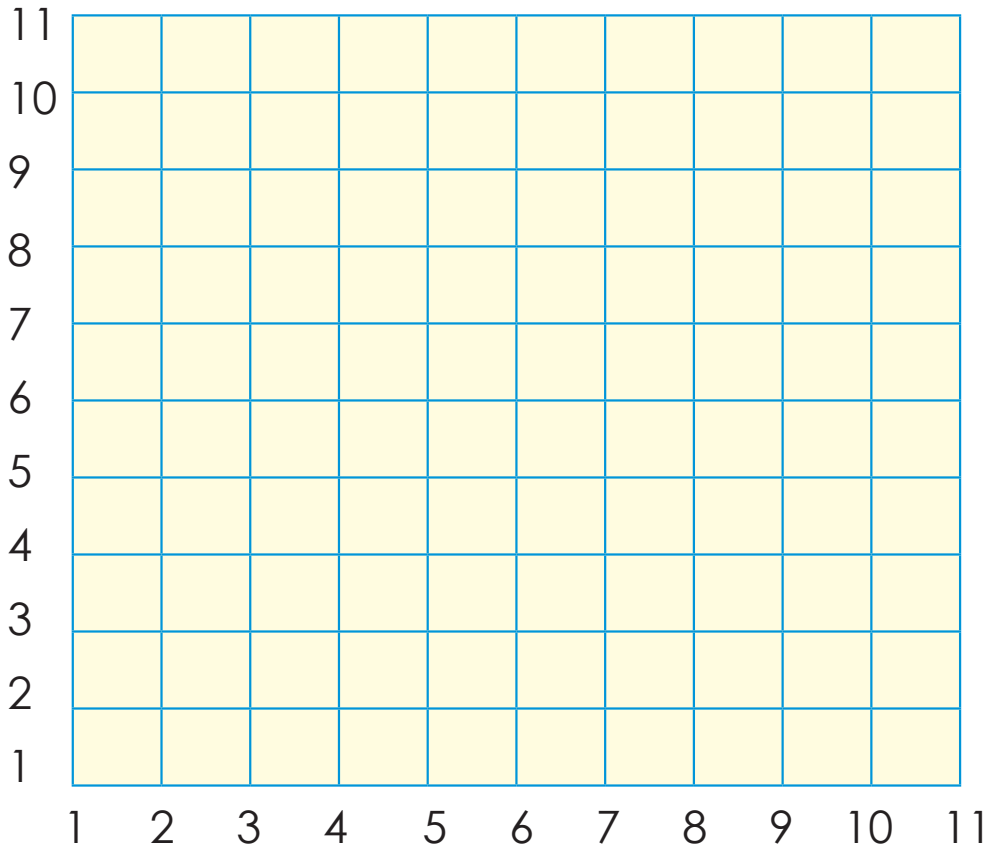
b) The point B is at the vertical line number 3 and the horizontal line number 9.

c) The point C is at the vertical line number 2 and the horizontal line number 5.

d) The point D is at the vertical line number 5 and the horizontal line number7.

Application activity 11.2

Look at the grid



a) Put the point A at the crossing bar number 2 and the post number 4.

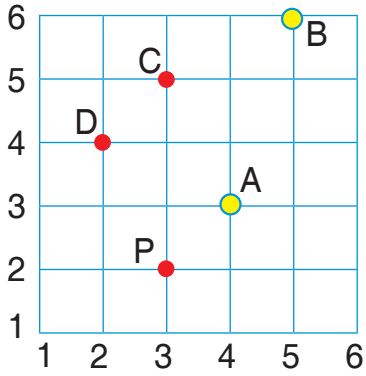
b) Put the point B at the post number 5 and the crossing bar number 3.

What have you learnt in this lesson?

11.3 Location of a point on a grid

Activity 11.3

Look at the following grid:



The point A is at the post number 4 and crossing bar number, we write A (4,6) .

The point B at the post number 5 and crossing bar number 6, we write B (5,6).

Now, explain the position of the following point:

a) The point P b) The point C c) The point D

Application activity 11.3

Read and do the following:

1. Draw a grid with 5 posts and 5 crossing bars. Put a point on:
   a) The post number 3 and the crossing bar number 4
   b) Post number 4 and the crossing bar number 5
   c) Post number 2 and crossing bar number 3
2. Draw a grid with 8 posts and 8 crossing bars.

Show the point A located at the post number 5 and the crossing bar number 4.

Put the point B at the post number 7 and the crossing bar number 6.

END UNIT ASSESSMENT

1. a. Draw a grid with 10 posts and 10 crossing bars.

b. Put the points on the grid:

A is at the post number 3 and the crossing bar number 7.

B is at the post number 10 and the crossing bar number 8

C is at the crossing bar number 5 and the post number 9.

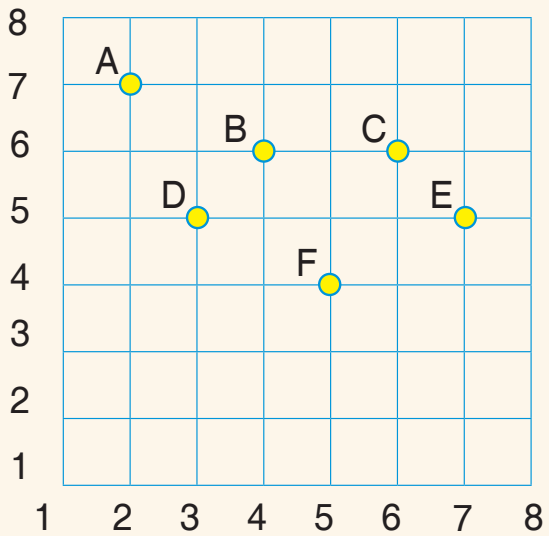
D is at the crossing bar number 7 and the post number 8

E is at the crossing bar number 4 and the post number 6

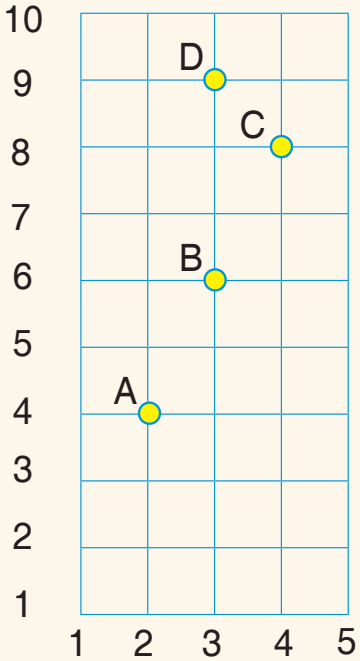
F is the crossing bar number 6 and the post number 10.

2. What is the location of each point in the following grid?

A.



B.

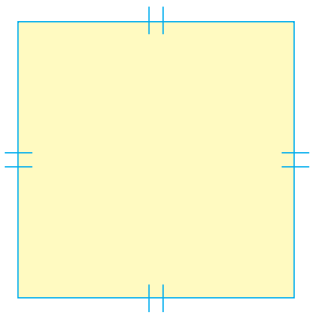


Unit 12 SQUARE, RECTANGLE AND TRIANGLE

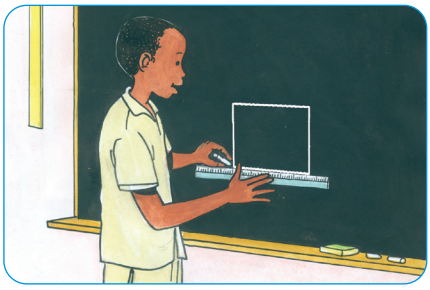
12.0 Introductory activity

Look at the following pictures.

a.



b.

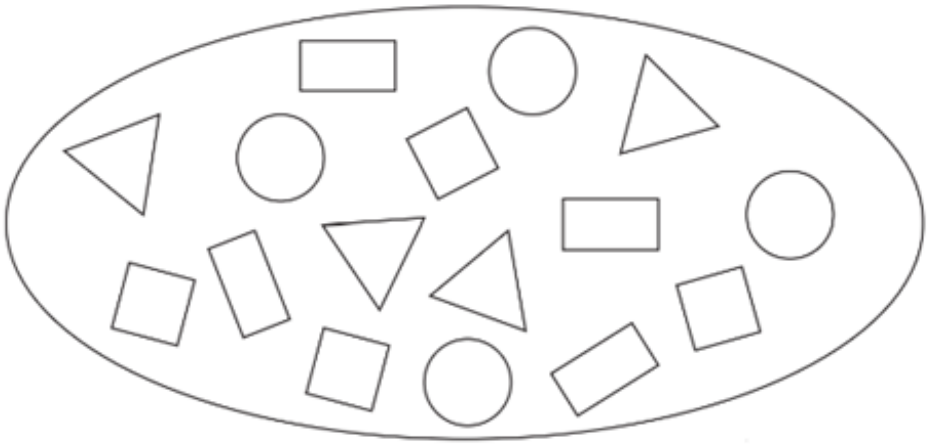


- What do you see on the pictures?
- Take a ruler and measure the length of the sides
- Do you think that all 4 sides have the same length?
- What do you expect to learn in this unit?

12.1 Characteristics of a square

Activity 12.1.1

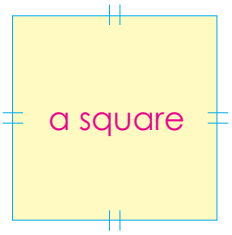
Look at the shapes. Choose shapes with 4 equal sides



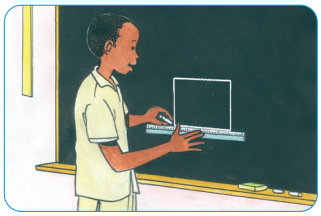
Activity 12.1.2

Look at the following pictures.

a.



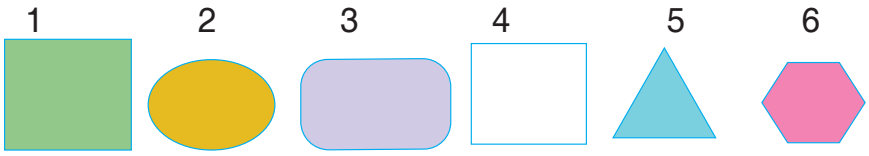
b.



1) Use a ruler to measure the lengths of sides and compare them. Are sides with the same length?
2) What is the length of the side?
3) How are angles of the figure?
4) What is the name of the figure with 4 equal sides and 4 right angles?

Activity 12.1.3

Look at the following pictures. Which one is the square? Explain why it is a square.



Application activity 12.1

Take a sheet of paper and a ruler.

Fold the sheet of paper to make a square of 10cm of side.

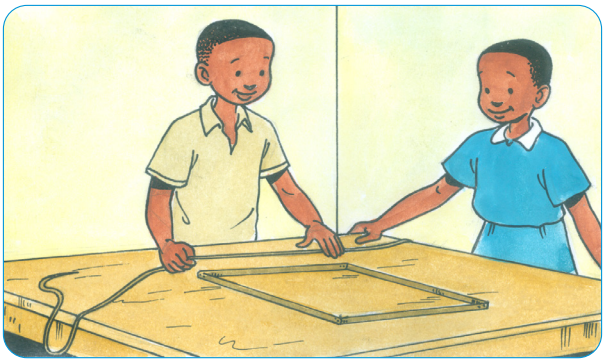
Cut that square and show it to your friends.

What have you learnt in this lesson?

12.2 Drawing a square

Activity 12.2.1

Look at the squared shape.
Take a rope and form a square on the table.



Activity 12.2.2

Use a set square and a ruler and draw a square with side of 10cm in your notebook.

Application activity 12.2

Draw a square with side of 20cm.

What have you learnt in this lesson?

12.3 Measuring and calculating the perimeter of a square

Activity 12.3.1

Read and do the following.

- Draw a square with side of 20cm.
- Put the rope around the square and write the total length of the rope

– Measure the length for each side and then add them and write down the sum of 4 sides.

The total length of all sides of a square is called perimeter of the square.

Complete by **True** or **False:**

The perimeter of a square = Side + Side + Side + Side = Side x 4.

_____

Activity 12.3.2

Find the perimeter of a square

Example: The side of the square has 23 cm.

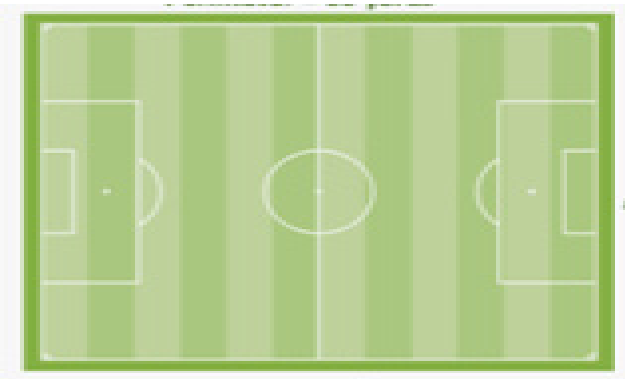
Solution:

Perimeter = 23 cm + 23 cm + 23 cm + 23cm = 92 cm

Or Perimeter = 23 cm x 4 = 92 cm.

Look at the example. Try these:

1) Find the perimeter for a square with :
   (a) 40cm of side (b) 60m of side (c) 50 dm of side.
2) Find the perimeter of a field which looks like a square with 30 m of side.



30 m

Application activity 12.3

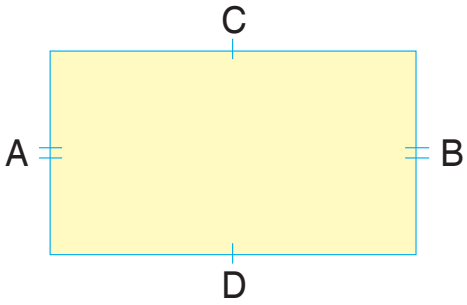
Find the perimeter of a window which has the form of a square. Its side is 72 cm.

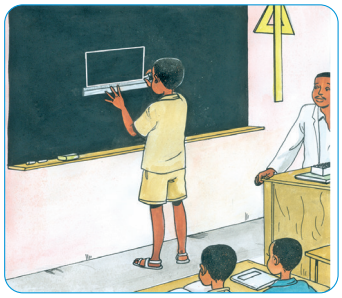
What have you learnt in this lesson?

12.4 Characteristics of a rectangle

Activity 12.4.1

Look at the shape of this form.



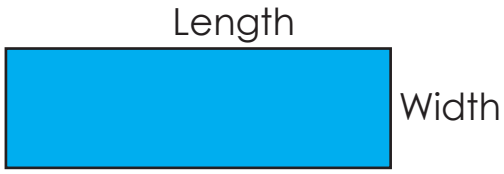


1) Use a ruler to measure the lengths of sides and compare them. Which sides have the same length?
2) What is the length of the opposite sides?

3) How are angles of the figure?
4) What is the name of the figure with 4 sides and 4 right angles given that 2 opposite sides are equal?

Activity 12.4.2

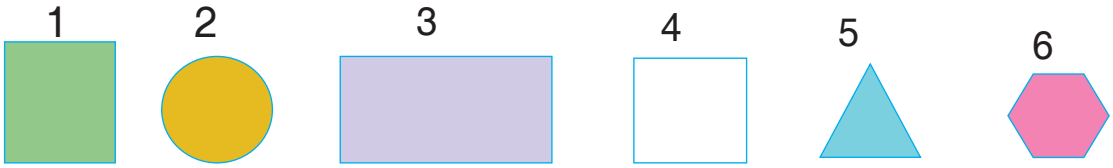
Observe the shape. It is a rectangle.



Draw a same rectangle with width of 10 cm and length of 40 cm.

Activity 12.4.3

Look at the following shapes. Choose a rectangle from them. Why is it a rectangle?



Application activity 12.4

Take a sheet of paper.

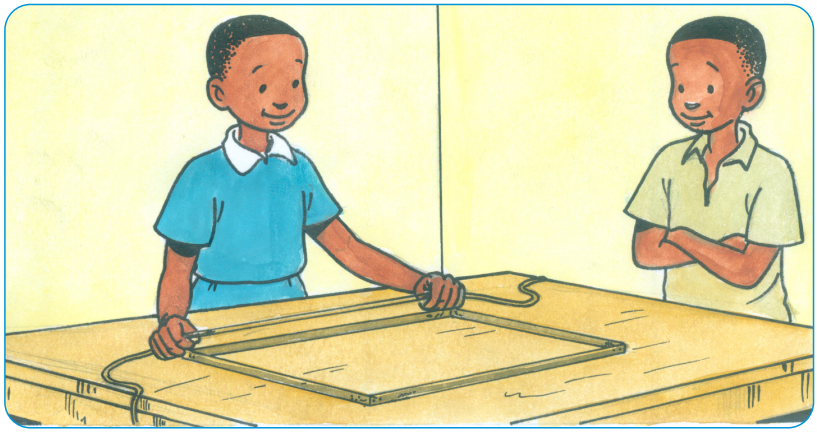
Fold it and make a rectangle. Cut that rectangle and show it to your friends.

What have you learnt in this lesson?

12.5 Measuring and calculating the perimeter of a rectangle

Activity 12.5.1

Look at the picture below.



- Make a rectangle with 30cm of length and 25cm of width.
- Tie a rope around the rectangle.

a) Measure the total length of the rope. How long is the rope?

b) Measure the length for each side of the rectangle. Add them and write down the total length of 4 sides.

c) Compare the length of the rope and the sum of the lengths of 4 sides. Are they equal?

d) The perimeter of a rectangle is equal to the total length of the 4 sides, Complete by True or False:

i) The perimeter of a rectangle = length + width+ length + width= (L+W)+L+W).____

ii) The **Perimeter of a rectangle = (L+W) x 2.** ___

Activity 12.5.2

Find the perimeter of a rectangle

Example

The rectangle with the length of 8cm and the width of 4cm.

Solution:

Given:

Length=L=8 cm;

Width= W= 4cm.

Perimeter = (L+W) x 2

Perimeter = (8cm + 4cm) x2 = 12cm x 2= 24cm

The perimeter has 24cm.

Look at the example. Try this:

Find the perimeter of a rectangle with:

a) Length =12cm , Width = 7cm.

b) Length = 40cm, Width = 25cm

c) Length = 30cm, Width = 12cm.

Application activity 12.5

Find the perimeter of a rectangular garden with 60m of length and 30m of width.

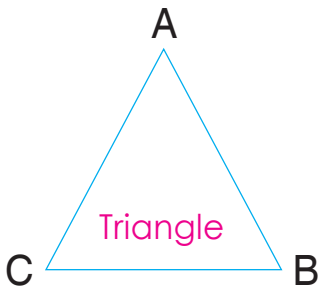
What have you learnt in this lesson?

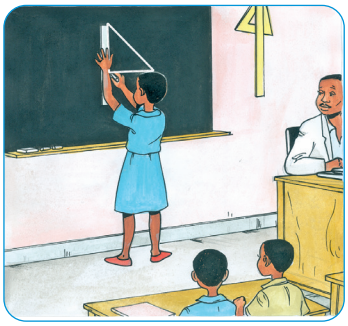
12.6 Characteristics of a triangle

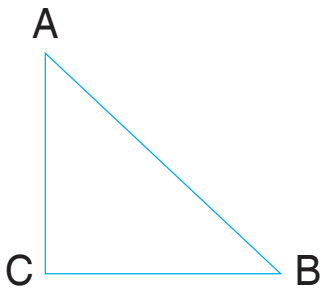
Activity 12.6.1

Look at the following shapes and pictures.

How many sides and angles does each one have?



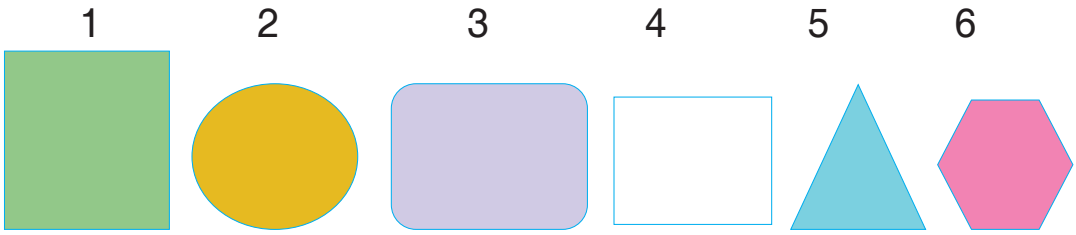




Application activity 12.6

A triangle is a shape with 3 sides and 3 angles.

Choose a triangle from the following pictures.



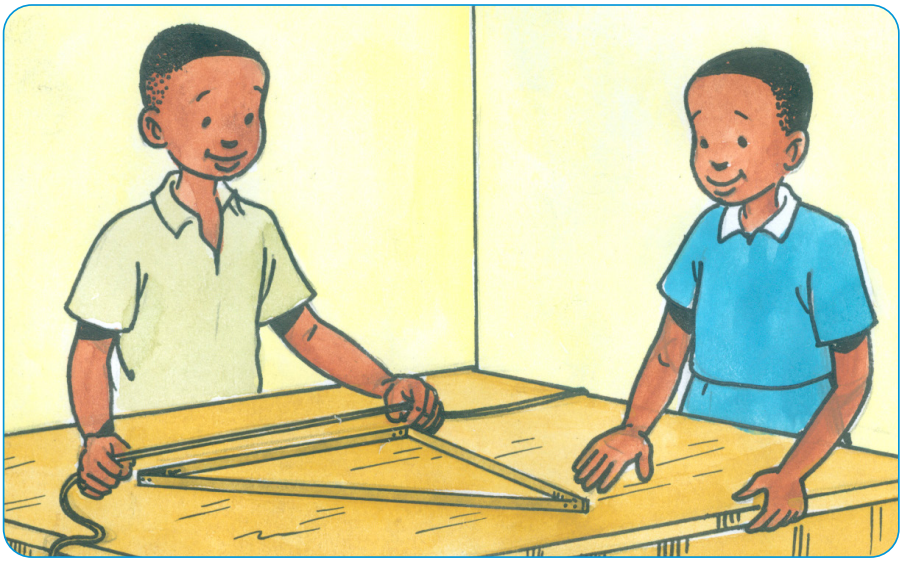
What have you learnt in this lesson?

12.7 Measuring and calculating the perimeter of a triangle

Activity 12.7.1

Try the following activity and then tell your friends what you find:

- Make a triangle using sticks of length of sides 20 cm, 25 cm and 30 cm.
- Use a rope around a triangle and measure the total length. How long is the rope?
- Compare the length of the rope and the sum of the lengths for 3 sides. What do you find?

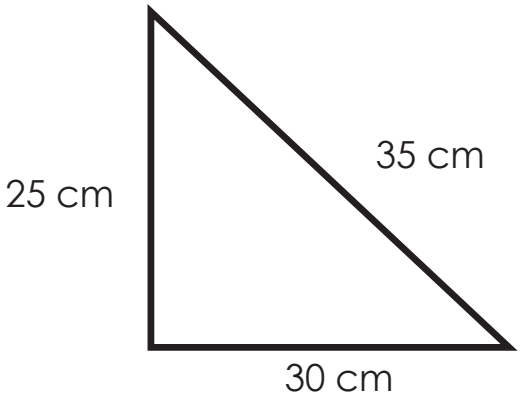


Activity 12.7.2

Find the perimeter of a triangle.

Example:

The first side has 30cm; the second side has 25 cm and the third side has 35cm.



Solution:

Given:

first side: 30cm;

the second side: 25 cm

the third side: 35cm.

Perimeter = Side + Side + Side

Perimeter = 30cm + 25 cm + 35cm = 90 cm

The perimeter has 90 cm.

Look at the example. Try this

Find the perimeter of the rectangle of the following sides:

a) 15cm, 15cm and 15cm.

b) 27dm, 60dm and 30dm.

Application activity 12.7

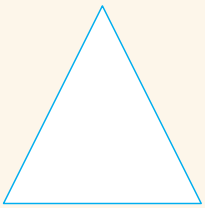
Find the perimeter of triangle whose sides are:

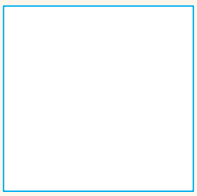
42cm, 24cm and 38 cm.

What have you learnt in this lesson?

END UNIT ASSESSMENT

1) Name the following figures:

(a) 

(b) 

(c) 

2) Comment by True or False

a) A square has 4 equal sides. _____

b) The short sides of a rectangle are called length (L). ____.

c) A rectangle has 4 right angles. ____.

d) A square has 4 acute angles. ____.

e) A rectangle has 3 sides. ____.

f) The long sides of a rectangle are called Width. ___.

g) A triangle has 4 sides and 3 angles. ____.

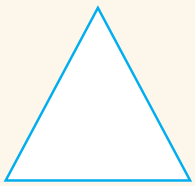
3. Find the perimeter of:

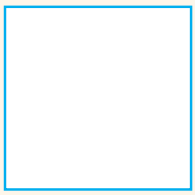
a) A square with the side of 12cm.

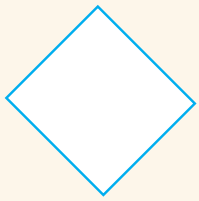
b) A rectangle with the length of 12cm and the width of 8cm.

c) A triangle which has: 7cm, 8cm and 9cm of sides.

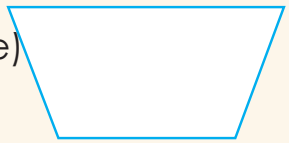
4. Write 1 on a square, write 2 on a rectangle and write 3 on a triangle.

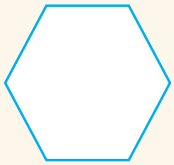
(a) 

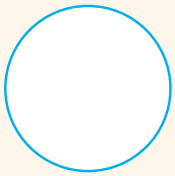
(d) 

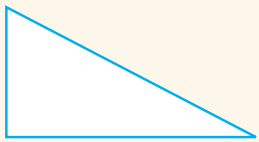
(g) 

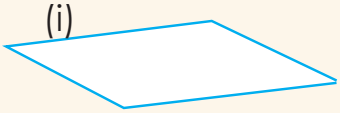
(b) 

(e) 

(h) 

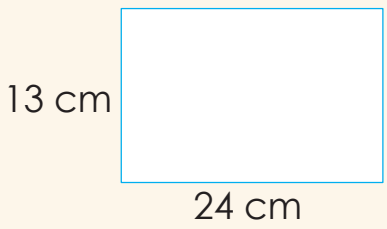
(c) 

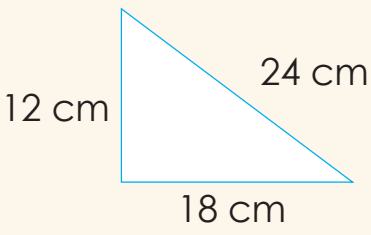
(f) 

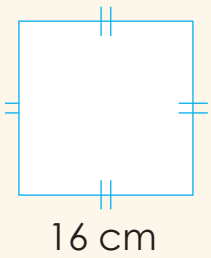
(i) 

5. Find the perimeter of a flower garden with the shape of:
   (a) A square of 80m each side.
   (b) A rectangle with 54m of length and 40m of width.
   (c) A triangle with 25m, 27m and 30m of sides.

6. Find the perimeter of the following figures:





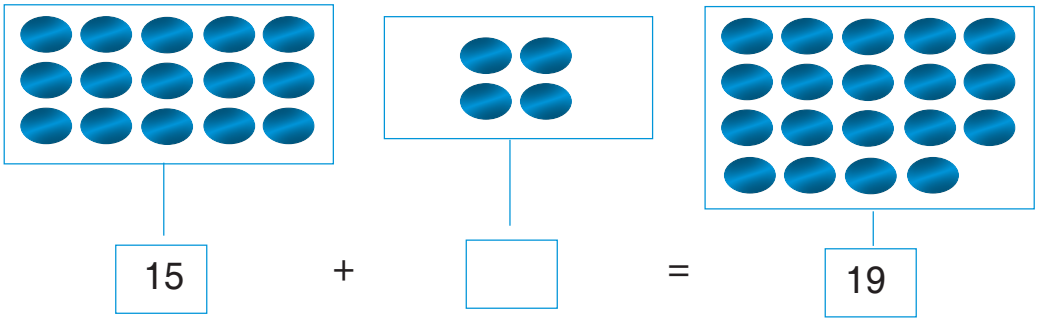


Unit 13

MISSING NUMBERS IN ADDITION, SUBTRACTION, MULTIPLICATION OR DIVISION

13.0 Introductory activity

Look at the following diagram.



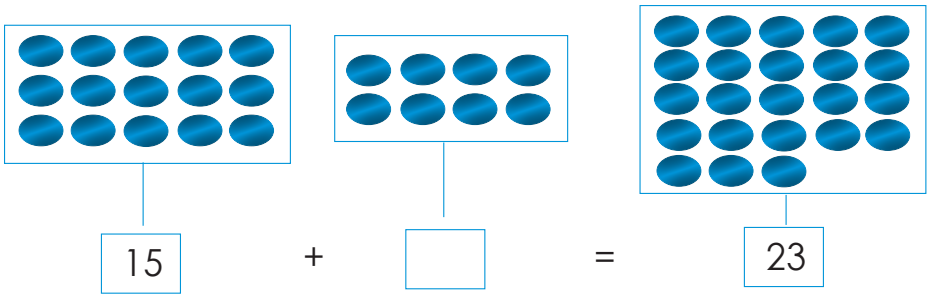
- What do you see?
- Count the counters in the first box.
- Count the number of counters in the second and the third boxes.
- Are you able to tell the number of objects in the second box? How many objects are there?
- Can you complete that missing number of the second box if counters were not there?
- What do you expect to learn in this unit?

13.1 Finding the missing number in a number sentence with addition or subtraction

Activity 13.1.1

Look at the question. Use counters or small stones to complete the missing number.

Example: **15 + ☐ = 23**



Answer: 15 + 8 = 23

Try these

a) 16 + ☐ = 23

b) 24 + ☐ = 40

c) 45 + ☐ = 79

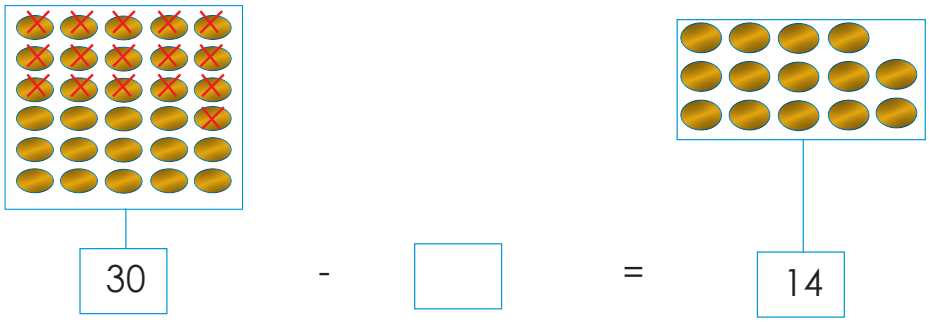
d) 34 + ☐ = 55

e) 49 + ☐ = 60

Activity 13.1.2

Look at the question. Use counters or small stones to complete the missing number.

Example: 30 - ☐ = 14



Answer: 30 - 16 = 14

Look at the example. Try these:

a) 39 - ☐ = 19

b) 45 - ☐ = 30

c) 62 - ☐ = 38

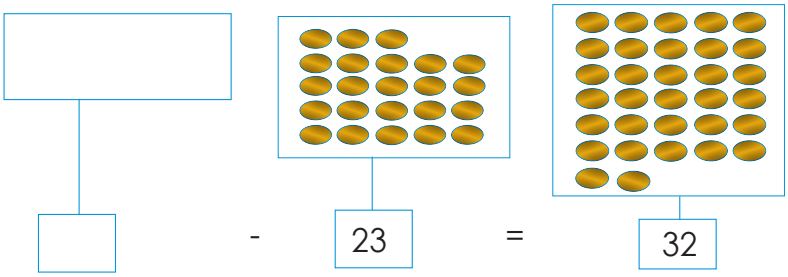
d) 39 - ☐ = 11

e) 74 - ☐ = 24

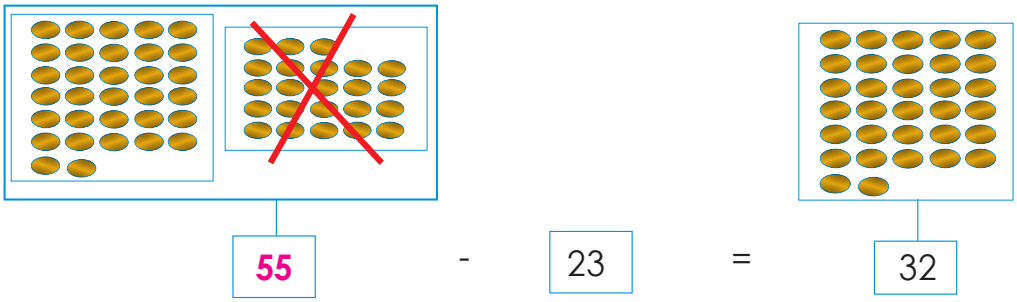
Activity 13.1.3

Use counters or small stones to find the missing number

Example: ☐ **- 23 = 32**



Answer:



55 - 23 = 32

Look at the example. Try these

a) ☐ - 39 = 61

b) ☐ - 54 = 87

c) ☐ - 64 = 27

Activity 13.1.4

Find the missing number in the vertical addition or subtraction

Example 1

$$\begin{array}{r} 726 \\ +\,1\,\square\,3 \\ \hline 899 \\ \hline \end{array}$$

→ 9 - 2 = 7

Example 2

$$\begin{array}{r} 4\,\square\,8 \\ -\,172 \\ \hline 316 \\ \hline \end{array}$$

→ 7 + 1 = 8

Look at the example. Try these:

a)
$$\begin{array}{r} 406 \\ +\ 37\square \\ \hline 779 \end{array}$$

b)
$$\begin{array}{r} 275 \\ +\ 5\square 4 \\ \hline 779 \end{array}$$

c)
$$\begin{array}{r} 937 \\ +\ 8\square 6 \\ \hline 101 \end{array}$$

d)
$$\begin{array}{r} 9\square 9 \\ -\ 662 \\ \hline 327 \end{array}$$

e)
$$\begin{array}{r} 997 \\ -\ \square 76 \\ \hline 421 \end{array}$$

f)
$$\begin{array}{r} 342 \\ +\ \square 35 \\ \hline 777 \end{array}$$

g)
$$\begin{array}{r} \square 82 \\ +\ 917 \\ \hline \_99 \end{array}$$

h)
$$\begin{array}{r} \square 24 \\ +\ 662 \\ \hline 986 \end{array}$$

i)
$$\begin{array}{r} 674 \\ -\ 3\square 2 \\ \hline 372 \end{array}$$

Application activity 13.1

Find the missing number

a) 71 + ☐ = 99 b) 47 - ☐ = 27 c) ☐ - 72 = 90

d)
$$\begin{array}{r} 37\square \\ +\ 625 \\ \hline 997 \end{array}$$

e)
$$\begin{array}{r} 314 \\ +\ 49\square \\ \hline 809 \end{array}$$

f)
$$\begin{array}{r} 874 \\ -\ 65\square \\ \hline 221 \end{array}$$

What have you learnt in this lesson?

13. 2 Finding the missing number in a number sentence with multiplication or division

Activity 13.2

Find the missing number

Example:

a) 3 **x 4 = 12 ⟶ (12 ÷ 4 = 3)**

b) 5 x 4 **= 20 ⟶ (20 ÷ 5 = 4)**

c) 27 **÷ 3 = 9 ⟶ (9 x 3 = 27)**

d) 15 ÷ 5 **= 3 ⟶ (15 ÷3 = 5)**

Look at the example. Try these:

a) ☐ ÷ 2 = 24

b) 6 × ☐ = 48

c) ☐ ÷ 5 = 61

d) 4 × ☐ = 88

e) ☐ × 3 = 99

f) 69 ÷ ☐ = 23

g) ☐ ÷ 3 = 33

h) 5 × ☐ = 55

i) ☐ ÷ 6 = 31

Application activity 13.2

Find the missing number

a) ☐ × 3 = 15

b) 3 × ☐ = 48

c) ☐ ÷ 3 = 9

d) 4 × ☐ = 20

e) 4 × ☐ = 28

f) ☐ ÷ 4 = 8

g) 6 × ☐ = 36

h) ☐ ÷ 6 = 6

i) ☐ ÷ 5 =7

What have you learnt in this lesson?

13.3. Finding the common difference in a number pattern

Activity 13.3.1

Look at the following pictures

a)	
b)	

1) What is the number of beans for the two next piles?
2) The number of beans you add to the pile you have to find the number of beans for the next pile is a common difference.

What is the common difference for the pattern of yellow beans?

What is the common difference for the pattern of blue beans?

Finding the common difference in a number pattern

Activity 13.3.2

Read and do the following.

Example:

a) 45, 60, 75, 90

Common difference $\longrightarrow$ 60 – 45 = 15, 75 – 60= 15,

90 – 75 = 15.

The Common difference is 15

b) 165, 155, 145, 135

Common difference ⟶ 165 – 155 = 10, 155 – 145 = 10, 145 – 135 = 10

The Common difference is 10

Try these:

a) 18, 20, 22.

b) 35, 55, 75.

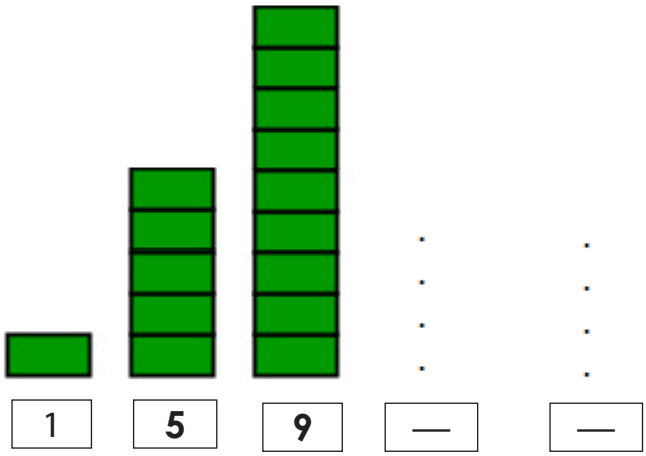
c) 12, 20, 28.

d) 785, 892, 999.

Application activity 13.3

Read and do the following:

1) Find the common difference and complete the number of bricks for the 2 next piles:



2) Finding the common difference in a number pattern

250, 300, 350, …

What have you learnt in this lesson?

13.4 Completing the missing number in a number pattern

Activity 13.4.1

Fill in the missing number in the following number patterns.

Example

25, 40, 55, 70, __, __

The common difference is: 40 - 25= 15 or 70-55 = 15.

70+15 = 85, 85=15 = 100.

The pattern is: 25, 40, 55, 70, 85, 100.

Look at the example. Try these

a) 25, 35, 45, ☐, 65

b) 18, 25, 32, ☐, 46

c) 25, 50, 75, ☐, 125

d) 10, 20, 30, ☐, 50

e) 11, 22, 33, ☐, 55

f) 60, 75, 90, ☐, ☐

g) 100, 85,70, ☐, ☐

h) 148, 140, 132, ☐, ☐

Activity 13.4.2

Find the missing number in the following number patterns:

a) 200, 150, 100, ☐, ☐

b) 800, 600, 400, ☐, ☐

c) 150, 300, 450, ☐, ☐

d) 225, 200, 175, ☐, ☐

Application activity 13.4

Find the common difference. Then, complete the next number.

a) 100, 85, 70, 55, __. The common difference is ...

b) 22, 40, 58, 76, ___. The common difference is ...

What have you learnt in this lesson?

END UNIT ASSESSMENT

1. Complete the missing number

(a) ☐ + 950 = 999

(b) 653 + ☐ = 785

(c) ☐ − 357 = 421

(d) 935 − ☐ = 624

(e) ☐ × 6 = 48

(f) 5 × ☐ = 25

2. Find the common difference of the following number pattern:

(a) 25, 30, 35, 40, 45.

(b) 100,150, 200, 250, 300.

(c) 95, 87, 79, 71, 63.

(d) 125, 100, 75, 50, 25.

3. Fill in the missing number

(a)
$$\begin{array}{r} 4\square 6 \\ +\ 492 \\ \hline 898 \end{array}$$

(b)
$$\begin{array}{r} 98\square \\ -\ 566 \\ \hline 423 \end{array}$$

(c)
$$\begin{array}{r} 6\ \square \\ \times\ 6 \\ \hline 366 \end{array}$$

4. Find the missing number

(a) 48, 54, 60, ☐, ☐, 78

(b) 81, 72, 63, ☐, 45, ☐

(c) 95, 105, 115, ☐, ☐, ☐

(d) 900, 800, 700, ☐, 500, ☐

(e) 375, 400, 425, ☐, 475, ☐

(f) 675, 690, 705, ☐, ☐, 750

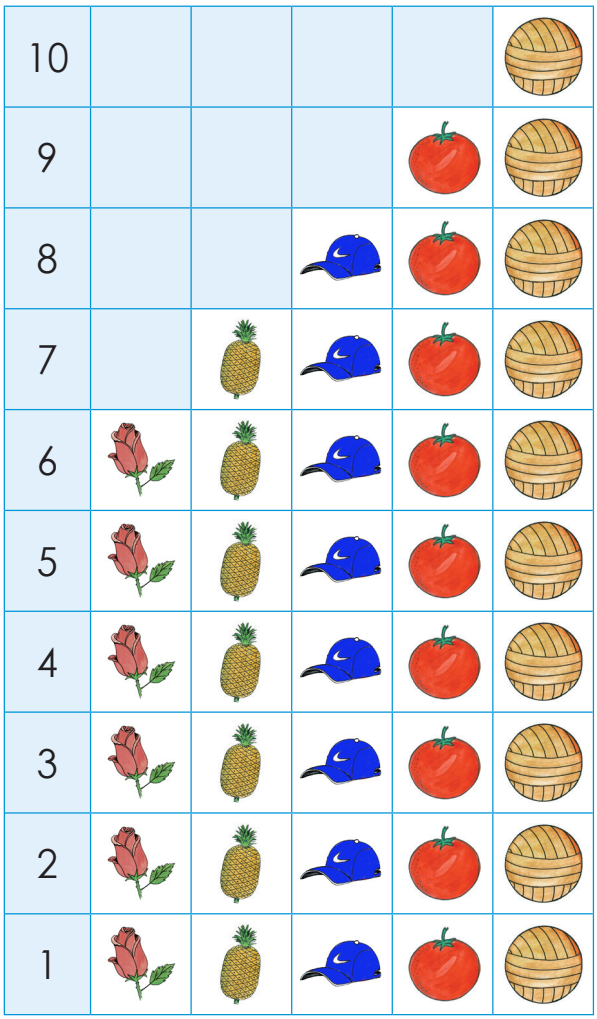
(g) 840, 820, 800, ☐, 760, ☐

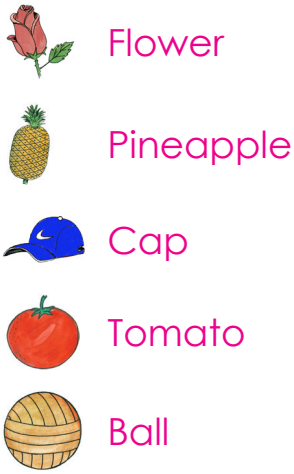
Unit 14

PICTOGRAPHS

14.0 Introductory activity

Look at the following picture.





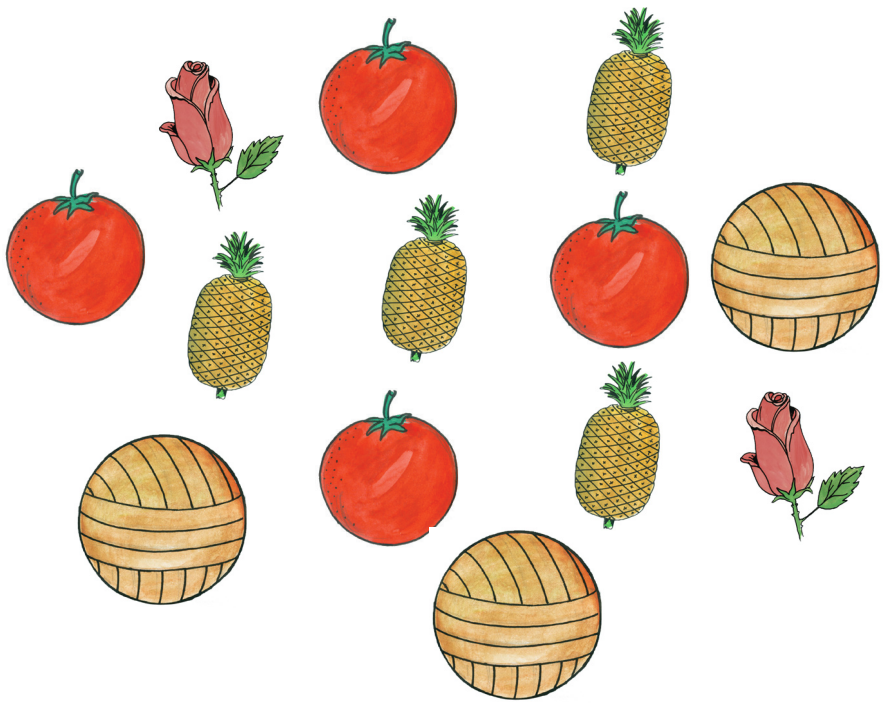
- What do you see?
- Count the number of objects? How many items are in each column?
- Are the items for each column similar or not?
- Can you find a name of each item?

– What do you expect to learn in this unit?
– What is the object with more items than others? How many are they?

14.1 Grouping objects according to their types

Activity 14.1

Look at the following objects. There are **tomatoes, flowers, pineapples and balls.**

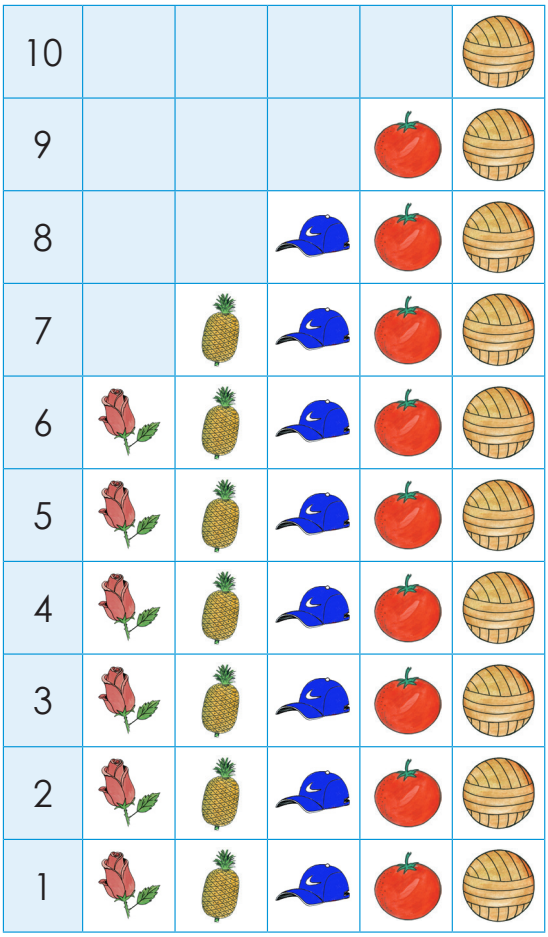


1) Group objects according to their types?

2) How many objects are in each group?

Application activity 14.1

Look at the following picture



a) How many types of objects are there?

b) What is the number of flowers?

c) What is the number of pineapples are there?

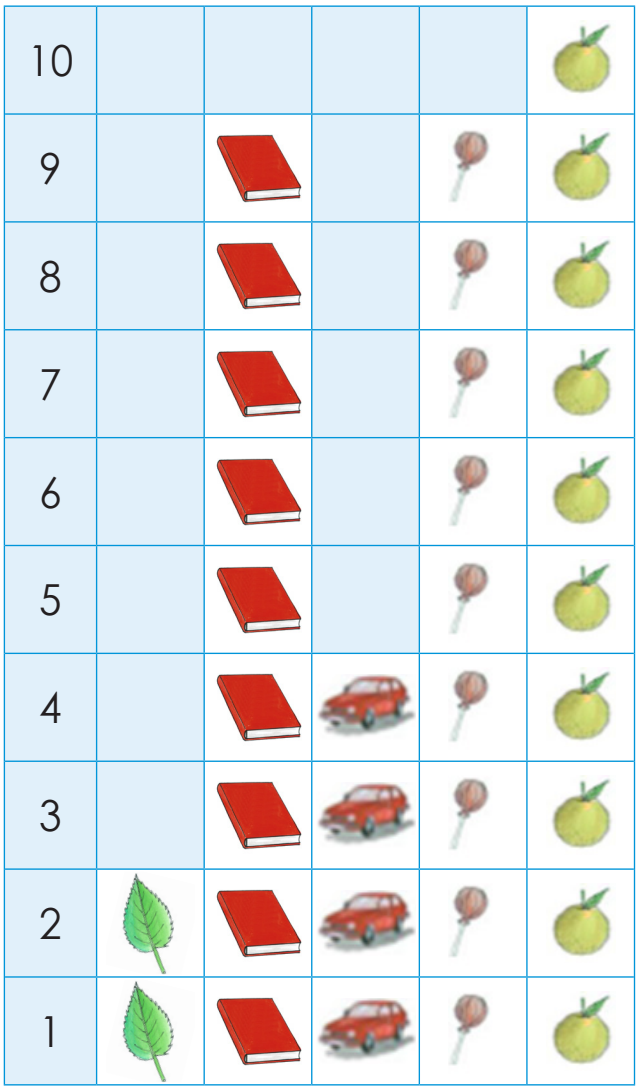
d) How do you get the number of objects for each group?

What have you learnt in this lesson?

14.2 Observing a pictograph and identifying its characteristics

Activity 14.2

Look at the following pictograph. There are leaves, books, cars, sweets and oranges.



1) Match the number symbol to the number of similar objects.

Number	Object
2	
4	
8	
9	
10	

2) a) What is the object with a bigger number?

b) What is the object with a smaller number?

c) What are objects with the same number?

d) How many types of objects are there? How do you count them?

e) How do you get the number of objects for one group (one type).

Application activity 14.2

Look at the pictograph

6						
5						
4						
3						
2						
1						

 Leaf

 Cup

 Book

 Tomato

 Flower

 Ball

1) Complete the following sentence with the correct number

a) There are ____ flowers.

b) There are ___leaves

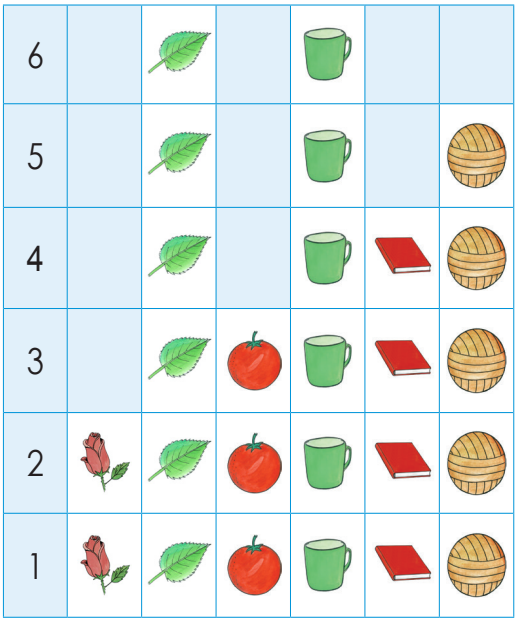
c) There are ___cups

What have you learnt in this lesson?

14.3 Comparing the number of objects for different types of a pictograph

Activity 14.3

Read and do the following.



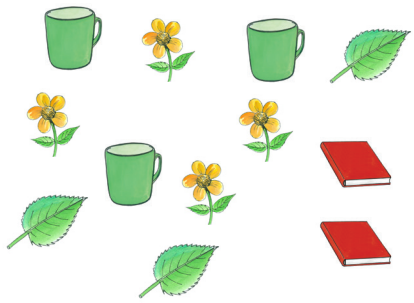
Complete by **True** or **False**

a) The number of books is greater than the number of cups. ___

b) The number of flowers is less than the number of tomatoes. ___

Application activity 14.3

Look at the objects. There are cups, flowers, leaves and books. Put them in the pictograph below:



6				
5				
4				
3				
2				
1				

What have you learnt in this lesson?

14.4 Drawing a pictograph with the given information

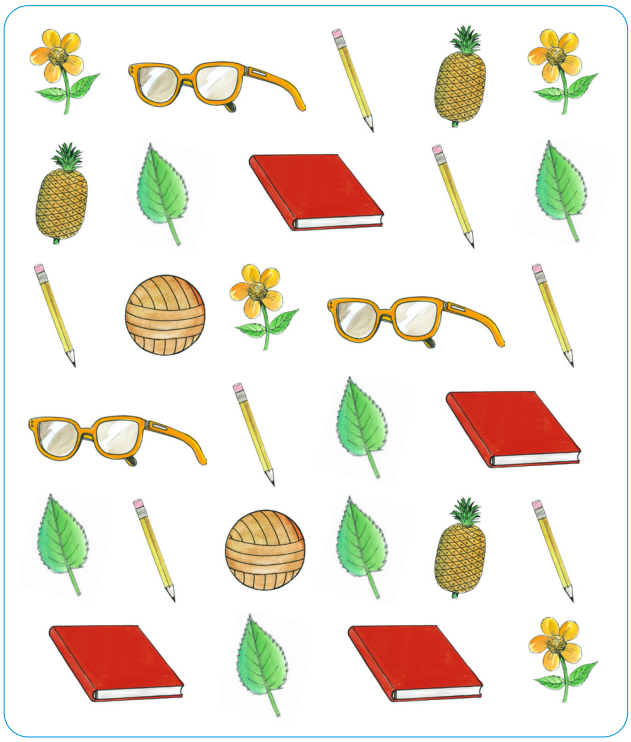
Activity 14.4

1. Look at the small cards with the following objects.
2. Put them in the given pictograph
   a) 6 pens
   b) 9 bananas
   c) 5 oranges
   d) 3 trees.

9				
8				
7				
6				
5				
4				
3				
2				
1				

Application activity 14.4

Look at the following objects: There are flowers, pencils, balls, leaves, pineapples, books, eye glasses




Leaf


Ball


Pineapple


Flower


Book


Pencil


eye glasses

a) Group them according to their type

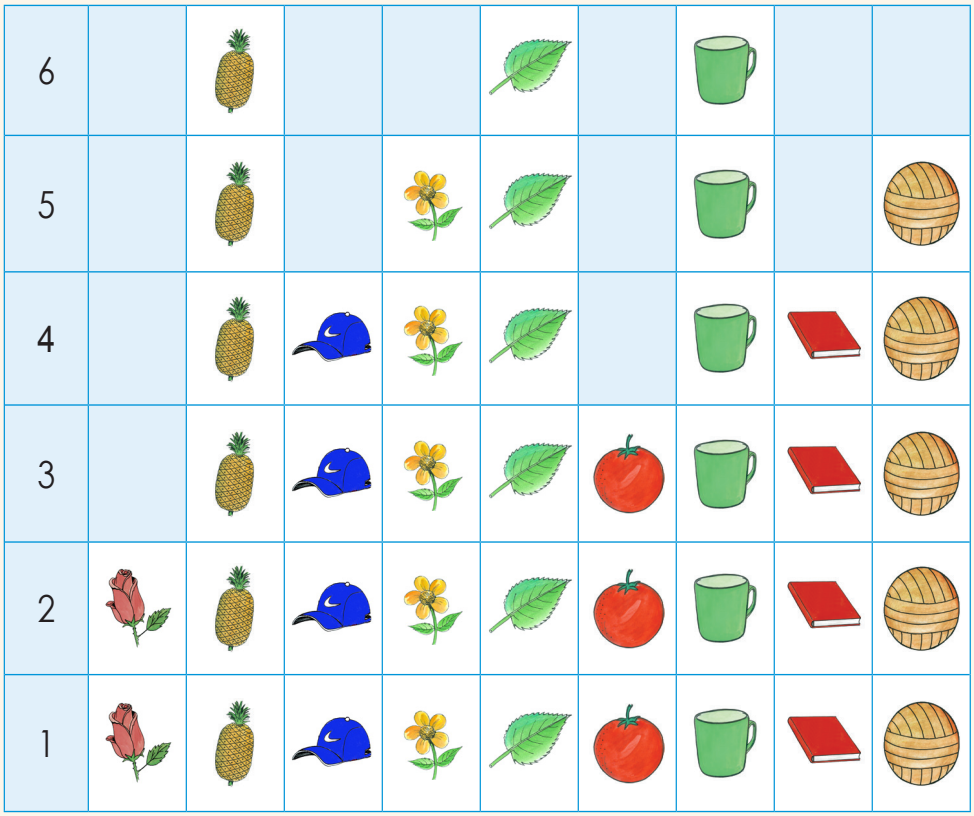
b) Write the number of each type

c) Put them in the pictograph.

What have you learnt in this lesson?

END UNIT ASSESSMENT

1) Look at the following pictograph



a) How many flowers are missing in order to have 4 flowers?

b) What is the number of pineapples?

c) How many tomatoes are on the pictograph?

2. Draw a pictograph with the following pictures: 1 notebook, 5 balls, 3 cups, 2 flowers and 6 leaves.

REFERENCE

1. Rwanda Education Board (2015). Mathematics Syllabus for lower primary P1-P3. Ministry of Education, Kigali.
2. Rwanda Basic Education Board (2020). Mathematics book for P2, Pupil's book. Ministry of Education, Kigali.
3. Allen R (2004). Intermediate Algebra for College Students, Pearson Education, Inc, New Jersey.
4. Rwanda Basic Education Board (2020). TMP for Mathematics teaching in TTC. Ministry of Education, Kigali.
5. *Killen, R. (1998) Effective Teaching Strategies (2nd ed) Social Science Press, Australia.*
6. Schoenfeld, Alan H. (1985). *Mathematical Problem Solving*. New York: Academic Press, Inc.
7. Ministry of Education, Singapore (2012).Curriculum planning and development division, Learning Mathematics in a 21st century necessity.
8. Jacques Douaire, Fabien Emprin. Teaching geometry to students (from five to eight years old). Konrad Krainer; Naďa Vondrová. CERME 9 - Ninth Congress of the European Society for Research in Mathematics Education, Feb 2015, Prague, Czech Republic. PP 529-535,
9. Paper presented at ICME – 10 Copenhagen, Denmark; 2004 Teaching of Mathematics in Singapore Schools Berinderjeet Kaur National Institute of Education, Singapore
10. Ministry of Education 2007, Curriculum Planning and Development Division, "Primary Mathematics syllabus" Singapore
11. Sahid, Seameo Qitep in Mathematics Yogyakarta 2011, Mathematics Problem Solving and Problem-Based Learning for Joyful Learning in Primary Mathematics Instruction, Indonesia
12. NZABARIRWA, W. et al (2010). Theory and practice of teaching, Kigali: KIE, module 2.
13. **Reddy K.** (2019). Teaching How to Teach: Microteaching (A Way to Build up Teaching Skills), Gandaki Medical College & Tea.