SELF STUDY MODULE
PRIMARY THREE
NUMERACY

TABLE OF CONTENTS

2022 P. 3 NUMERACY NOTES BY MR KIMULI DERRICK-0754336823-

TERM I

THEME: SETS

LESSON I

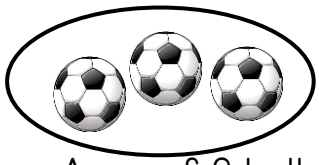
SETS

What is a set?

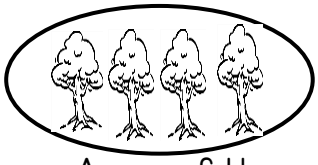
A set is a collection of well-defined objects.

Naming sets

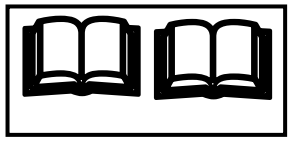
Examples

(a) 

A set of 3 balls

(b) 

A set of 4 trees

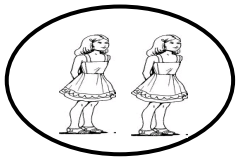
(c) 

A set of 2 books

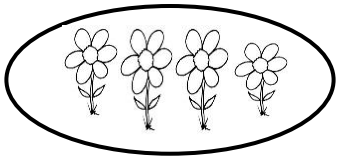
Forming sets/Drawing sets

Examples:

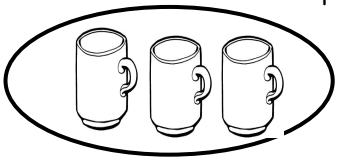
(a) Draw a set of 2 girls



(b) Draw a set of 4 flowers

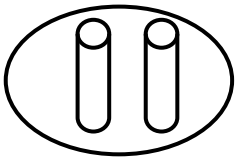


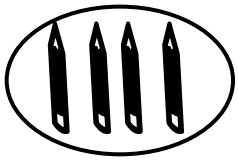
(c) Draw a set of 3 cups



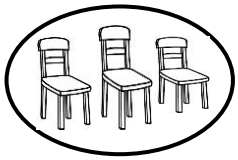
Activity

Name the following sets

(a) 

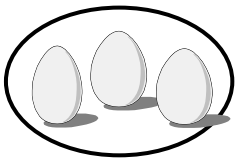
(c) 

_____ _____

(b) 

(d) 

_____ _____

(e) 

_____

2. **Draw the following sets.**

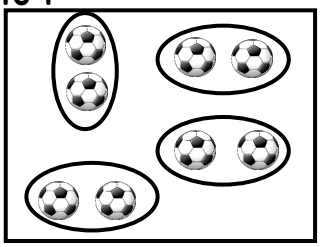
(a) A set of 6 huts (b) A set of 4 cups

Lesson 2

Grouping members in a set

This is putting members of a given set in groups of two, three, four etc.

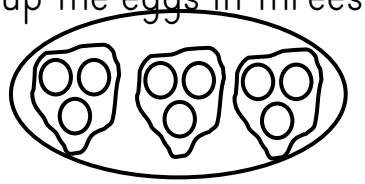
Example 1



There are 4 groups of two balls or 4 twos
There are 8 balls altogether.

Examples 2:

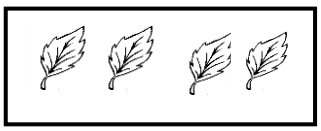
Group the eggs in threes.



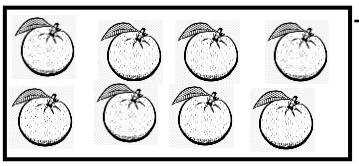
There are 3 groups of three eggs or 3 threes.
There are 9 eggs altogether

Activity:

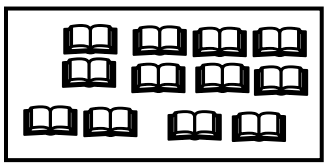
Groups the members in the following sets.



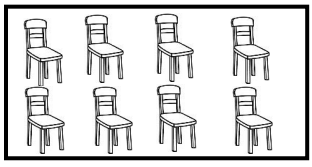
There are ____ groups of two leaves or ___ twos.
There are _____ altogether.



There are ___ groups of four oranges or ____ fours
There are _____ tomatoes altogether.



There are _____ groups of four books or ____fours.
There are _____ books altogether.



There are _____ groups of two chairs or ___twos.
There are _____ altogether.

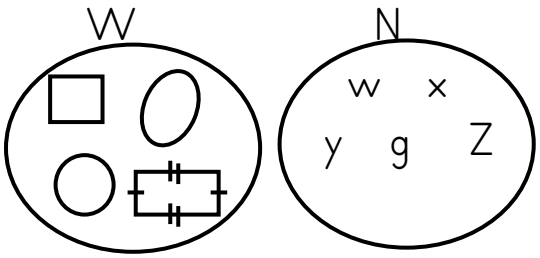
Lesson 3

Comparing Sets

Comparing sets using less or more

Examples I

Compare these sets using less or more.



Set W has 4 members

Set N has 5 members

Set W has less members than Set N

Set N has more members than Set W

Example 2

Given that Set A = {days of the week}

Set B = {vowel letters}

i) List members of Set A

Set A = { Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday}

ii) List members of Set B

Set B = {a, e, i, o, u}

iii) Which Set has more members?

Set A has more members

iv) Which set has less members?

Set B has less members.

Activity 3

I. Given two sets

X = {cup, rat, cat, fly, dog}

Y = {a, b, c, d, e, f}

a) How many members has Set X?

_____

b) How many members has set Y?

_____

c) Which set has less members?

_____

2. R = {  ,  ,  }
   P = {1, 2, 3, 4}

   a) How many members has set R? _____

   b) Which set has less members? _____

   c) Which set has more members? _____

Lesson 4

Types of Sets

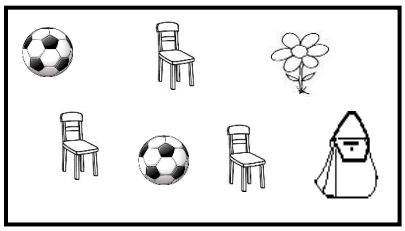
a) Subsets
b) Empty sets
c) Equal sets
d) Matching/Equivalent sets
e) Non-matching /non-equivalent sets
f) Intersection set (∩)
g) Union set (∪)

Subset

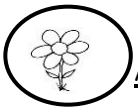
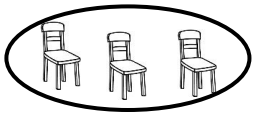
A subset is a small set got from a big set.

Examples

Make small sets from the set below.



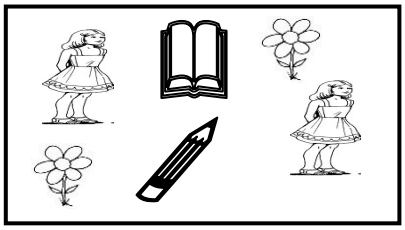
 A set of 3 balls  A set of 1 bag

 A set of 1 flower  A set of 3 chairs.

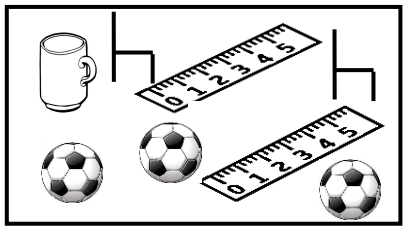
Activity 4

Make and name sub sets from the sets below.

1. Y



2. X



1) A set of a pencil

2) _____

3) _____

4) _____

a) _____

b) _____

c) _____

d) _____

Lesson 5

Empty or not empty

An empty set is the set with no members.

Or: A set whose members cannot be found.

Symbols for empty or null set are:

{ } or ∅

Example 1:

Use empty to complete the statement.

1. A set of girls with 4 legs.

   Empty set

Not empty

Not empty is the set whose members can be found or a set with members.

Example I:

Use not empty to complete the statement. A set of cars with 4 tyres.

Not empty set.

Activity 5

Use empty or not empty to complete the statement below.

a) A set of books made of stones. _____

b) A set of birds with two eyes. _____

c) A set of vowel letters. _____

d) A set of birds without feathers. _____

e) A set of girl with breasts. _____

f) A set of trees with eyes. _____

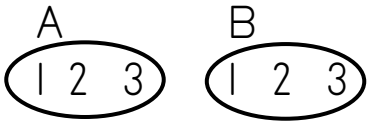
LESSON 6

Equal sets and not equal sets

Equal sets

These are sets with same members and same number of members.

Example I



Set A has 3 members.

Set B has 3 members.

Since Set A and B have same members, they are equal sets.

Symbol

= equal to

Example 2:

Given that B = {1, 2, 3, 4}

C = {a, b, c, d}

a) How many members are in Set B?

Set B has 4 members

b) How many members are in Set C?

4 members

Note: Set B and Set C are not equal sets since they have different members.

Symbol

≠ not equal

Activity 6:

1. Given set P = {7, 8, 5}

   Q = {5, 7, 8}

   Set P is _____ to set Q.

2. Set D ={a, e, i, o, u}

   E = {a, b, c}

   Set D is _____ to Set E.

3. Given two sets;

   Set X = {days of the week}

   Y = {vowel letters}

   a) List members of Set X. _____

   b) List members of Set Y. _____

   c) Set X is _____ to set Y.

   d) Name the following set symbols;

   (i) ≠ _____ (ii) = _____

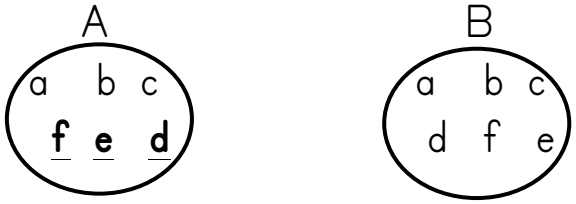
LESSON 7

Making paired sets equal

N.B: This is finding the missing members in a given sets.

Example I:

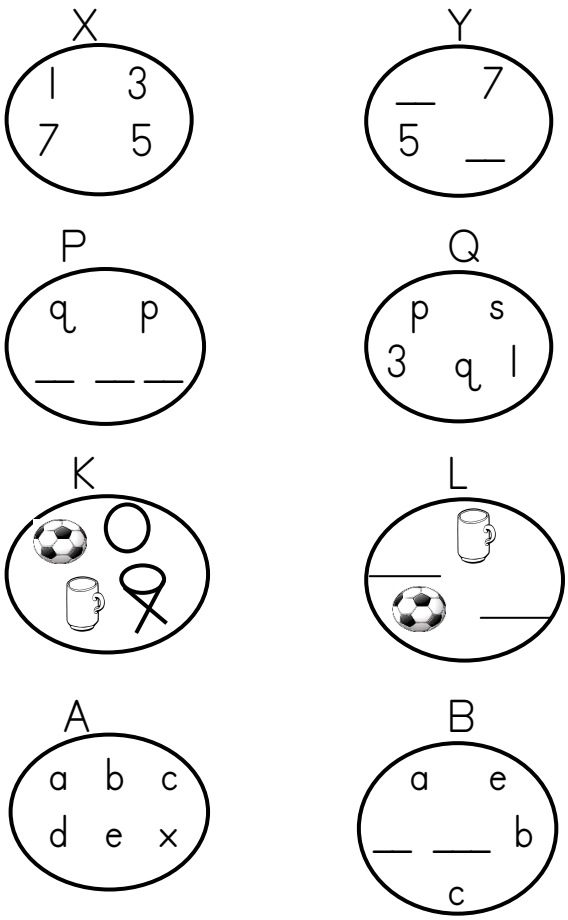
Find the missing members in a paired sets.



Activity 7:

Make the paired sets equal.

I.



Lesson 8

Equivalent/matching sets

Equivalent/matching sets are sets with the same number of members/elements.

N.B: Members may not be the same.

Non-matching/non-equivalent sets.

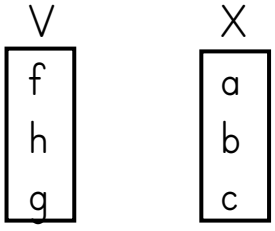
Non-equivalent sets are sets with different number of members.

Symbols

$\longleftrightarrow$ Equivalent set $\quad\not\longleftrightarrow$ Non-equivalent sets

Example

Given that two sets



Set V has 3 members

Set X has 3 members

Set V and X are equivalent sets.

Activity 8:

Set P = {a, b, c}

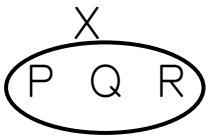
Set Q = {p, q, r, s}

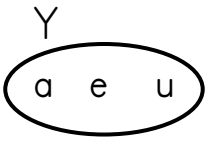
a) How many members has set P? _____

b) How many members has set Q? _____

c) Name sets; (i) P _____ (ii) Q _____

2.





Set X has _____ members

Set Y has _____ members

Set Y and X are _____ sets.

Lesson 9

Listing and counting members in a given set.

N.B: When listing members of a particular set, we use the carry brackets and comma.

Note: **n** means number of

Example I

Set A = {Days of the week}

a) List members of Set A.

Set A = (Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday}

b) How many members has Set A.

Set A = {(Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday}

7 members

Example 2:

2. X = {The first five counting numbers}

a) List members of set X.

X = {I, 2, 3, 4, 5}

(b) Find n(X)

X = {I, 2, 3, 4, 5}

= 5 members

Activity 9

1. Set R = {a, b, c, d, e, f}
   How many members has set R. _____
2. Set Q = {a, b, x, y, z}
   Find n(Q) _____
3. Set X = {1, 2, 3, 4, 5}
   Find n(X)_____
4. Set Y = (Months of year}

   a) List members in Set Y. _____

   b) How many members are in Set Y? _____

Lesson 10

Intersection set

Intersection set is made up of common members from the given sets.

Note: The symbol for intersection set is "$\cap$"

Examples

1. Given Set A = {0, 2, 4, 5, 6}
   Set B = {1, 2, 3, 5, 6, 8}
   How many members are in Set A$\cap$B?
   A $\cap$ B = {2, 5, 6}
   n(A$\cap$B) = 3 members

2. Set P = {a, e, i, o, u}
   Set M = {a, b, c, d, e}
   a) Find P $\cap$ M
   P $\cap$ M = {a, e}

   b) Find n(P$\cap$M)
   P$\cap$M = {a, e}
   n(P$\cap$M) = 2 members

Activity 10

1. Given that H = {a, b, d, f, g}
   Set S = {b, c, d, e, f}
   a) Find H ∩ S _____
   b) Find n(H ∩ S)_____
2. Given Set K = {□ △ ⌭}
   Z = {◇ ○ ⌭}
   a) List members in K∩Z _____
   b) How many members are in K∩Z? _____
3. Set P = {2, 3, 4, 5, 6}
   Q = {1, 2, 3, 4, 7, 8}
   a) Find P∩Q
   b) Find n(P∩Q)

Lesson 11

Union set (∪)

This is listing all the members without repeating or forgetting a member,

Symbol

∪ - union set

Example

Given two sets

X = {a, b, c, d, e, f}

Y = {a, e, i, o, u}

a) Find X∪Y

X∪Y = {a, e, b, c, d, f, i, o, u}

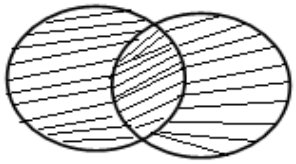
b) Find n(X∪Y)

X∪Y = {a, e, b, c, d, f, i, o, u}

n(X∪Y) = 9 members

Shading union set on the Venn diagram.

X Y



X ∪ Y

Activity II

1. Set A = {0, 2, 4, 6, 8}
   B = {3, 4, 5, 6, 7, 8}
   a) List members of set A∪B _____

2. Given two sets;
   P = {d, e, f, a}
   Q = {a, b, c, d, e, f}
   a) Find P∪Q
   b) n(P∪Q)

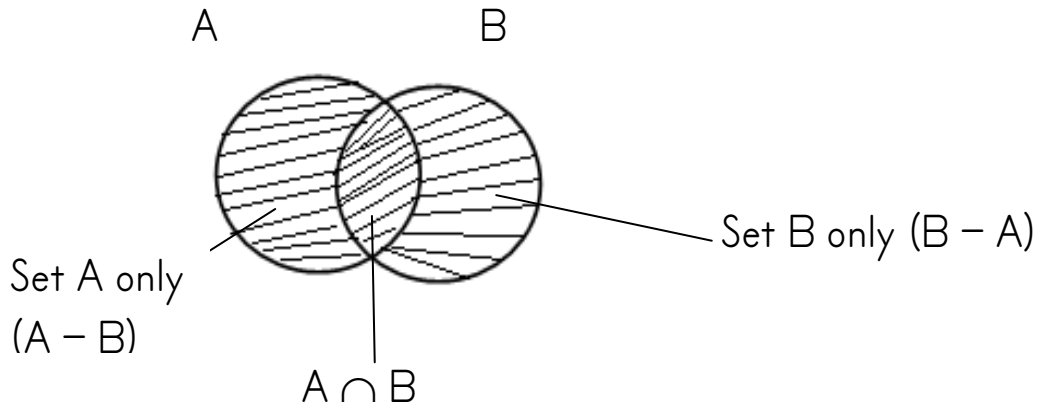
3. Set X = {1, 2, 3, 4, 5, 6}
   R = {0, 2, 4, 6, 8}
   a) List members of set X∪R _____
   b) How many members has Set X∪R?

Set symbols

- ⟷ - Equivalent to
- ⟷̸ - Not equivalent to
- = - Equal to
- ≠ - Not equal to
- ∩ - Intersection
- ⊂ - Subset of
- ⊄ - Not subset of
- { } or ∅ - Empty/null set
- ∪ - Union

Lesson 12

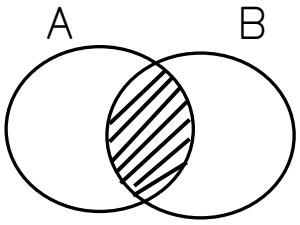
Shading and describing the Venn diagram.



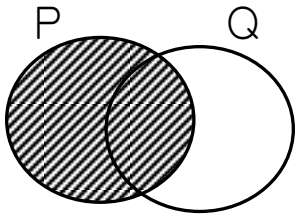
Examples

1. Shade the following

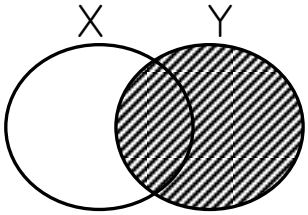
(a) $A \cap B$



(b) Set P

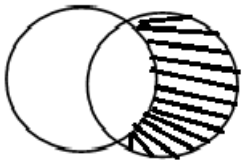


(c) Set Y



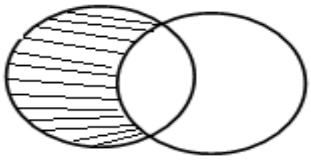
2. Describe the shaded region.

(a)



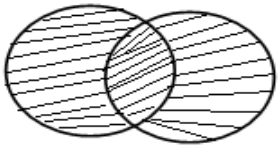
Set N only

(b)



Set L only

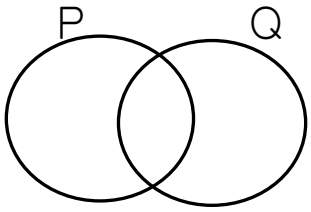
c)



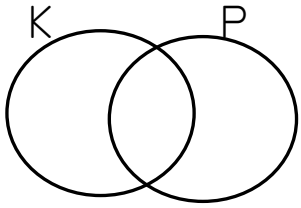
$A \cup B$

Activity 12

1. Shade P∪Q

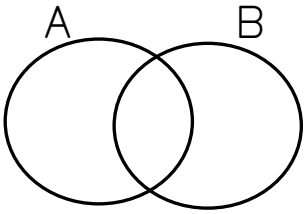


2. Shade Set K only

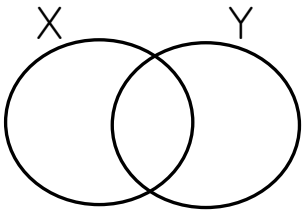


3. Shade the following

a) A ∩ B

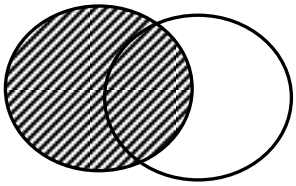


b) Set Y



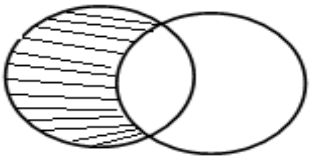
4. Describe the shaded parts on the following Venn diagrams.

(a) A B



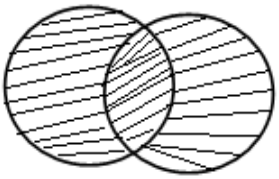
_____

(b) M N



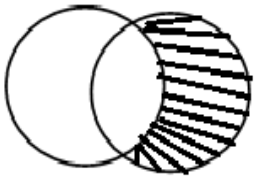
_____

(c) P Q



_____

(d) R S



_____

Lesson 13

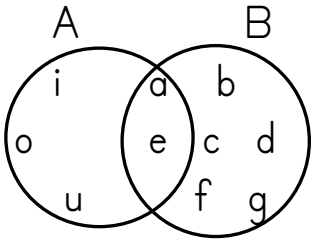
Representing members on a venn diagram.

Examples:

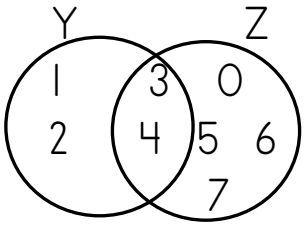
1. Given Set A = {a, e, i, o, u}

   Set B = {a, b, c, d, e, f, g}

   Represent the above information on a Venn diagram.



2. Set Y = {1, 2, 3, 4}
   Set Z = {0, 3, 4, 5, 6, 7}
   Represent the information on a Venn diagram.



Activity 13:

1. Given Set P = {1, 3, 5, 7, 9}
   Set R = {2, 4, 5, 6, 7, 8}
   Represent the information on a Venn diagram.

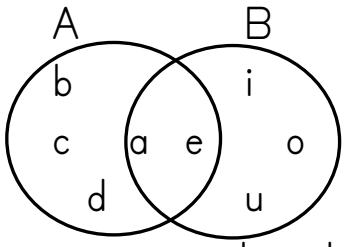
2. Set A = {a, b, c, d, e, f}
   Set B = {e, f, g, h, i}
   Represent the above information on a Venn diagram.

3. Represent each of the following pairs of sets on a Venn diagram.
   (a) Set P = {a, b, c} and Set K = {c, f, a}
   (b) Set P = {1, 4, 7, 9} and Q = {4, 9, 6, 5, 2}

Lesson 14

Answering questions about the Venn diagram.

Example



a) How many members has set A∩B?

A∩B = {a, e}

n(A∩B) = 2 members

b) Find n(A∪B)

A∪B = {b, c, d, a, e, i, o, u}

n(A∪B) = 8 members.

c) Find Set A

Set A = {b, c, d, a, e}

d) Find Set B only

Set B = {i,o, u}

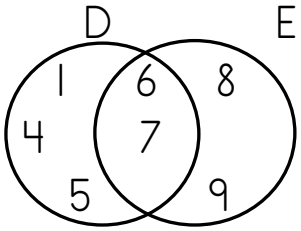
e) Find n(B)

Set B = {a, e, i, o, u}

n(B) = 5 members

Activity 15

1. Use the Venn diagram below to answer the questions that follow.



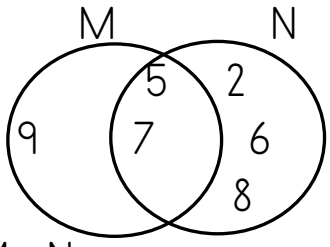
(i) Find D∩E

(iii) Find n(D∪E)

(ii) How many members are in Set E? (iv) Find D - E

_____

2. Given the Venn diagram below.

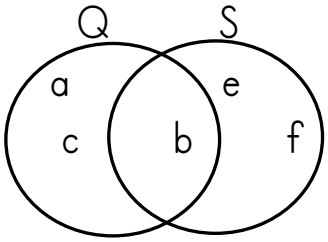


a) Find M∪N (b) Find n(N)

c) How many members are in Set M? _____

d) List the members in Set M∩N. _____

3. Study the Venn diagram below and use it to answer questions that follow.



a) Find;

(i)Set Q (ii) Set S

(iii) n(Q) only

b) List the members in Set Q∪S. _____

THEME: NUMERATION SYSTEM

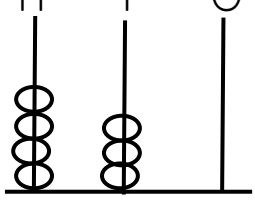
Writing numbers shown on the abacus

LESSON I

Examples

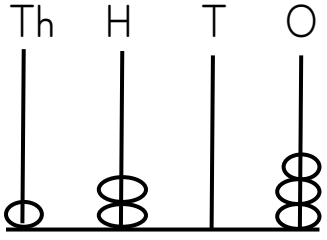
Write the numbers shown on the abacus.

1. H T O

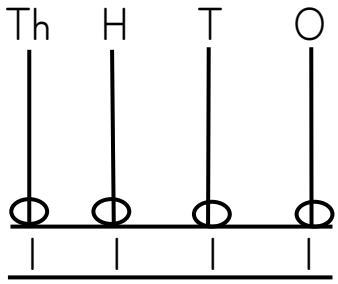


4 3 0 = 430

2. Th H T O

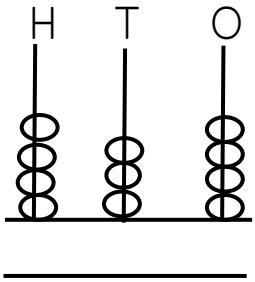


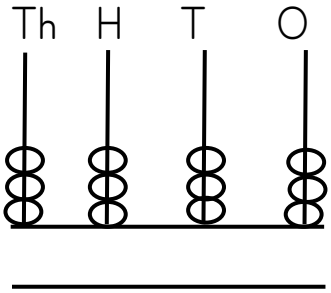
1 2 0 3 = 1203

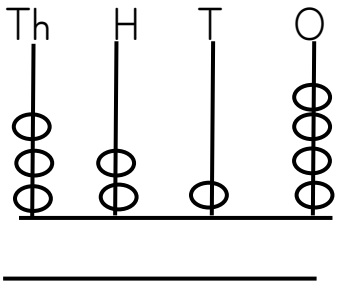
3. 

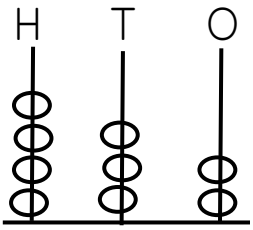
Activity

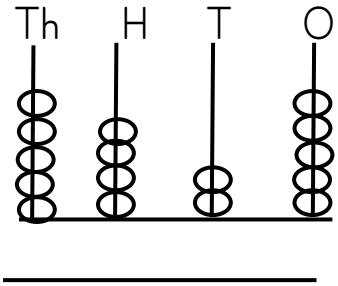
Write the numbers shown on the abacus.

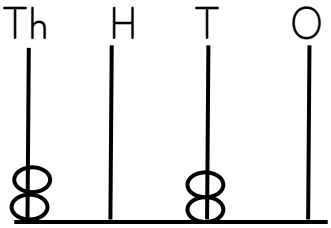
1. 

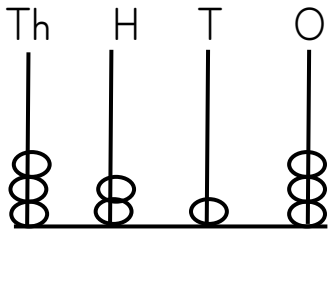
3. 

2. 

4. 

5. 

6. 

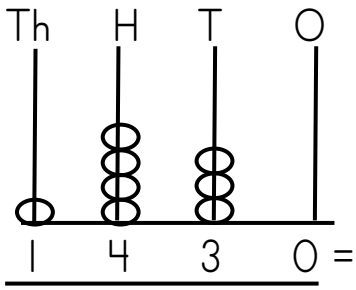
7. 

Showing numbers on the abacus.

Examples

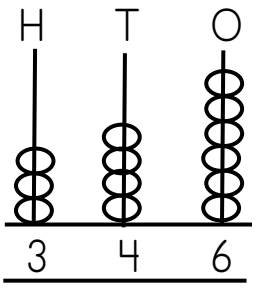
Show the following numbers on the abacus.

1. 1430



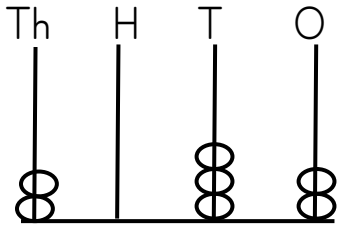
1 4 3 0 = 1430

2. 346



3 4 6 = 346

3. 2032



2 0 3 2 = 2032

Activity

Show the following numbers on the abacus.

1. 314

2. 4443

3. 5544

4. 3231

5. 2005

LESSON 2

Filling digits in their correct place values

Examples:

1. **Fill each digit in its correct place value.**

   (a) 732 = 7 hundreds 3 tens 2 ones

   (b) 9345 = 9 thousands 3 hundreds 4 tens 5 ones

2. **Complete correctly.**

   (a) 6 hundreds 4 tens 2 ones = 642

   (b) 3 thousands 3 hundreds 0 tens 4 ones = 3304

   (c) 94 = 0 hundreds 9 tens 4 ones

Activity

1. Fill in the digits in their correct place values.

   a) 434 = _____hundreds _____tens _____ones

   b) 7581 = _____thousands_____hundreds_____tens_____ones

   c) 47 = _____hundreds_____tens_____ones

   d) 1042 =_____thousands_____hundreds_____tens_____ones

2. **Complete correctly.**

   (a) 1 thousands 4 hundreds 5 tens 9 ones = _____

   (b) 7 tens 3 ones = _____

   (c) 5 thousand 8 hundreds 7 tens 2 ones = _____

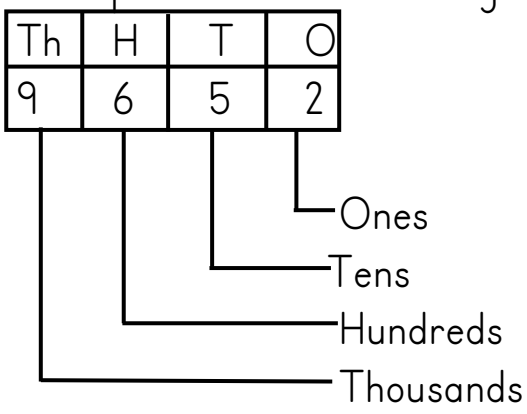
   (d) 3 thousands 0 hundreds 4 tens 2 ones = _____

LESSON 3 : PLACE VALUES

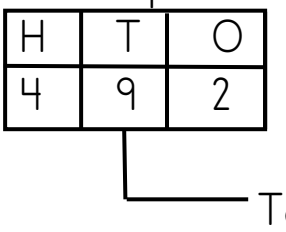
Place value is the position of a digit in a given number.

Examples

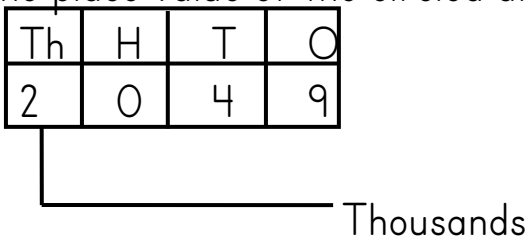
1. Write the place values of the digits in the numbers below.



2. What is the place value of 9 in 492.



3. What is the place value of the circled digit?



Activity:

1. What is the place value of 4 in 3145. _____
2. What is the place value of 6 in 9649. _____
3. Find the place value of the underlined digits

a) 3304 b) 1415

c) 42 d) 2049 e) 6297

LESSON 4

Finding the values of a given digit.

To find the value of a given digit we multiply the digit by its place value.

Example 1

What is the value of each digit?

H	T	O
4	5	6

6 — One — 6x1=6

5 — Tens — 5x10=50

4 — Hundreds — 4x100=400

Example 2

Find the value of each digit in the numbers below.

Th	H	T	O
1	7	8	0

(0 x 1) = 0

(8x 10) = 80

(7 x 100) = 700

(1 x 1000) = 1000

Example 3

Find the value of 9 in 8927.

Th	H	T	O
8	9	2	7

(9 x 100) = 900

4. What is the value of the underlined digit?

Th	H	T	O
2	6	8	4

(2 x 1000) = 2000

Activity:

1. Find the value of 7 in 3473.

2. Find the value of the circled digit.

   (8)4 5 3

3. Find the values of the underlined digits.

   a) 3̲65 b) 74̲28 c) 9̲999 d) 80̲94

   e) 378̲0 f) 678̲3

LESSON 5
SUM OF VALUES

Examples

1. Given the number 5843. Find the sum of the values of 8 and 3.

Th	H	T	O
5	8	4	3

(3 x 1) = 3

(8 x 100) = 800

800
+ 3
803

2. Add the values of 9 and 5 in 6925.

Th	H	T	O
6	9	2	5

(5 x 1) = 5

(9 x 100) = 900

900
+ 5
905

3. Workout the sum of the values of 7 and 4 in 7843

Th	H	T	O
7	8	4	3

(4 x 10) = 40

(7 x 1000) = 7000

7000
+ 40
7040

Activity

1. Given the number 3205. Find the sum of the values of 2 and 5.

2. Find the sum of the values of 6 and 3 in 6321.

3. Find the sum of the values of the underlined digits.
   4934

4. Add the values of 7 and 9 in 579

5. What is the sum of the values of 7 and 3 in 7834?

LESSON 6

Writing numbers in words.

Examples

1. Write 444 in words.

H	T	O
4	4	4

Four hundred forty four.

2. Write 4258 in words.

Th	H	T	O
4	2	5	8

Four thousand two hundred fifty eight.

3. Write 9999 in words.

Th	H	T	O
9	9	9	9

Nine thousand nine hundred ninety nine.

Activity:

Write the following numbers in words.

1. 139 _____
2. 240 _____
3. 2333 _____
4. 9893 _____
5. 554 _____
6. 2402 _____
7. 9099 _____

LESSON 7

Writing number words in figures.

Examples

Write the following in figures.

1. Five hundred fifty nine.

$$\begin{array}{r} 500 \\ 50 \\ +\ 9 \\ \hline 559 \end{array}$$

2. Three thousand seven hundred forty nine.

$$\begin{array}{r} 3000 \\ 700 \\ 40 \\ +\ 9 \\ \hline 3749 \end{array}$$

3. Two thousand five.

$$\begin{array}{r} 2000 \\ +\ 5 \\ \hline 2005 \end{array}$$

Activity

Write the following in figures.

1. Eight hundred four.
2. Nine thousand two hundred thirty three.
3. Two thousand eighteen.
4. Seven thousand seven hundred seventy seven.

LESSON 8

Expanding numbers

We expand numbers by multiplying the digit by its value.

Examples

1. Expand 554.

H	T	O	
5	5	4	= (5 x 100) + (5 x 10) + (4x1)
			= 500 + 50 + 4

2. Write 1729 in expanded form.

Th	H	T	O	
1	7	2	9	= (1 x 1000) + (7 x 100) + (2x10) +(9x1)
				= 1000 + 700 + 20 + 9

3. Expand 2402

Th	H	T	O	
2	4	0	2	= (2 x 1000) + (4 x 100) + (0x10) +(2x1)
				= 2000 + 400 + 0 + 2

Activity

Expand the following numbers.

1. 3253
2. 2404

3. 4715

4. 937

5. 6153

6. 3333

Finding expanded numbers

Common words used

- What number has been expanded?
- Write in short
- Write as a single numeral
- Find the expanded number

Examples

1. Write (9x1000)+(3x100)+(7x10)+(5x1) in short.

$$\begin{array}{r} 9000 \\ 300 \\ 70 \\ +\ \ 5 \\ \hline 9375 \end{array}$$

2. What number has been expanded;

$$7000 + 7 = \begin{array}{r} 7000 \\ +\ \ 7 \\ \hline 7007 \end{array}$$

3. Write 9000 + 700 + 30 + 4 as a single numeral.

$$\begin{array}{r} 9000 \\ 700 \\ 30 \\ +\ \ 4 \\ \hline 9734 \end{array}$$

Activity

1. What number has been expanded to give; (5x1000)+(4x100)+(7x10)+(3x1)?

2. Write in short 2000+40+7

3. Find the expanded number to give; (3x100) + (3x1)

4. Write 9000+900+90+9 as a single numeral.

5. What number has been expanded to give 3000+70+5?

Roman numerals

The first four basic roman numerals are I, X, L.
Read and learn the following numbers in Roman numerals.

Hindu Arabic numerals	Roman numerals
1	I
2	II
3	III
4	IV
5	V
6	VI
7	VII
8	VIII
9	IX
10	X
20	XX
30	XXX
40	XL
50	L

6 = 5 + 1	7 = 5 + 2	8 = 5 + 3	9= 10 - 1
= V + I	= V + II	= V + III	= X - I
= VI	= VII	= VIII	= IX

20 = 10 + 10
= X + X
= XX

Converting Hindu Arabic numerals to Roman numerals.

Examples

Write the following numbers in Roman numerals.

1. T O
   1 5 = 10 + 5
   = X + V
   = XV

2. T O
   2 4 = 20 + 4
   = XX + IV
   = XXIV

3. T O
   2 7 = 20 + 7
   = XX + VII
   = XXVII

4. T O
   4 5 = 40 + 5
   = XL + V
   = XLV

5. T O
   1 9 = 10 + 9
   = X + IX
   = XIX

Activity

Convert the following from Hindu Arabic numerals to Roman numerals.

1. 39
2. 25
3. 44

4. 29
5. 14
6. 38
7. 49

LESSON 10

Converting from Roman numerals to Hindu Arabic numerals.

Examples

Write the following in Hindu Arabic numerals.

1. XXXIV = XXX + IV = 30 + 4 = 34

   30 + 4 = 34

2. XXIX = XX+ IX = 20 + 9 = 29

   20 + 9 = 29

3. XIV = X + IV = 10 + 4 = 14

   10 + 4 = 14

4. XLIX = XL + IX = 40 + 9 = 49

   40 + 9 = 49

Activity

Convert the following to Hindu Arabic numerals.

1. XVIII
2. XLIV
3. XXXIII

4. XV
5. XIX
6. XXII
7. XXXIX

LESSON II

Types of numbers

Even numbers

Even numbers are numbers which are exactly divisible by 2.
The first even number is 0.
These numbers include 0, 2, 4, 6, 8, ...

Odd numbers.

These are numbers which are not exactly divisible by 2.
Note: The first odd number is 1.
Odd numbers include 1, 3, 5, 7, 9, ...

Examples

1. Underline the even numbers from the lists below.
   (a) 3, 4, 5, 6, 7, 8, 9, 10
   (b) 20, 21, 22, 23, 24, 25, 26, 27
   (c) 100, 111, 122, 133, 144, 155

2. Circle the odd numbers from the lists below.
   (a) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
   (b) 20, 31, 40, 51, 60, 63, 74, 85

Activity

1. Circle the even numbers.

(a) 1, 4, 7, 10, 13, 18

(b) 11, 12, 13, 14, 15, 16, 17

(c) 110, 111, 112, 113, 114, 115

(d) 43, 44, 77, 95, 90, 92

2. Underline the odd numbers.

(a) 115, 114, 113, 112, 111, 110

(b) 30, 31, 32, 33, 34, 35

(c) 21, 18, 24, 15, 28, 12, 32,

(d) 80, 81, 82, 83, 84, 85

THEME: OPERATION ON WHOLE NUMBERS

Lesson 1

Addition of numbers without regrouping

Example 1

Add 11 + 12

solution

	T	O
	1	1
+	1	2
	2	3

s/w

1 + 2 = 3

1 + 1 = 2

Example 2

Add

	4	8
+	2	1
	6	9

8+ 1 = 9

4+2 = 6

Example 3

Add

	Th	H	T	O
	3	5	2	1
+		2	3	0
	3	7	5	1

1+0=1

2+3=5

5+2=7

3 = 3

Example 4

Add 2450 + 2111 solution

	Th	H	T	O	
	2	4	5	0	0+1 = 1
+	2	1	1	1	5+1=6
	4	5	6	1	2+2=4

Activity

Add the following numbers.

1) 3 7 +2 2 _____

2) 2 7 + 1 2 _____

3) 2 0 +7 6 _____

4) 1 6 + 3 2 _____

5) Add 1535 + 163 = _____

6) 2000 +2 0 2 1 _____

7) 1 8 1 2 + 1 1 3 4 _____

8) Add 1282 + 1000 =

LESSON 2

Addition of numbers with regrouping.

Example 1:

Add 28 + 45 solution

	T	O	
	2	8	s/w
+	4	5	8 + 5 = 13
	7	3	1+2+4=7

Example 2:

Add 86 + 24 solution

	T	O	
	8	6	s/w
+	2	4	6 + 4 = 10
	11	0	1+8+2=11

Example 3:

Add	2	6	8	7
	+3	1	6	6
	5	8	5	3

7+6=13
1+8+6=15
1+6+1 =8
2+3=5

Example 4:

Add	Th	H	T	O
	1	7	6	8
+	5	2	4	3
	7	0	1	1

s/w
8+3=11
1+6+4=11
1+7+2=10
1+1+5=7

Activity 2:

Add the following numbers.

1. Add 9 7 + 6 3 = _____

2. 3 5 + 8 9 = _____

3. Add 8 5 + 2 5 = _____

4. 2 6 8
   + 1 5 5
   _____

5. 1 8 2
   + 7 6 8
   _____

6. Add 254 + 395 = _____

7. 1 8 5 5
   + 2 6 8 7
   _____

8. 9 6 8 5
   + 2 2 2 2
   _____

LESSON 3

Word statements involving addition of numbers.

New words

-altogether, -sum, total

Example 1

Jamie had 44 oranges. Musa had 34 oranges. How many oranges did they have altogether?

Solution

Jamie had	4 4	4+4=8
Musa had	+3 4	4+3=7
Altogether	7 8	

Example 2:

Daniel bought 46kg of maize flour. He then bought more 21kg of millet flour. How much flour did Daniel buy altogether?

Solution

4	6kg	6+1=7
+ 2	1kg	4+2=6
6	7kg	

Example 3:

A box contained 506 purple pencils and 136 red pencils. How many pencils were there altogether?

Solution

Purple	5	0	6	s/w
Red	+ 1	3	6	6+6=12
Altogether	6	4	2pencils	1+0+3=4
				5+1=6

Example 4

Find the sum of 4892 and 2049

Solution

4	8	9	2	side/work
+ 2	0	4	9	2+9=11
6	9	4	1	1+9+4=14
				1+8=9
				4+2=6

Activity 3

1. John bought 399 bags of oranges and 55 bags of mangoes. How many bags of fruits did he buy altogether?

2. Juliet used 357litres of water in the morning and 288 litres in the evening to wash clothes. How much water did she use altogether?

3. Vickie bought 8kg of meat on Friday, 18kg on Saturday and 23kg on Sunday. How much meat did Vickie buy altogether?

4. Kyagulanyi harvested 480kg of cotton on the first day, 76kg on the second day and 63 on the third day. How many kgs of cotton did he harvest altogether?

5. Find the sum of 2455 and 3477.

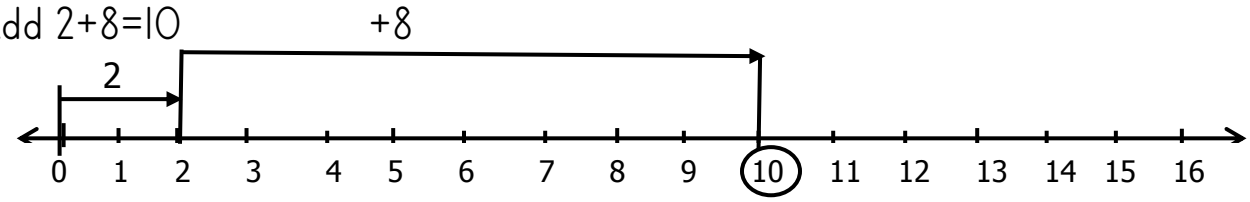
6. Mr. Ssegirinya has 3325 goats on his farm and 1645 goats on another farm. How many goats does he have altogether?

Lesson 4

Addition of numbers using a numberline.

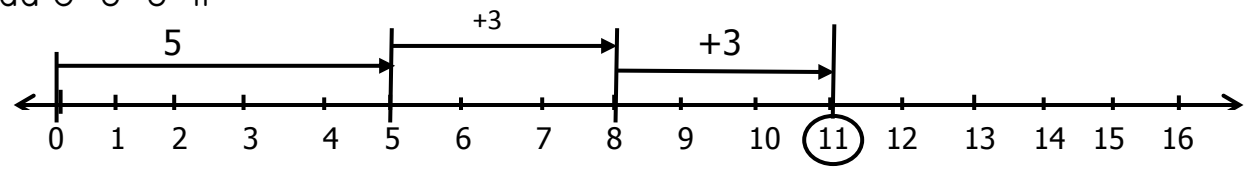
Example 1

Add 2+8=10



Example 2

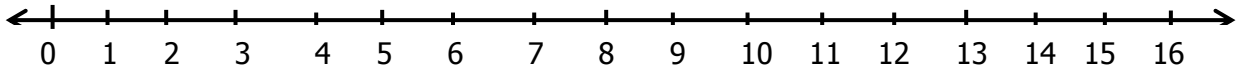
Add 5+3+3=11



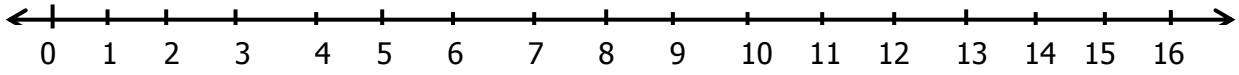
Activity 5

Find the sum of the following numbers using a number line.

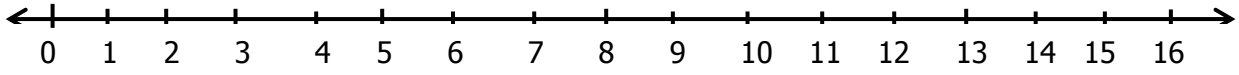
(a) 4+3 =



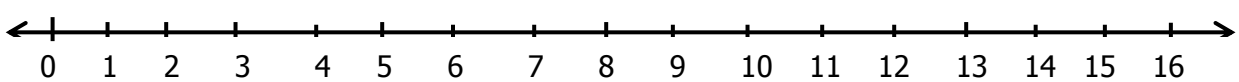
(b) 2+6 =



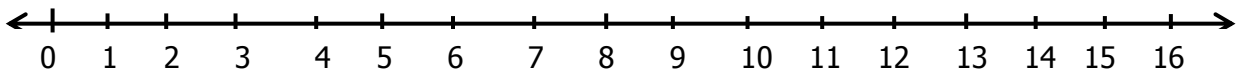
(c) 5+3 =



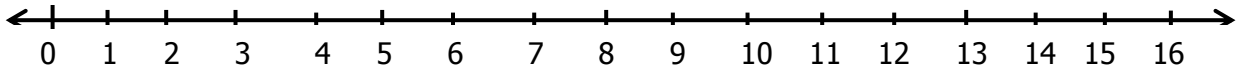
(d) 6+4 =



(e) 2+7=



(f) 4+5+2=



Lesson 5

Subtraction of numbers without regrouping

Example 1

Subtraction

$$\begin{array}{r} 7\ 9 \\ -\ 4\ 3 \\ \hline 3\ 6 \end{array}$$

9 – 3 = 6

7 – 4 = 3

Example 2

7 9 – 5 5

Solution

$$\begin{array}{r} 7\ 9 \\ -\ 5\ 5 \\ \hline 2\ 4 \end{array}$$

9 – 5 = 4

7 – 5 = 2

Example 3

Subtract

$$\begin{array}{r} 9\ 9\ 8 \\ -\ \ 6\ 5 \\ \hline 9\ 3\ 3 \end{array}$$

8 – 5 = 3

9 – 6 = 3

Example 4

Subtract

$$\begin{array}{r} 6\ 2\ 5 \\ -\ \ 1\ 4 \\ \hline 6\ 1\ 1 \end{array}$$

5 – 4 = 1

2 – 1 = 1

Example 5

Subtract 8 8 8
- 5 3
8 3 5

8-3=5
8-5=3
8-0

Activity 5

Subtract the following numbers.

(a) 4 7
- 2 6

(b) 7 9
- 5 5

(c) 2 6 7 7
- 1 2 2 2

(d) 5 9 3
- 7 2

(e) 6 2 5
- 1 4

(f) 8 8 8
- 5 3

(g) 9 5 7
- 4 5

Lesson 6

Subtraction of numbers with regrouping.

Example 1

Subtract ~~9~~ 13 6
- 4 4
0 9 2

6-4=2
13-4=

Example 2

Subtract 5 ~~7~~ 8 12
- 4 6 5
1 1 7

12-5=7
7-6=1
5-4=1

Example 3

Subtract

$$\begin{array}{rrr} \not{2}^{1} & {}^{1}6 & 4 \\ - & 7 & 2 \\ \hline 1 & 9 & 2 \end{array}$$

4-2=2

16-7=9

Example 4

Subtract 305 – 72

Solution

$$\begin{array}{rrr} \not{3}^{2} & {}^{1}0 & 5 \\ & 7 & 2 \\ \hline 2 & 3 & 3 \end{array}$$

5-2=3

10-7=3

Activity 6

Subtract the following numbers

(a) $\begin{array}{rrr} 7 & 7 & 6 \\ - & 5 & 7 \\ \hline \end{array}$ (b) $\begin{array}{rrr} 3 & 5 & 2 \\ - & 7 & 1 \\ \hline \end{array}$ (c) $\begin{array}{rrr} 5 & 4 & 7 \\ - & 6 & 3 \\ \hline \end{array}$

(d) $\begin{array}{rrr} 7 & 6 & 6 \\ - & 7 & 5 \\ \hline \end{array}$ (e) $\begin{array}{rrr} 4 & 3 & 5 \\ - & 1 & 9 \\ \hline \end{array}$ (f) $\begin{array}{rrr} 1 & 6 & 3 \\ - & 8 & 7 \\ \hline \end{array}$

Lesson 7

Word statements involving subtraction of numbers.

Example 1

Subtract 3 0 7 from 8 4 5

Solution

$$\begin{array}{rrr} 8 & 4 & 5 \\ - \; 3 & 0 & 7 \\ \hline 5 & 3 & 8 \end{array}$$

15-7=8

3-0=3

8-3=5

Example 2

Joseph bought 900 cakes for his birth day party. 355 of them were stolen. How many cakes did he remain with?

Solution

$$\begin{array}{rrr} 9 & 0 & 0 \\ - \; 3 & 5 & 5 \\ \hline 5 & 4 & 5 \text{cakes} \end{array}$$

10-5=5

9-5=4

8-3=5

Activity 7

1. Kibuli high school had 1000 students. 519 were girls. How many boys were there?

2. A tank was filled with 250litres of water. Alice's family used 225litres. How many litres of water remained?

3. What is the difference between 657 and 239

4. Take away 675 from 945.

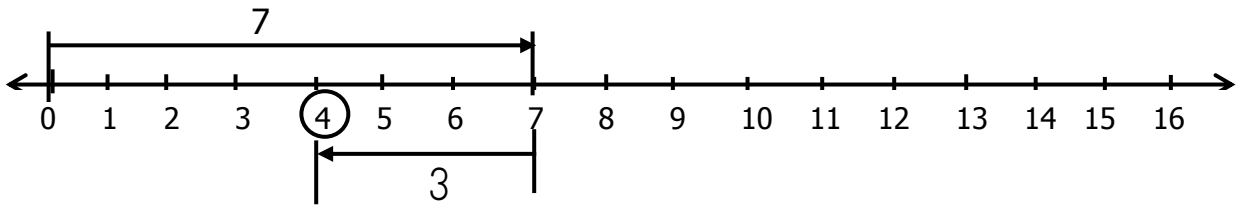
5. Subtract 50 from 100

6. Mr. Kaggwa bought 469 eggs. On his way home, he got an accident and 374 eggs got broken. How many eggs did he remain with?

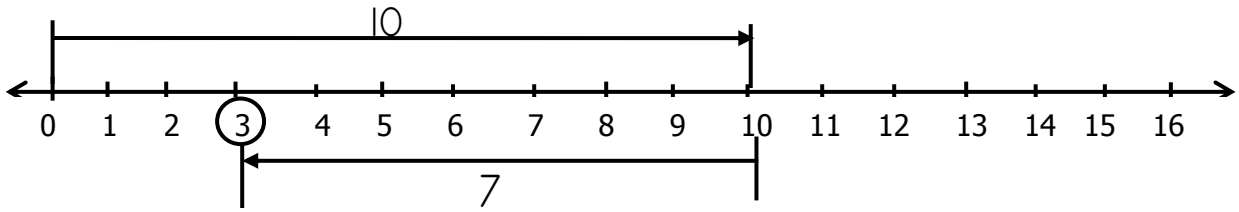
Lesson 8

Subtracting numbers using a numberline

(a) $7 - 3 = 4$



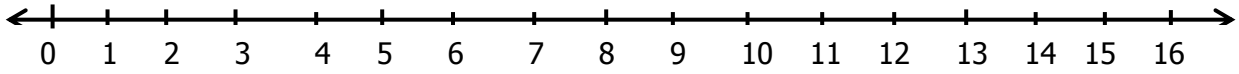
(b) 10 – 7 = 3



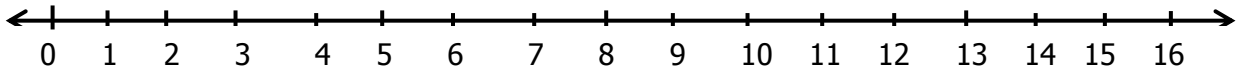
Activity 8

Workout using a number line.

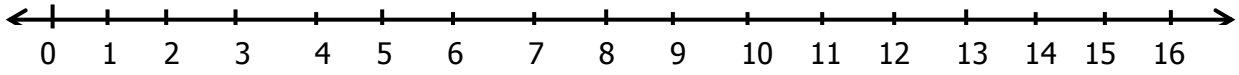
(a) 9 – 9 =



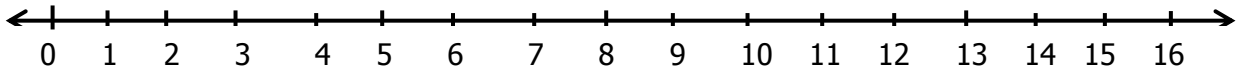
(b) 7 - 6 =



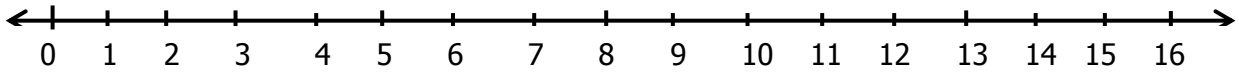
(c) 12 – 3 =



(d) 9 – 4 =



(e) 10 – 8 =



TOPIC : OPERATIONS ON WHOLE NUMBERS

SUB-TOPIC : Multiplication without re-grouping

- When multiplying, we use groups.

For example

5 x 2 means, 5 groups of twos. That is

2 + 2 + 2 + 2 + 2 = 10

(II) (II) (II) (II) (II)

Example II

4 }
X 3
12

This means 4 groups of threes

That is 3 + 3 + 3 + 3 = 12

(III) (III) (III) (III)

ACTIVITY

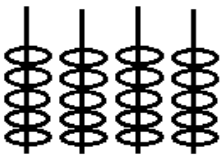
a) 4 x 2 = ☐

b) 5 x 3 = ☐

c) 4 2
x 2
_____

d) 2 3 3
x 3
_____

e) 1 4 0
x 2
_____

f) 

= ___ x ___

= ☐

2. Word statements in multiplication without re-grouping

Example I

a) How many legs do 4 boys have?

4 x 2 = 8 legs

ACTIVITY

1) If one cow has 4 legs, how many legs do 12 cows have?

2) An exercise book has 24 papers. How many pages does the book have?

3) A tray of eggs holds 30 eggs. How many eggs can 3 similar trays hold?

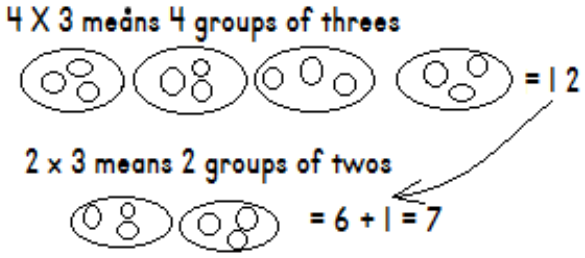
4) Find the product of 5 and 4.

LESSON 2

Multiplication with re-grouping

Example

T	O
2	4
X	3
7	**2**



ACTIVITY

a) 14 × 3 = _____

b) 26 × 2 = _____

c) 133 × 5 = _____

e) 343 × 4 = _____

f) 520 × 5 = _____

g) 164 × 2 = _____

d) 4 4 5
X 2

h) 2 5 2
x 3

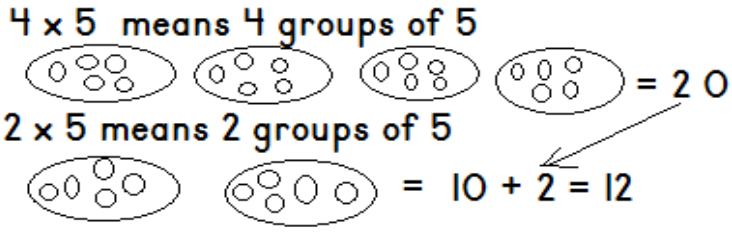
LESSON 3

Word statements involving multiplication with Re-grouping

- **Example I**

  A crate of soda holds 24 bottles. How many bottles can 5 similar creates hold?

2 4
x 5
12 0



ACTIVITY

a) A book has 48 pages. How many pages do 3 similar books have?

b) Work out the product of 36 and 2.

c) A school uses 30 boxes of chalk in a week. How many boxes of chalk does the school use in 5 weeks?

d) A farmer gets 24 litres of milk in one cow. How many litres of milk will the farmer get from 9 similar cows?

LESSON 4

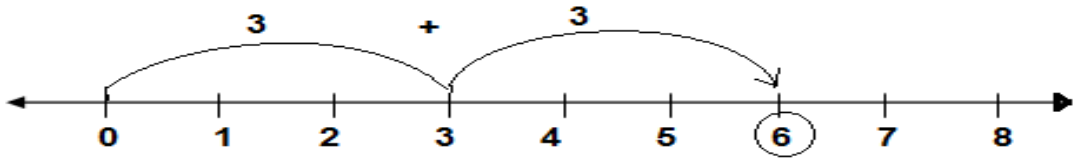
Multiplication using a number line

Example I

2 X 3 = 3 + 3 {Stands for 2 groups of three}

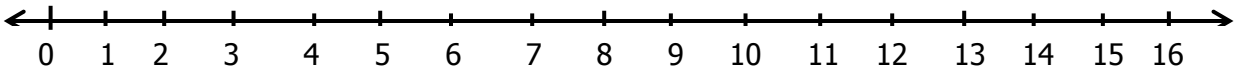
(III) (III)

= 6

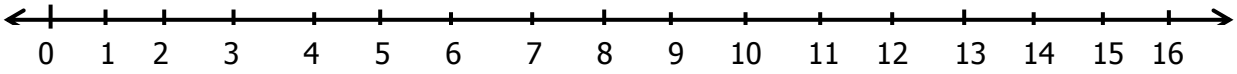


ACTIVITY

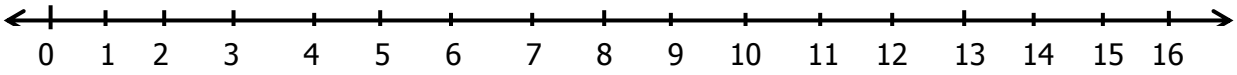
a) 4 x 2 =



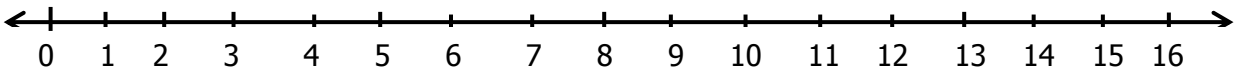
b) 3 x 4 =



c) 5 x 2 =



d) 6 x 2 =



LESSON 5

Completing multiplication tables.

a)

Number of girls	1	3	5	4	6	2
Number of legs	2	6	.....	.....	.....	.....

3 x 2 = 6

(II) + (II) + (II)

b)

Number of stools	1	2	4	3	5	6	7
Number of legs	3	.....	.....	.....	.....	.....	.....

c)

X	2	3	4	5
3	6	9	.....	.....
4	.....	.....	.....	.....
5	.....	.....	.....	.....

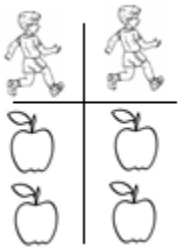
LESSON ONE: DIVISION

- Division means sharing.
- **Practical Activity**

  Pick 9 tomatoes and share them equally among 3 family members. How many tomatoes does each family member get?

Example I

4 ÷ 2 = 2

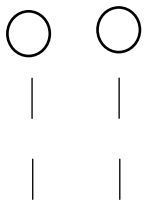


Or M2 = { 2, 4, 6, 8 }

Example II

	1	2
×		
2	2	4
1x2	2	
	0	4
	-	4
2x2	=	0

4 ÷ 2 = 2



Example III

13 ÷ 3 = 4 rem. 1

ACTIVITY I

a) 9 ÷ 3 =

e) 32 ÷ 5 =

b) $3\overline{)96}$

f) $4\overline{)19}$

c) $2\overline{)19}$

g) $5\overline{)25}$

d) $2\overline{)84}$

h) $5\overline{)55}$

2. Word statements involving division

ACTIVITY 2

a) Divide 25 by 5

b) Share 96 nets among 3 fishermen.

b) 3 schools shared 36 books equally. How many books did each school get?

c) A basket contained 50 tomatoes to be given to 5 women. How many tomatoes did each woman get?

TERM II

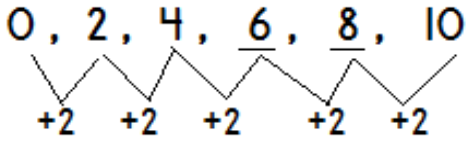
TOPIC : NUMBER PATTERNS AND SEQUENCE

Lesson One

- Counting in twos , threes , fours , fives , and tens in ascending order.
- Ascending order is arranging numbers from smallest to biggest.

Example I

- Counting twos



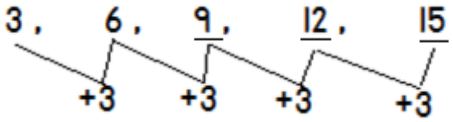
$2 - 0 = 2$

2 = is the constant

Note: When numbers are ascending, we add the constant.

Example 2

- Counting in threes

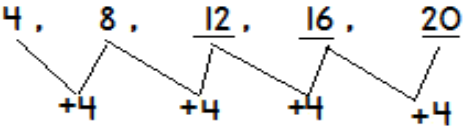


$= 6 - 3 = 3$

3 = is the constant

Example 3

- Counting in fours

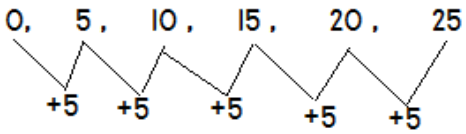


$= 8 - 4 = 4$

4 = is the constant

Example 4

- Counting in fives



$= 5 - 0 = 5$

ACTIVITY I

Fill in the missing numbers.

1a) 8, 10, ____, ____, _____ (b) 40, 42, 44, _____, _____, ____

2a) 10, 15, 20, _____, _____ , _____ (b) 12, 16, _____, _____, _____

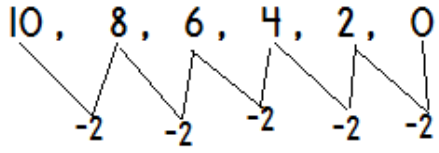
3a) 55, 60, 65, ____, ____, _____ (b) 8, 12, 16, ____, _____, ____

4a) 70, 80, 90 , _____, ____ , ____ (b) 21, 24, _____, _____ , _____

- Counting in twos, threes, fours, fives and tens in descending order.
- Descending order is arranging numbers from biggest to smallest.

Example I

- Counting in twos

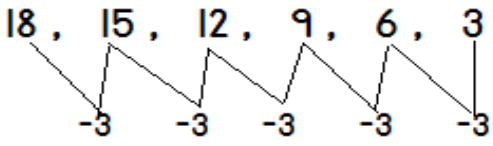


= 10 – 8 = 2

- When numbers are descending, we subtract the constant.

Example 2

- Counting in threes

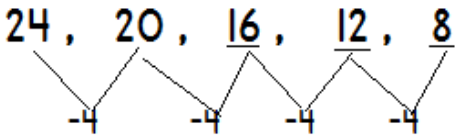


NOTE: Subtract the first 2 numbers to get the constant as shown below.

$$= \begin{array}{r} 18 \\ -\,15 \\ \hline 03 \end{array}$$

Example 3

- Counting in fours

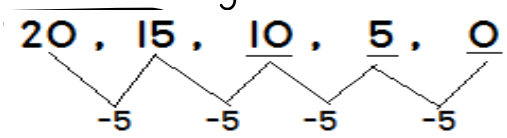


=

$$\begin{array}{r} 24 \\ -\ 20 \\ \hline 04 \end{array}$$

Example 4

- Counting in fives



$$\begin{array}{r} 20 \\ -\ 15 \\ \hline 05 \end{array}$$

ACTIVITY 2

Complete the sequences correctly.

1a) 12 , 10 , 8 , _____ , _____ , _____

b) 15 , 12 , _____ , _____ , _____

2a) 65 , 60 , 55 , _____ , _____ , _____

b) 24 , 22 , 20 , _____ , _____ , _____

3a) 28 , 24 , 20 , _____, _____ , _____

b) 90 , 80 , 70 , _____ , _____ , _____

4a) 48 , 44 , 40 , _____ , _____ , _____

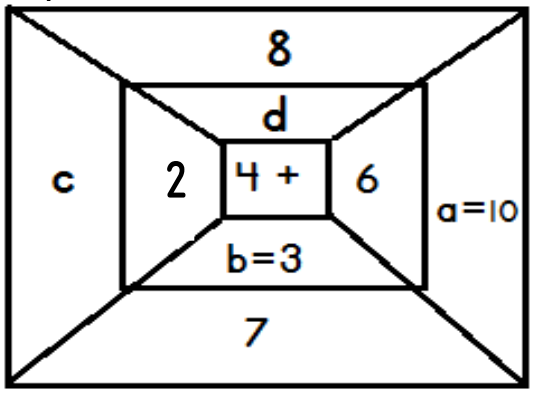
b) 75 , 70 , 65 , _____ , _____ , _____

c) 18, 15, 12, _____, _____, _____

COMPLETING TABLES

Completing tables involving addition.

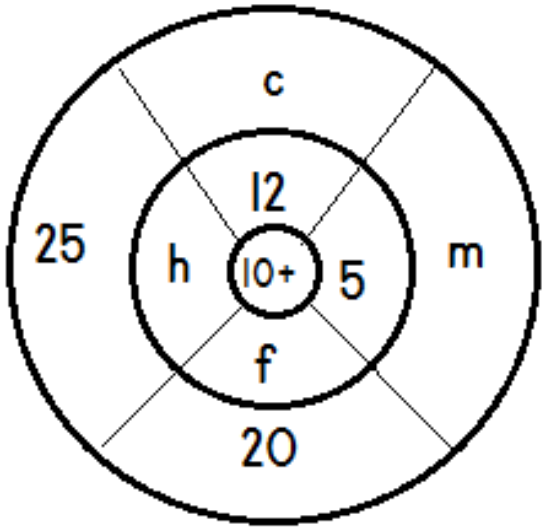
- Example 1.



a = 4+6 = 10 **b** = 7 – 4=3 **c** = 4 + 2 = 6 **d** = 8 – 4 = 4

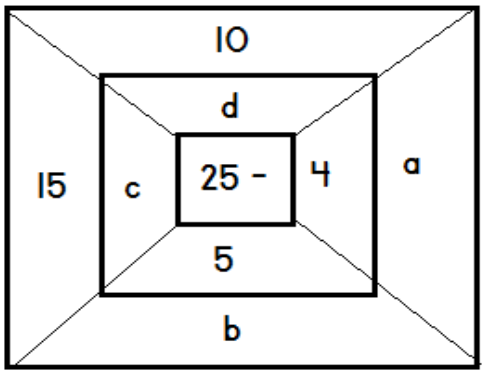
ACTIVITY 3

a) Complete the table involving addition correctly.



Complete the table involving subtraction.

Example 1.



a = 25 − 4 = 21

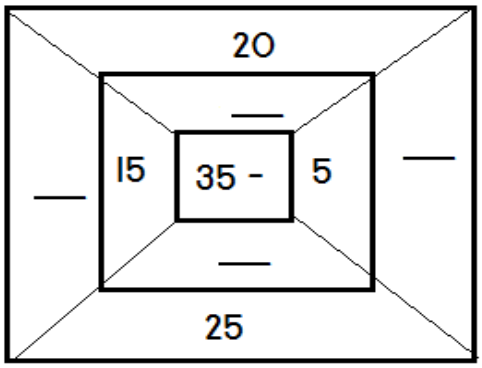
b = 25 − 5 = 20

c = 25 − 15 = 10

d = 25 − 10 = 15

ACTIVITY 4

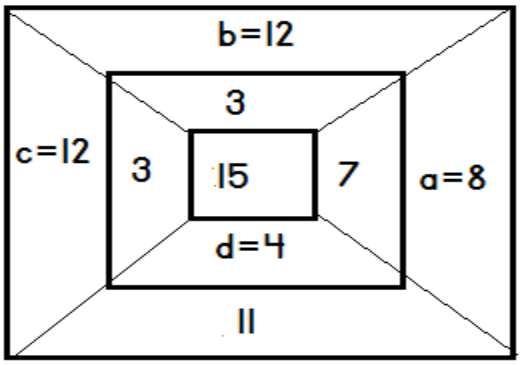
Complete the table involving subtraction.



Completing tables involving sum at the centre.

- Example 1

  The sum at the centre is 15. Find the missing number.



a = 15 − 7 = 18

b = 15 − 3 = 12

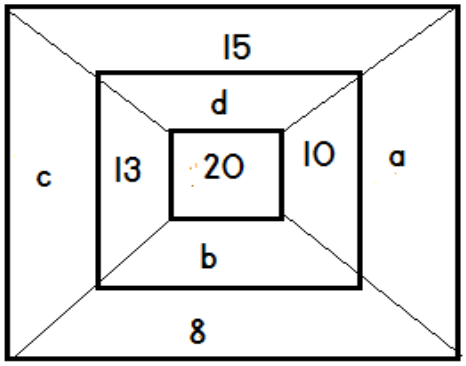
c = 15 − 3 = 12

d = 15 − 11 = 4

Note: Subtract the number from the sum in the centre to find the missing number.

ACTIVITY 5

1. Given the sum at the centre is 20. Find the missing numbers.



c = _____ **a** = _____

d = _____ **b** = _____

Completing the magic square

Example

7	a = 0	5
2	4	C = 6
b = 3	8	1

a) Find the magic sum.

Magic sum = 7 + 4 + 1 = **12**

- **Note**:
  - To find the magic sum, we add 3 digits that are in a straight line diagonally, vertically or horizontally.

b) Find the value of a.

a = 12 – (7 + 5)

12 – 12 = 0

- **Note:**
  - To find the value of the unknown, we subtract the sum of the two digits in a straight line from the magic sum.

c) b = 12 – (7+2)

12 – 9= 0

d) c = 12 – (5 +1)

12 – 6 = 6

ACTIVITY 6

a)

8	**a**	6
C	5	**b**
4	9	**d**

(i) Find the magic sum.

(ii) **Find the value of;**

a c

b d

b)

K	3	8
X	7	**h**
6	**m**	4

(i) Find the magic sum.

(ii) **Find the value of;**

k x

h m

THEME: FRACTIONS

Lesson One: Fractions

- A fraction is a part of a whole.

Note

 A whole

 Fraction (part)

- **Naming fractions**

Figure	Word	Figure	Word
1	A whole	$\frac{3}{6}$	Three sixths
$\frac{1}{2}$	A half	$\frac{5}{6}$	Five sixths
$\frac{1}{3}$	A third	$\frac{6}{7}$	Six sevenths
$\frac{1}{4}$	A quarter	$\frac{8}{10}$	Eight tenths
$\frac{1}{6}$	A sixth	$\frac{3}{10}$	Three tenths
$\frac{4}{5}$	Four fifths	$\frac{4}{7}$	Four sevenths
$\frac{2}{6}$	Two sixths	$\frac{1}{9}$	A ninth

ACTIVITY 1

1. Write the following fractions in words.

a) $\frac{1}{9}$ _____

b) $\frac{2}{3}$ _____

e) $\frac{3}{4}$ _____

f) $\frac{4}{6}$ _____

c) $\frac{5}{7}$ _____ g) $\frac{5}{8}$ _____

d) $\frac{4}{5}$ _____ h) $\frac{7}{10}$ _____

2. Write the following fractions in figures.

a) Two quarters _____ d) Seven ninths _____

b) Three tenths _____ e) Five sixths _____

c) Two eighths _____

Lesson Two : Comparing fractions using greater than or less than.

- **Note:** A fraction has two parts.

$\frac{1}{4}$ ← numerator

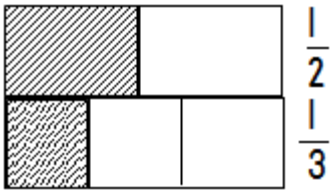
← denominator

- Greater than is for a bigger fraction.
- Less than is for a smaller fraction.
- **Example 1**

Compare the fraction using greater than or less than

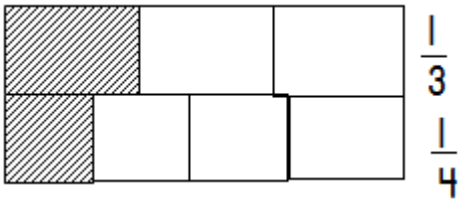
$\frac{1}{3}$ less than $\frac{1}{2}$

Solution



- **Note:** - The more the parts the smaller the fraction.
  - The fewer the parts, the bigger the fraction.
- **Example 2**

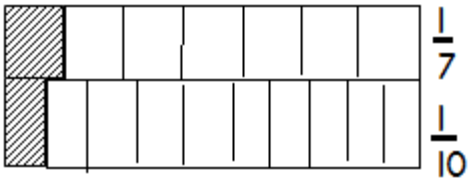
$\frac{1}{3}$ greater than $\frac{1}{4}$



- **Examples 3**

Use greater than or less than to compare

$\frac{1}{7}$ greater than $\frac{1}{10}$



ACTIVITY I

Compare the following using greater than or less than

a) $\frac{1}{4}$ ____ $\frac{1}{8}$

b) $\frac{5}{7}$ ____ $\frac{3}{7}$

c) $\frac{1}{6}$ ____ $\frac{1}{2}$

d) $\frac{1}{8}$ ____ $\frac{1}{6}$

e) $\frac{1}{5}$ ____ $\frac{2}{5}$

f) $\frac{1}{3}$ ____ $\frac{1}{2}$

g) $\frac{1}{3}$ ____ $\frac{1}{6}$

h) $\frac{2}{4}$ ____ $\frac{1}{2}$

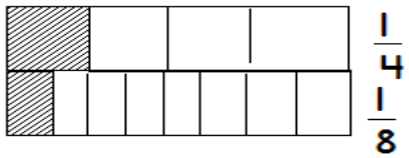
Comparing fractions using symbols

- $>$ greater than
- $<$ less than
- $=$ equal

- **Example**

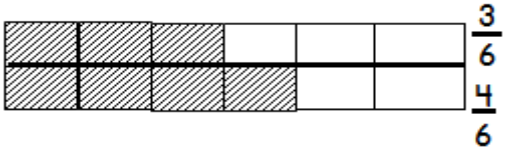
Compare using $>$, $<$ or $=$

$\frac{1}{4} > \frac{1}{8}$



- **Example 2**

$\frac{3}{6} < \frac{4}{6}$



ACTIVITY 2

Fill in $>$, $<$ or $=$ to complete the following.

a) $\frac{4}{8}$ _____ $\frac{5}{8}$

b) $\frac{2}{4}$ _____ $\frac{3}{4}$

c) $\frac{1}{8}$ _____ $\frac{1}{4}$

d) $\frac{1}{3}$ _____ $\frac{1}{2}$

e) $\frac{1}{10}$ _____ $\frac{1}{7}$

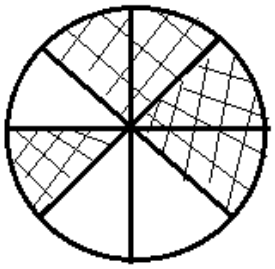
f) $\frac{1}{3}$ _____ $\frac{1}{6}$

g) $\frac{1}{10}$ _____ $\frac{1}{9}$

h) $\frac{3}{6}$ _____ $\frac{2}{4}$

Shading fractions

- Example 1.

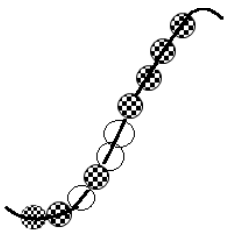


$\frac{5}{8}$ ← numerator

- **Note** : When shading fractions, we shade parts of the numerator.

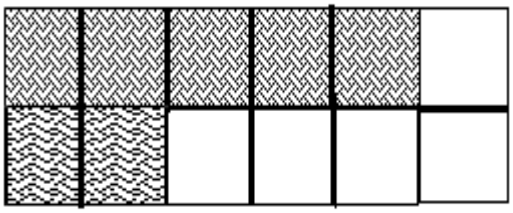
- Example 2.

- Shade : $\frac{7}{10}$



Example 3

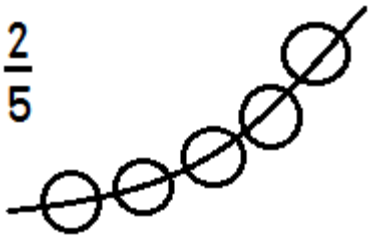
Shade $\frac{7}{12}$

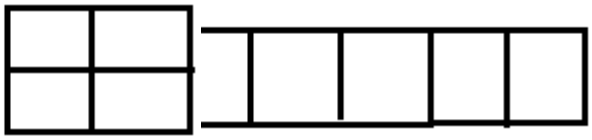


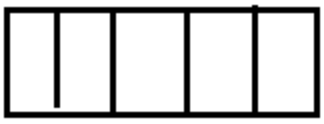
ACTIVITY 3

1. Shade the following fractions.

$\frac{2}{3}$ 

$\frac{2}{5}$ 

$\frac{2}{4}$ 



$\frac{2}{5}$

Lesson Three : Naming shaded and unshaded fractions

- **Note:** Shaded fractions are parts which are shaded
  Unshaded fractions are fractions which are not shaded.

- **Example 1**

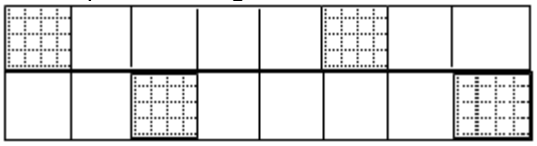
Name the shaded and unshaded fractions

$\frac{3}{8}$ = shaded fraction

$\frac{5}{8}$ = unshaded fraction

- **Example 2**

Study the figure and name the shaded and unshaded fractions



Shaded fraction = $\frac{4}{16}$

Unshaded fraction = $\frac{12}{16}$

ACTIVITY 1

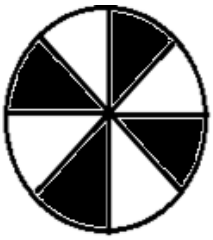
1. Name the shaded and unshaded fractions.

shaded =

unshaded =

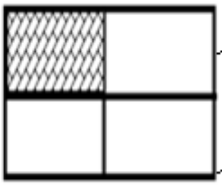
shaded =

unshaded =



shaded =

unshaded =



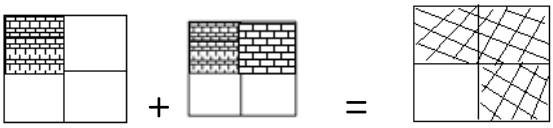
shaded =

unshaded =

Lesson Four : Addition of fractions

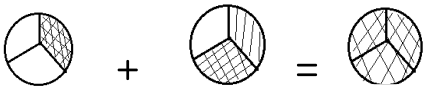
- Example 1

Add:



$\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$

- Example 2.



$\frac{1}{3} + \frac{2}{3} = \frac{3}{3} = 1$

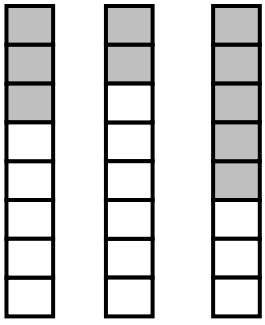
NOTE: When adding fractions, we add the numerators only.

$\frac{3}{7}$ ← numerator

Activity 1

1. Write the missing fraction.

$\frac{3}{8} + \_\_ = \frac{5}{8}$



2. Add the fractions.

$\frac{6}{18} + \frac{3}{18} + \frac{7}{18} =$

$\frac{3}{10} + \frac{2}{10} + \frac{4}{10} =$

Word statements involving addition of fractions

- Read these statements, write the fractions and add correctly
- Key words used in addition are;
  a) Sum b) both c) and d) total e) altogether
- **Example**

  Find the sum of : $\frac{10}{16}$ and $\frac{5}{16}$

  Solution:

$$\frac{10}{16} + \frac{5}{16} = \frac{10 + 5}{16}$$

$$= \frac{15}{16}$$

- **Example 2**

Joseph ate $\frac{4}{9}$ of the cake in the morning and $\frac{3}{9}$ in the evening. Find the fraction of the cake that Joseph ate altogether.

Solution:

$$\frac{4}{9} + \frac{3}{9} = \frac{4 + 3}{9}$$

$$= \frac{7}{9}$$

- **Example 3**

If $\frac{4}{8}$ of the garden is covered with flowers and $\frac{2}{8}$ of it covered with grass. What fraction of the garden is covered by both flowers and grass?

Solution:

$$\frac{4}{8} + \frac{2}{8} = \frac{4 + 2}{8}$$

$$= \frac{6}{8}$$

Activity 2

Add the following fractions.

a) What is the sum of $\frac{7}{20}$ and $\frac{8}{20}$.

b) Andrew did $\frac{3}{9}$ of his homework in the evening and $\frac{2}{9}$ of it at night. What fraction of the work did he do altogether?

c) Mukasa fetched $\frac{4}{12}$ of the water in the tank and Muwanga fetched $\frac{5}{12}$ of it. How much water did they fetch altogether?

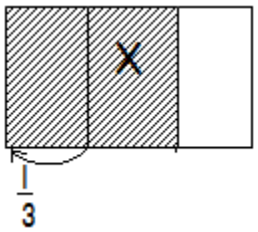
d) I walked $\frac{4}{9}$ of the journey and I ran $\frac{3}{9}$ of it. What fraction of the journey did I cover?

Lesson 5 : Subtraction of fractions.

Example 1

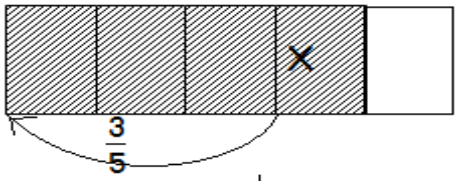
Solution

$$\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$$



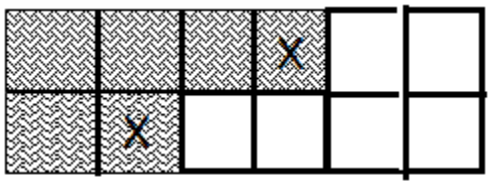
Example 2

Solution



Example 3

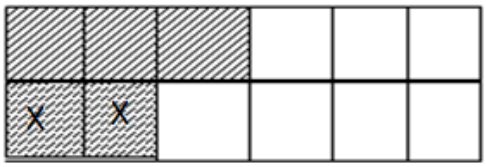
Solution



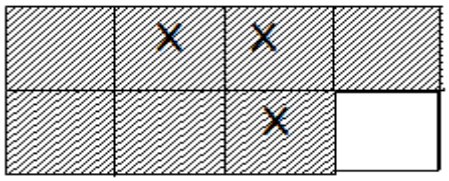
$\frac{7}{12} - \frac{2}{12} = \frac{5}{12}$

Activity 1

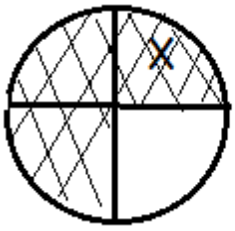
Subtract the following numbers.



$\frac{5}{12} - \frac{2}{12} = \square$



$\frac{7}{8} - \square = \frac{4}{8}$



$\frac{3}{4} - \frac{1}{4} = \square$

$\frac{5}{9} - \frac{3}{9} =$

$\frac{7}{15} - \frac{4}{15} =$

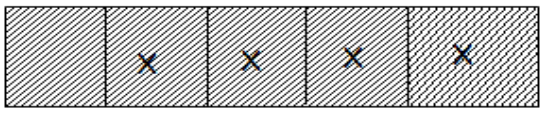
Problem solving involving subtraction of fractions

- **New words**
  - Subtraction
  - Remained
  - Left
  - Difference
- **Example**

  Daniel ate $\frac{4}{5}$ of an orange. What fraction remained?

  $$\frac{5}{5} - \frac{4}{5} = \frac{5-4}{5} = \frac{1}{5}$$

  Method

  $\frac{1}{5}$
- **Example 2**

  A boy had $\frac{5}{6}$ of a cake. He ate $\frac{2}{6}$ of it. What fraction remained?

  $$\frac{5}{6} - \frac{2}{6} = \frac{5-2}{6}$$
  $$= \frac{3}{6}$$

Activity 2

1. What is the difference between $\frac{11}{12}$ and $\frac{6}{12}$?

2. A pupil had $\frac{5}{9}$ of his homework . What fraction of his homework was left?

3. A bowl was $\frac{10}{12}$ full of sugar. I used $\frac{5}{12}$ of it. What fraction was left?

4. Matovu had $\frac{7}{9}$ of a pancake. He gave $\frac{3}{9}$ of it to his brother. What fraction remained?

5. Alice used $\frac{7}{10}$ of the water from the tank. How much water was left?

Lesson Six : Finding the number of fractions in a whole.

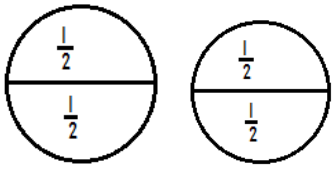
- **Example**

How many halves are in 2 wholes?

Solution:

Halves = 2 parts from each whole

= 2 wholes



= 4 halves

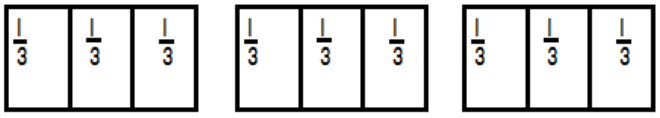
- **Example 2**

How many thirds are in 3 wholes?

Solution

Thirds = 3 parts

_____ = 3 wholes



= 9 thirds

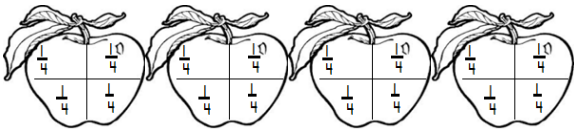
- **Example 3**

How many quarters are in 5 wholes?

Solution

Quarters = 4 parts in a whole

_____ = 5 wholes



= 20 quarters

Activity 1

Work out the following.

a) How many halves are in a whole?

b) How many quarters are in a whole?

c) How many halves are in 5 wholes?

d) How many thirds are in 2 wholes?

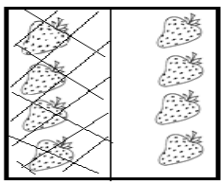
e) How many quarters are in 4 wholes?

f) How many thirds are in 6 wholes?

Lesson 7 : Fractions of a group.

- **Example 1.**

What is $\frac{1}{2}$ of 8?



= 4

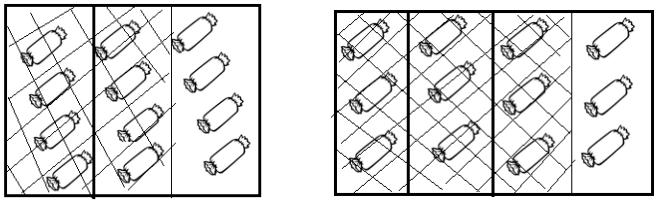
- **Note:**

- Draw a table showing a given fraction/shade the given fraction.
- Share the given whole.
- Count the items in the shaded area.

- **Example 2**

  Simplify $\frac{2}{3}$ of 12 + $\frac{3}{4}$ of 12.

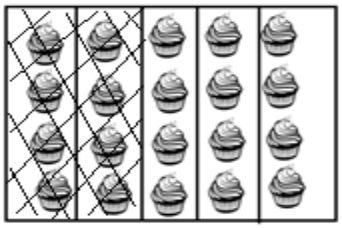
  Solution



  8 + 9 = 17

- **Example 3**

  Work out $\frac{2}{5}$ of 20 cakes.



  = 10 cakes

Activity 1

Work out the following

a) $\frac{1}{2}$ of 12

b) $\frac{1}{3}$ of 9

c) $\frac{3}{4}$ of 16 + $\frac{1}{2}$ of 8

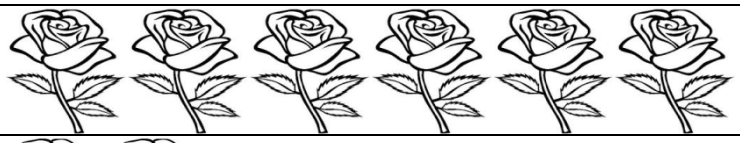
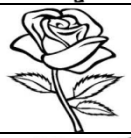
d) $\frac{2}{4}$ of 8 + $\frac{2}{3}$ of 9

THEME: GRAPHS

Lesson 1 : Picture graphs without a scale.

- **Example 1**

Five girls picked flowers from the garden. Study it and answer questions that follow.

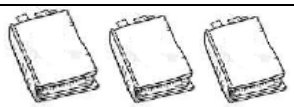
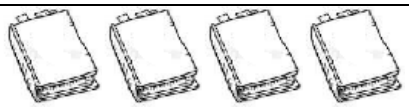
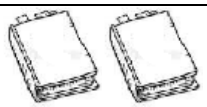
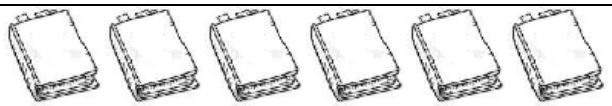
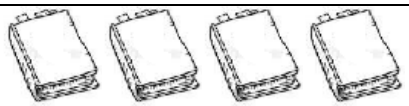
Sarah	
Susan	
Moreen	
Jamilah	
Rose	

Questions

1. How many flowers did Susan pick? **2 flowers**
2. Who picked the highest number of flowers. **Sarah**
3. **Rose** and **Susan** picked the same number of flowers.
4. Who picked the least number of flowers? **Jamila**
5. How many flowers did Sarah and Moreen pick?
   6 + 4 = **10 flowers**
6. How many more flowers did Sarah pick than Rose?
   6 – 2 = 4 flowers
7. How many flowers did the 5 girls pick altogether?
   6 + 2 + 4 + 1 + 2 = **15 flowers**

Activity I

a) The graph below shows the number of books given to the best pupils. Study it and answer questions that follow.

Pupil	Number of books
Alex	
Moses	
Rania	
Calvin	
Joseph	

Questions

1. How many books did Moses get?

_____

2. _____got 2 books.
3. How many books did Calvin and Joseph get?

_____

4. How many books did Alex, Joseph and Moses get?

_____

5. Who got the least number of books?

_____

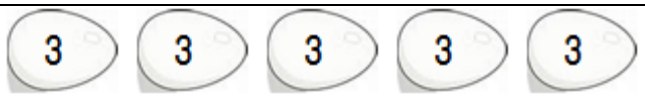
6. How many books did all the five children get?

_____

Lesson 2 : Pictures graphs with a scale.

- Example 1.

The picto-graph below shows the number of eggs five girls boiled. Study it and answer questions that follow.

Mary	 = 6
Dorah	 = 12
Solome	 = 6
Anitah	 = 15
Alex	 = 12

 = 3 eggs

Questions

1. How many eggs did Mary boil?
   Mary boiled (3 x 2) = 6 eggs

2. Who boiled the least eggs?
   Mary and Solome boiled the least eggs.

3. How many eggs did Alex boil?
   4 x 3 = 12 eggs

4. How many eggs did Anitah and Alex boil altogether?
   Anitah = 5 x 3 = 15 eggs
   Alex = 4 x 3 = 12 eggs

   15 + 12 = **27 eggs**

Activity I

The picto-graph below shows the number of cakes given to the best performers in P.3 class.

Emma	
Roger	
Alexis	
Dembe	

 = 5 cakes

Questions

1. How many cakes did Emma get?

   _____

2. Who got the highest number of cakes?

   _____

3. How many cakes did Dembe and Roger get?

   _____

4. _____got the least number of cakes.

5. How many cakes did Roger and Alexis get altogether?

   _____

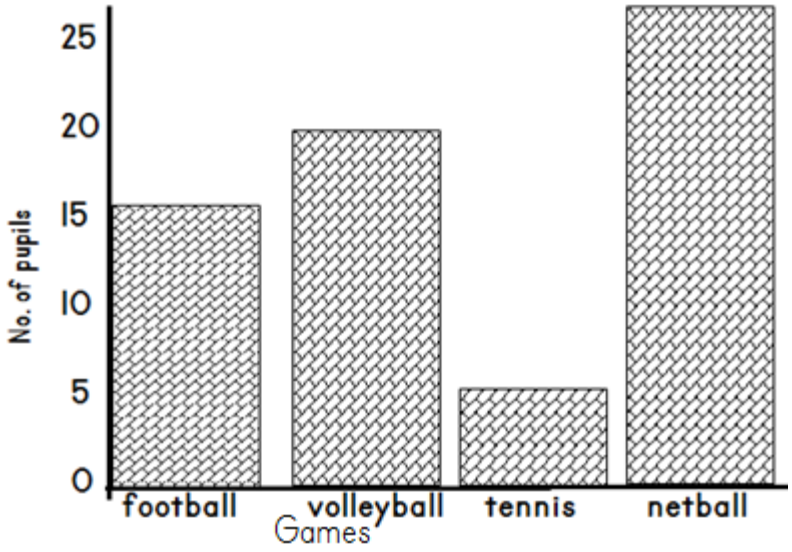
6. How many cakes did the four boys get?

   _____

Lesson Three : Bar graphs

- **Example 1**

  Below is a bar graph showing the number of pupils who play different games.



Questions

1. How many pupils play football?
   15 pupils play football.

2. Which game is played by most pupils?
   Netball

3. How many more pupils play volleyball than tennis?
   20 – 5 = 15 pupils

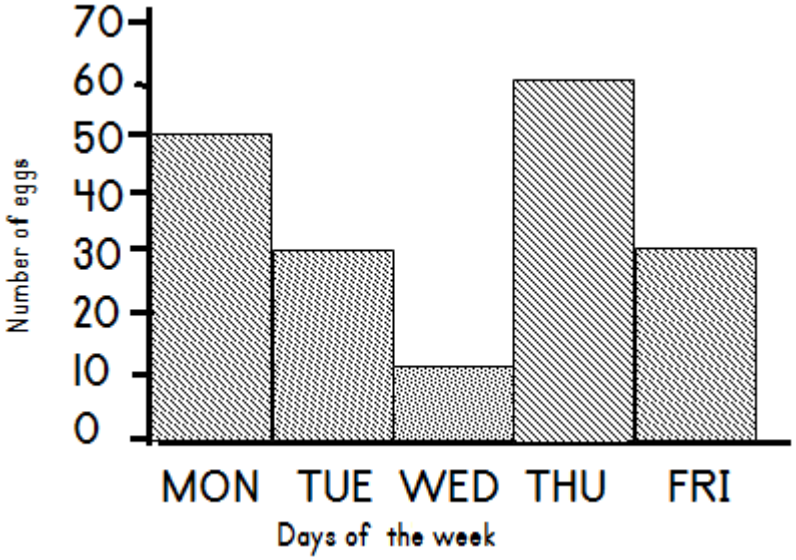
4. How many pupils play football and netball?
   15 + 25 = 40 pupils

5. Which game is played by 15 pupils?
   Football

6. How many pupils play all the four games on the graph?
   15 + 20 + 5 + 25 = 65 pupils

Activity I

Okoth's poultry farm gives him eggs as shown below.



Questions

1. How many eggs did Okoth get on Monday?

   _____

2. How many eggs did Okoth collect on Tuesday?

   _____

3. On which day did Mr. Okoth get most eggs?

   _____

4. On _____, Okoth collected the least eggs.
5. How many eggs did Okoth get on the first three days on the graph?

   _____

6. How many more eggs did Okoth collect on Thursday than Friday?

   _____

THEME: MEASURES

Lesson 1 : Weight (Mass)

- Weight is the lightness or heaviness of an object.

- **Units used for measuring weight;**
  - kilograms (kg)
  - grams (g)
  - hectograms (hg)

- **Changing kilograms to grams**

  Note: 1kg = 1000g

- **Example 1**

  Change 3kg to grams

  Solution

  1kg = 1000g

  3kg = (3x 1000)g

  = 3000g

  1000g
  1000g
  + 1000g
  3000g

- **Example 2**

  Change 16kg to grams.

  1kg = 1000g

  16kg = (16 x 1000g)

  = 16000g

Activity 1

Change the following kilograms to grams.

a) 14kg

b) 13kg

e) 9kg

f) 7kg

c) 18kg

g) 20kg

d) 12kg

h) 25kg

Lesson Two : Changing grams to kilograms.

- **Example 1**

  Change 2000g to kilograms.

  Solution.

  1000g = kg

  2000g = $\left\{\frac{2000}{1000}\right\}$ kg

  = **2kg**

- **Example 2**

  Change 4000g to kilograms

  1000g = 1kg

  4000g = $\left\{\frac{4000}{1000}\right\}$ kg

  = 4kg

- **Example 3**

  How many kilograms are in 25000g?

  Solution

  1000g = 1 kg

  25000g = $\left\{\frac{25000}{1000}\right\}$ kg

  = 25kg

ACTIVITY 1

Change the following grams to kilograms.

a) 7000g

b) 18000g

c) 1000g

d) 23000g

e) 6000g

f) 45000g

g) 11000g

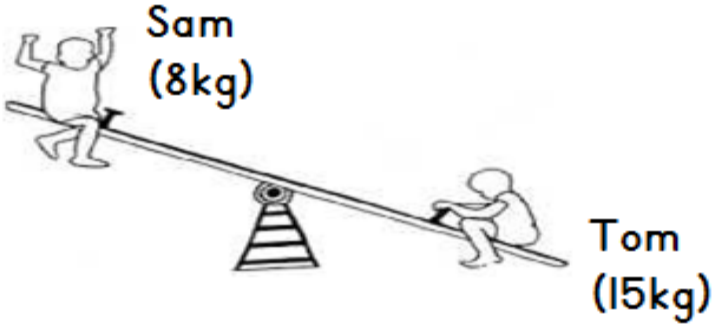
h) 2000g

Lesson 3 : Comparing weight

- To compare is to find how heavy an object is compared to others.

- **Example**

Use the sea-saw below to attempt the questions about it.



a) Who is heavier? **Tom is heavier.**

b) Who is lighter? **Sam is lighter.**

c) Find the total sum of the two weights.

Solution

15 kg
+ 8 kg
23 kg

15 + 8 = 13

00000000 + 00000000
0000000

d) Find the difference between Tom and Sam's weight?

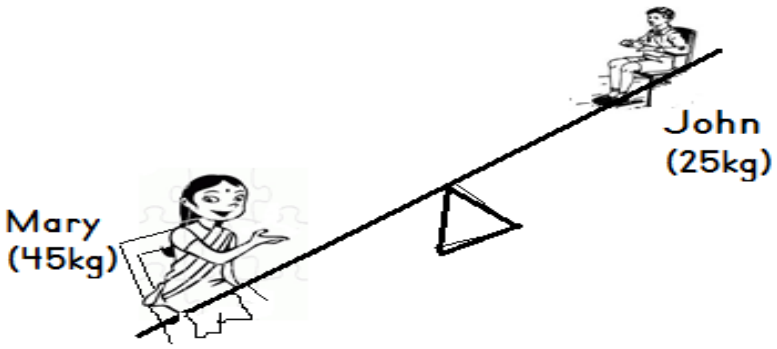
Solution

1 5
− 8
7kg

15 − 8 = 7

0000000⁄⁄⁄⁄⁄⁄⁄

Activity 1

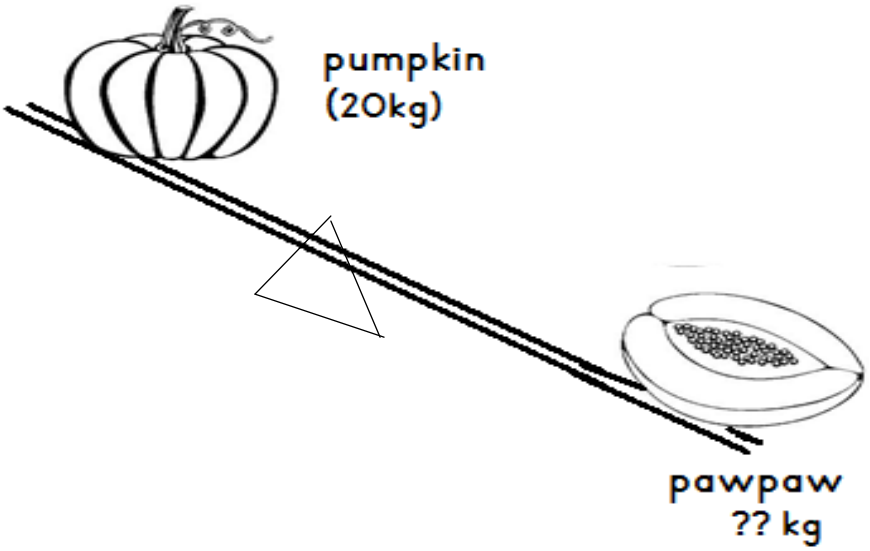


a) Who is heavier? _____

b) Find the difference in their weight.

c) Who is lighter? _____

d) Find the sum of their weight.



a) If the total weight of the two items is 50kg, find the weight of the pawpaw.

b) What object is heavier? _____

c) Find the difference in their weight.

d) What is lighter? _____

Lesson Four

Addition of kilograms and grams.

- **Example I.**

Kg	g
5	250
+ 2	250
7kg	500g

0 + 0 = 0
5 + 5 = 10
1 + 2 + 2 = 5

5 + 2 = 7

Example 2

Add 18kg 620g + 2kg 35g

Solution

Kg	g
18	620
+2	35
20kg	**655g**

0 + 5 = 5
2 + 3 = 5 } grams
6 + 0 = 6

8 + 2 = 10 } kilograms
1 + 1 = 2

Word statements involving addition of kilograms and grams.

- **Example 1**

  Hannah bought 3kg 500g of sugar and her brother bought 6kg 255g. How many kilograms did they buy altogether?

  Solution

Kg	g
3	500
+ 6	255
9kg	755g

0 + 5 = 5
0 + 5 = 5
5 + 2 = 7g

3 + 6 = 9kg

ACTIVITY 1

1. **Add the following.**

Kg	g
6	430
+ 2	320

Kg	g
34	500
+ 7	200

Kg	g
28	120
+ 9	120

Kg	g
8	750
+ 7	200

2. Kenneth weighs 36kg 400g. His sister weighs 9kg 300g. Find their total weight.

3. Nalule's bag weighs 29kg 700g. Mark's bag weighs 9kg 100g. Find the total weight of bags.

Lesson Five : <u>Subtraction of kilogram and grams</u>

- **Example 1**

Kg	g
7	900
− 3	600
4kg	300g

0 - 0 = 0
0 - 0 = 0 = 300g
9 - 6 = 3

7 - 3 = 4kg

- **Example 2**

Kg	g
~~8~~ ^{7} 7 ^{17}	3 ~~9~~ ^{8} 0 ^{10}
− 9	34
78	**356g**

10 - 4 = 6
8 - 3 = 5 356g
3 - 0 = 3

17 - 9 = 8 78kg
7 - 0 = 7

<u>Word statements involving subtraction of kilograms and grams</u>

- **Example 1**

Pretty had 25kg 700g of groundnuts. She sold 20kg 250g. How many kilograms of groundnuts did she remain with?

Solution

Kg	g
25	700
− 20	250
5kg	450g

0 - 0 = 0
10 - 5 = 5 grams
6 - 2 = 4

5 - 0 = 5
2 - 2 = 0 kg

Activity 1

1. **Subtract.**

a)

Kg	g
3 2	750
− 4	600

b)

Kg	g
4 7	380
− 3 7	170

e)

Kg	g
2 7	290
− 9	135

f)

Kg	g
4 9	760
− 5	550

c) Paul had 58kg 360g of tea leaves. He sold 43kg 270g. How much tea leaves did he remain with?

d) Takeaway 18kg 700g from 45kg 900g.

e) Joel had 24kg 700g of rice. He gave 18kg 55g to his brother. How many kilograms of rice did he remain with?

MEASURES

Lesson One : Money

- What is money?
  Money is the medium of exchange for goods and services.
- **Addition of money**
- **Example I**

Shs. 400 + shs. 150 = shs. 550

Shs. 400
+ Shs. 150
Sh. 550

Example 2

Shs. 250 + shs. 300 = shs. 550

Shs. 2 50
+ Shs. 300
Shs. 550

Example 3.

Shs. 700
+ Shs. 250
Shs.950

Activity I

a) **Add money correctly.**

Shs. 600 + Shs. 250 = Shs. _____

Shs. 300 + Shs. 400 + shs. 200 = Shs. _____

Shs. 800 + Shs. 400 = Shs. _____

Shs. 850 + Shs. 250	Shs. 600 + Shs. 700
Shs. 900 + Shs. 300	Shs. 500 Shs. 600 + Shs. 300
Shs. 450 Shs. 750 + Shs. 400	Shs. 750 +Shs. 50

Word statements involving addition of money.

Example 1

Katungi had shs. 600. His mother gave him shs. 200 more. How much money did he have altogether?

Note: Before adding, there are key words that guide you i.e. altogether, sum, more and total.

Shs. 600
+ Shs. 200
Shs. 800

Activity 2

a) Sadat had shs. 700. His uncle gave him shs. 900 more. How much money does Sadat have altogether?

b) Find the sum of shs. 5000 and shs. 750.

c) Find the total of shs. 800 + shs. 600

d) Anna sold pineapples at shs. 900, apples at shs. 700 and eggs at sh. 1000. How much money does she have altogether?

Lesson Six : Subtraction of money

Example 1

Shs. 900 – Shs. 400 = shs. 500

Shs. 900
– Shs. 400
Shs. 500

Example 2

Shs. 800 – Shs. 200 = Shs. 600

Shs. 800
– Shs. 200
Shs. 600

Word statements involving subtraction of money

Before subtracting, there are key words that guide you i.e.

- remained,
- take-away ,
- balance,
- difference ,
- change ,
- lost and loss.

Example 1

Lillian had shs. 900. She gave away shs. 500. How much money did Lillian remain with?

Solution

Shs. 900
– Shs. 500
Sh. 400

Activity 3

a) What is the difference between shs. 4400 and shs. 3400?

b) Take-away shs. 200 from shs. 2700.

c) David spent shs. 9500 for lunch in a restaurant . How much was David's change if he had shs. 10,000?

d) Sam bought a shirt at shs. 5200 and sold it at shs. 5000. What was Sam's loss?

Lesson Seven : Multiplication of money

- **Example 1**

Shs. 400
× 2
Shs. 800

sh. 4 0 0 × 2 = sh. 800

2 x 0 = 0
2 x 0 = 0
2 x 4 = 8

- **Word statements involving multiplication of money.**
- **Example I.**

  A book costs shs. 500. What is the cost of 3 similar books?

  Sh. 500
  × 3
  Sh. 1500

Activity 4

a) Shs. 1 2 0 0
× 3

b) Shs. 2 4 0 0
× 3

c) Shs. 1 5 0 0
× 5

d) shs. 7 0 0
× 3

e) Shs. 3 0 0 0
× 3

f) Shs. 2 5 0 0
× 2

d) What is the cost of 5 apples if one apple costs shs. 700?

e) Multiply shs. 1200 by 5

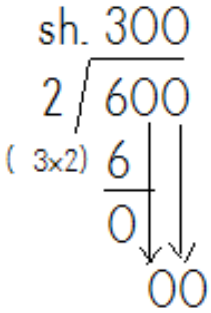
f) Paul bought a pen at shs. 2000. What is the cost of 5 similar pens?

g) An egg costs shs. 500. What is the cost of 6 similar eggs?

Lesson Eight : Division of money

Example 1

1. Divide shs. 600 by 2



$6 \div 2 = 3$

ACTIVITY 1

Divide correctly.

a) Shs. 800 ÷ 2

d) Shs. 1000 by 5

b) Shs. 1400 by 2

e) Shs. 1800 ÷ 9

c) Shs. 2400 by 2

Read and work out correctly

a) 9 workers shared shs. 18000. How much money did each worker get?

b) Mr. Mugabi shared shs. 3000 among his 5 children. How much did each child get?

c) A shopkeeper sold 4 pineapples at shs. 2000. What is the cost of 1 pineapple?

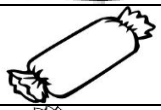
d) A school bought 2 boxes of chalk at shs. 15000. How much did each box cost?

SHOPPING

Lesson Nine : Shopping list

Example 1

Study the shopping bill and answer questions that follow.

Item	Amount
	Shs. 200
	Shs. 500
	Shs. 1000
	Shs. 4500

Questions

a) What is the most expensive item? **A bag**

b) How much is the most expensive item? **Shs. 4500**

c) What is the cost of a pencil and a sweet?
Shs. 200 + shs. 500 = **shs. 700**

d) How much is the cost of doll and a sweet?
Shs. 1000 + shs. 500 = **shs. 1500**

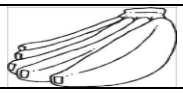
Sh. 1000
+ Sh. 500
Sh. 1500

e) What is the cheapest item? **A pencil**

f) What is the cost of all the items?
Shs. 200 + shs. 500 + shs. 1000 + shs. 4500 = **shs. 6200**

Activity 1

Study the shopping bill below and answer questions that follow.

Item	Amount
	Shs. 4800
	Shs. 1500
	Shs. 300
	Shs. 500

Questions

a) What is the cheapest item?

_____

b) What is the cost of the most expensive item?

_____

c) How much can Sam pay for 2 plates?

_____

d) What is the cost of 2 balls and a packet of milk?

_____

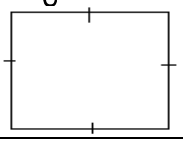
e) If I had shs. 5000 and bought a ball, what was my change?

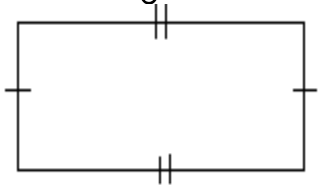
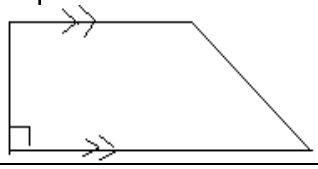
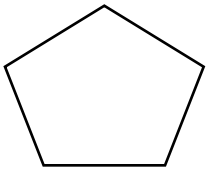
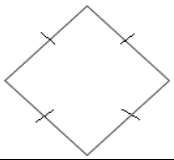
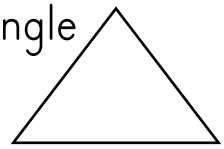
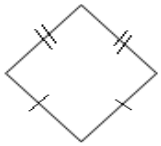
_____

THEME: GEOMETRY

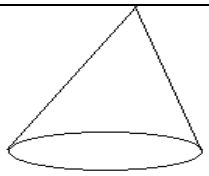
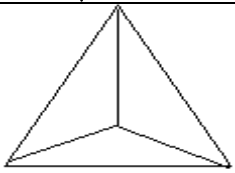
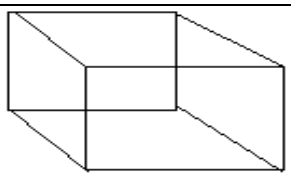
Lesson One : Shapes

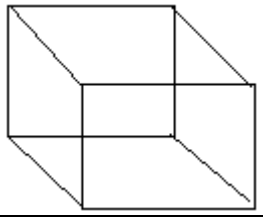
- Geometry is the study of shapes and their properties.

Shape	Properties
Square 	- It has 4 sides. - All sides are equal.

Rectangle 	- It has 4 sides. - Two opposite sides are equal.
Trapezium 	- It has 4 sides. - Two opposite sides are parallel.
Pentagon 	- It has 5 sides.
Rhombus 	- It has 4 sides. - All sides are equal.
Triangle 	- It has 3 sides.
Kite 	- Adjacent sides are equal.

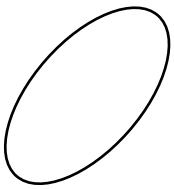
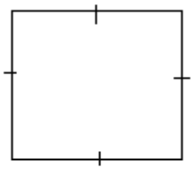
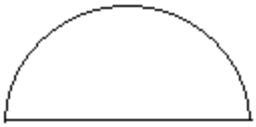
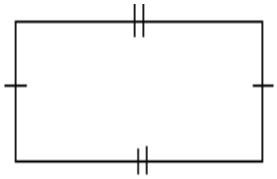
- **Solid shapes**

	
cylinder	cone
	
tetrahedron	cuboid

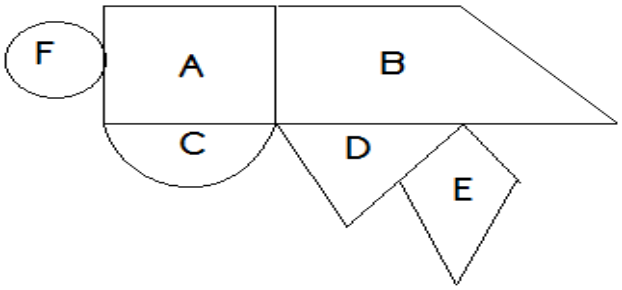

cube

ACTIVITY I

1. Name these shapes

2. Study the figure below and answer questions that follow.



Name the shapes;

A _____ B _____

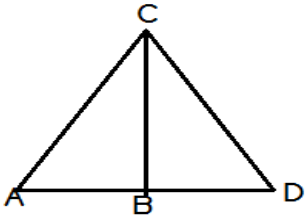
C _____ D _____

E _____ F _____

Counting shapes

Example I

How many triangles can you see?

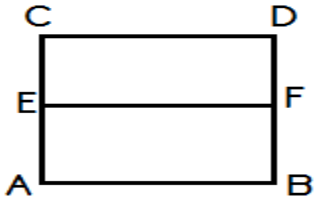


ABC
ADC
BCD

3 triangles

Example 2

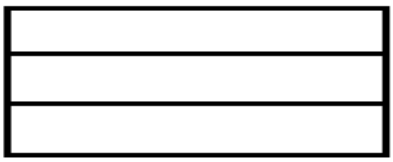
How many rectangles can you see?



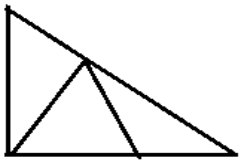
ABCD
ABEF
ECDF
} 3 rectangles

Activity 2

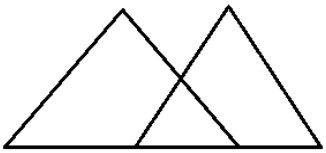
Count the shapes you see in the figures below.



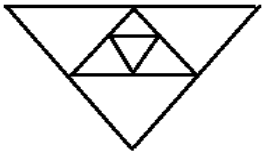
_____



_____



_____



_____

TERM III

THEME: MEASURES

LESSON I

SUB-TOPIC: TIME

Time is the duration of a period.

60 seconds make 1 minute

60 minutes make 1 hour

24 hours make 1 day

7 days make 1 week

4 weeks make 1 month

A fortnight = 14 days/2weeks

12 months make 1 year

CHANGING WEEKS TO DAYS

Example 1

Change 4 weeks to days

1 week = 7 days

4 weeks = (4x7)days

= 28 days

Example 2

Jane went to America and spent there 5 weeks. How many days did she spend there?

1 week = 7 days

5 weeks = (5x7) days

= 35days

Example 3

Benedict visited his uncle and stayed there for 3 weeks. How many days did he spend at his uncle's place?

1 week = 7 days

3 weeks = (3x7) days

= 21 days

Activity

1. Convert 5 weeks to days.

2. How many days are there in 6 weeks?

3. Adam went to the village and spent there 2 weeks. Find the number of days Adam spent in the village.

4. A maid worked for 4 weeks without pay. How many days did the maid spend without pay?

LESSON 2

CHANGING DAYS TO WEEKS

Examples

1. Change 49 days to weeks

   7 days = 1 week

   49 days = (49÷7)weeks

   = 7 weeks

2. Our baby is 35 days old. How old is our baby in weeks?

   7 days = 1 week

   35days = (35 ÷7) weeks

   = 5 weeks

3. How many weeks are there in 14 days?

   7 days = 1 week

   14 days = (14 ÷7) weeks

   = 2 weeks

Activity

1. Find the number of weeks in 42 days.

2. Daniel went to Masaka and spent there 21 days. How many weeks did he spend in Masaka?

3. Jane's baby is 28days old. How old is Jane's baby in weeks?

4. Change 35 days to weeks.

Completing tables about weeks and days.

Example

Complete the table below correctly.

Weeks	1	**4**	**5**	3	**6**	8	**7**	2	10
Days	7	28	35	**21**	42	**56**	49	**14**	**70**

28 ÷ 7 = 4 3 x 7 = 21 8 x 7 = 56 70 ÷ 7 = 10

35 ÷ 7 = 5 42 ÷ 7 = 6 2 x 7 = 14 49 ÷ 7 = 7

Activity

Complete the table correctly.

No. of weeks	1	4	__	__	2	4
No. of days	7	___	35	21	___	___

Months of the year

There are 12 months in a year

Month	**Days in the month**
January	31
February	28/29
March	31
April	30
May	31
June	30

Month	**Days in the month**
July	31
August	31
September	30
October	31
November	30
December	31

Activity:

1. List down the months with 30 days.

   _____

2. In which month is Christmas celebrated?

   _____

3. What is the second month of the year?

   _____

4. Write the eighth month of the year

   _____

5. How many days does the month of January have?

   _____

6. List all the months of the year in their order.

   _____

   _____

LESSON 4

Changing years to months

Examples. N.B. 1 year = 12 months

1. Change 4 years to months

   1 year = 12 months

   4 years = (4x12)months

   = 48 months

   12
   12
   12
   + 12
   48

2. My sister is 3 years old.
   How old is my sister in months?

   1 year = 12 months

   3 years = (3x12)months

   = 36 months

   12
   12
   +12
   36

Activity

1. Change 2 years to months.

2. How many months are in 5 years?

3. The construction of bridge took 3 years. How many months were taken to construct the bridge?

4. James is 10 years old. John is 6 years old.
   a) Find James' age in months. b) How old is John in months?

LESSON 5

Changing months to years

Note: 12 months = 1 year

Examples

1. How many years are in 36 months?
   12 months = 1 year
   36 months = (36÷ 12)year
   = 3 years
2. Joan is 60 months old. Find her age in years.
   12 months = 1 year
   60 months = (60÷ 12)years
   = 5 years

Activity

1. Change 12 months to years.

2. Convert 48months to years.

3. My sister is 36 months old. How old is my sister in years?

4. There is 1 year in 12 months. How many years are in 72 months?

5. Find the number of years in 24 months.

Completing tables about months and years.

Example Find the missing numbers

Years	1	2	4	3	5
Months	12	24	48	36	60

$2 \times 12 = 24$ $3 \times 12 = 36$

$48 \div 12 = 4$ $60 \div 12 = 5$

Activity

Complete the table correctly.

Years	1	3	2	____	____
Months	12	____	____	48	60

LESSON 6

Finding one's age

Examples

1. Daniel was born in 1989. How old was he in 1997?

   1997
   - 1989
   0008years

   ∴ Daniel was 8 years

2. Katongore was born in 1980. How old was he in 1999?

   1999
   - 1980
   0019years

   ∴ Katongore was 19 years

Activity

1. My sister was born in 2000. How old was she in 2015?

2. My friend Joan was born in 2010. How old is she now?

3. My classteacher was born in 1979. How old was he in 1989?

4. Becky was born in 1991. How old was she in 2011?

5. If Tom was born in 1990. How old was he in 1999?

LESSON 7

Telling time

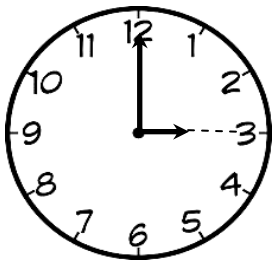
Telling time in hours

When telling time in hours, the minute hand must be pointing in 12.
It moves around the clock for 60 minutes.

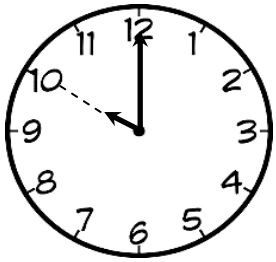
- 60 minutes make 1 hour
- The minute hand is longer than the hour hand.

Examples

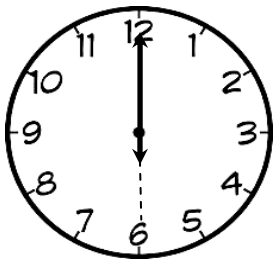
Tell the time shown on the clock faces below.

1. 

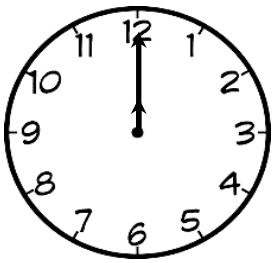
It is 3 o'clock

3. 

It is 10 o'clock

2. 

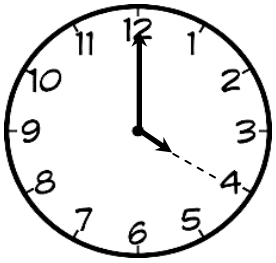
It is 6 o'clock

4. 

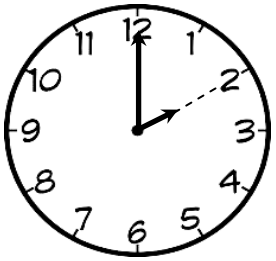
It is 12 o'clock

Activity

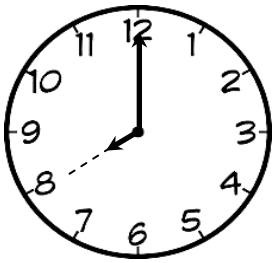
Tell the time

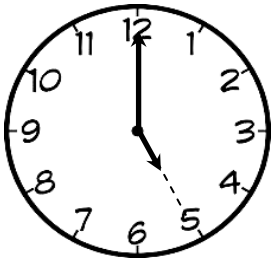
1. 

_____

3. 

_____

2.  _____

4.  _____

5. Draw clock faces and show the given time.

a) It is 9 o'clock.

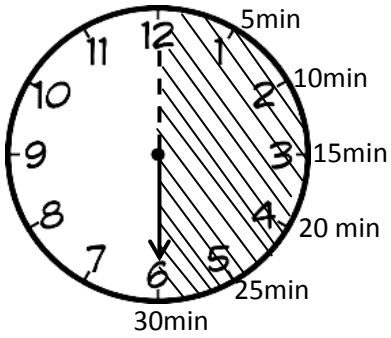
b) It is 3 o'clock.

c) It is 11 o'clock.

LESSON 8

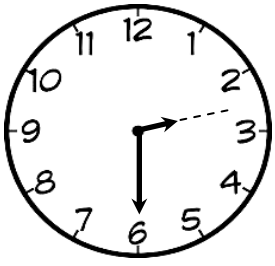
Telling time using a half past.

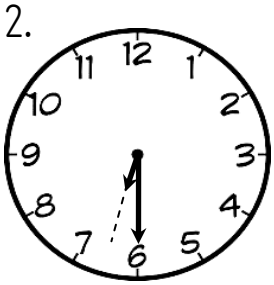
When telling time using a half past, the minute hand must be pointing to 6.
A half of an hour has 30 minutes.



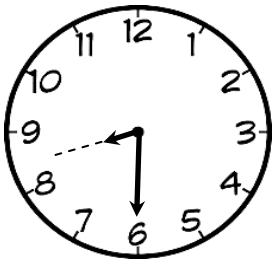
Examples

What is the time?

1.  It is a half past 2

2.  It is a half past 6

3.

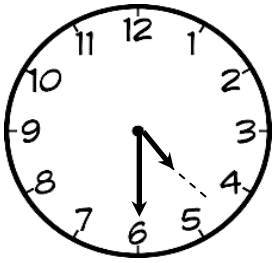


It is a half past 8

Activity

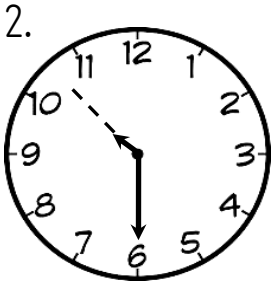
Tell the time

1.



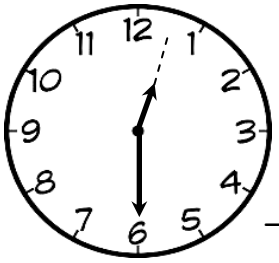
_____

2.



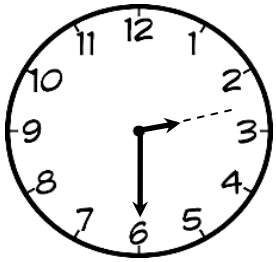
_____

3.



_____

4.



_____

5. Draw clock faces and show the given time.

a) It is a half past 5.

b) It is a half past 7.

c) It is a half past 1.

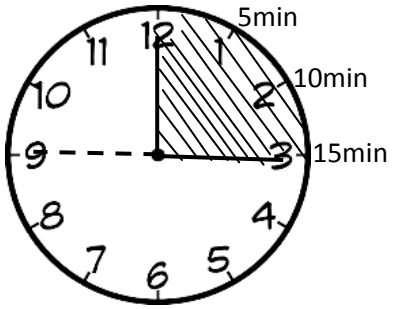
d) It is a half past 3.

LESSON 9

Telling time using a quarter past,

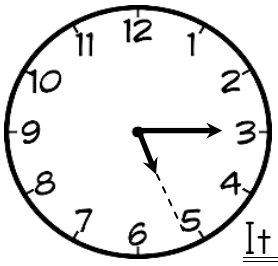
We tell time in a quarter past when the minute hand is pointing to 3.

A quarter of an hour has 15 minutes. 60 ÷ 4 = 15 minutes

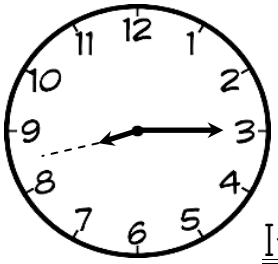


Examples

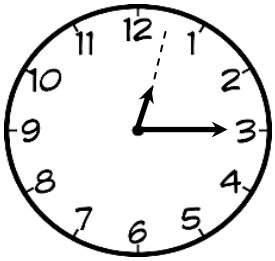
Tell the time.

1. 

It is a quarter past 5

2. 

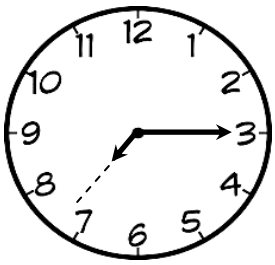
It is a quarter past 8

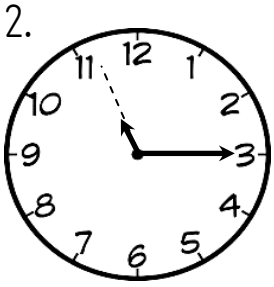
3. 

It is a quarter past 12.

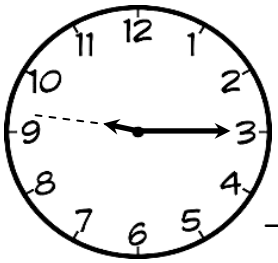
Activity

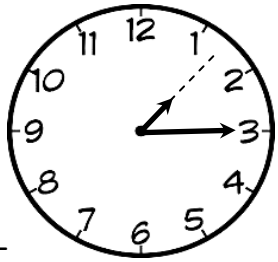
Tell the time

1. 

2. 

_____ _____

3.  _____

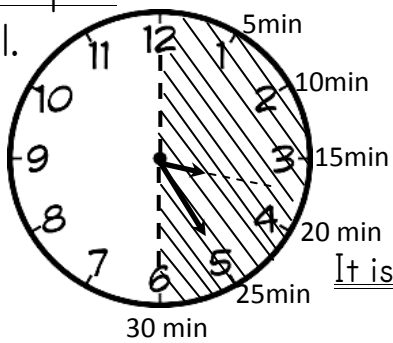
4.  _____

5. Show a quarter past 10 on the clock face.

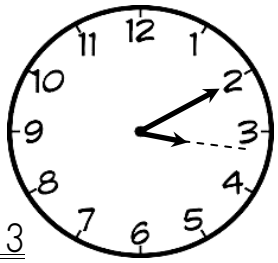
LESSON 10: Telling time in minutes past.

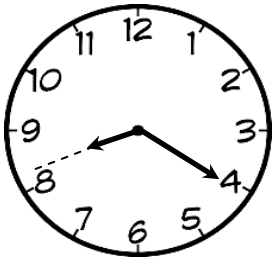
We tell time in minutes past when the minute hand is in the first half of the hour.

Examples Tell the time.

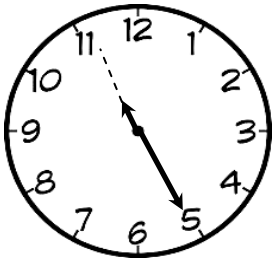
1. 

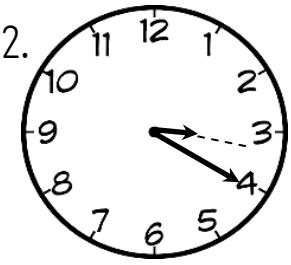
It is 25 minutes past 3

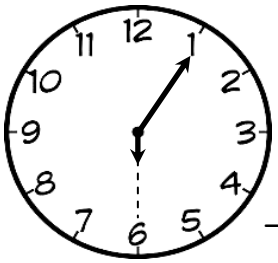
2. 
It is 10 minutes past 3

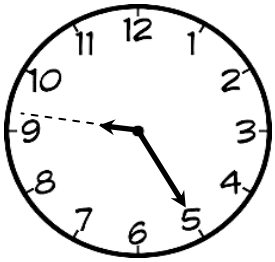
3. 
20 minutes past 8

Tell the time

1.  _____

2.  _____

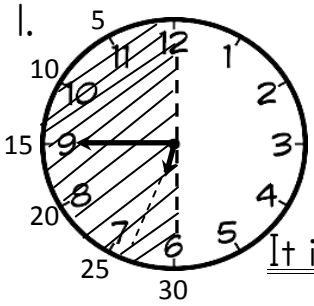
3.  _____

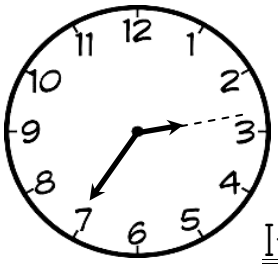
4.  _____

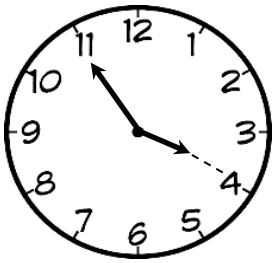
Telling time in minutes to

When the minute hand is in the second half of the hour, we count the remaining minutes to complete the hour. Therefore we use "minutes to".....

Examples What is the time?

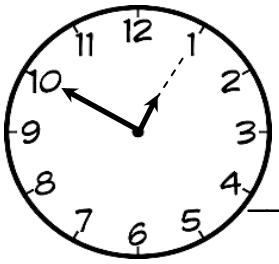
1.  It is 15 minutes to 7

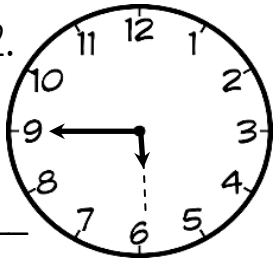
2.  It is 25 minutes to 3

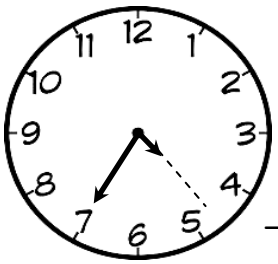
3.  It is 5 minutes to 4

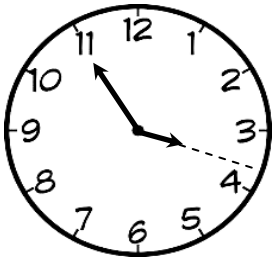
Activity

Tell the time shown on the clock faces below.

1.  _____

2.  _____

3.  _____

4.  _____

Changing hours to minutes

Note: 1 hour = 60 minutes

Hours	1	2	3	4	5	6	7
Minutes	60	120	180	240	300	360	420

Examples

1. Change 4 hours to minutes

   1 hour = 60 minutes

   4 hours = (4x60)minutes

   =240minutes

   60 × 4 = 240

   or

   60 + 60 + 60 + 60 = 240

2. How many minutes are in 6 hours?

   1 hour = 60 minutes

   6 hours = (6x60)minutes

   = 360minutes

   60 × 6 = 360

3. P.7 class did a mathematics test for 3 hours. How many minutes were taken to complete the test?

   1 hour = 60 minutes

   3 hours = (3x60)minutes

   = 180minutes

   60 × 3 = 180

Activity

1. Change 2 hours to minutes

2. Convert 3 hours to minutes

4. My father drove from Kampala to Mbarara for 5 hours. Find the minutes he used throughout his journey.

5. Find the number of minutes in 7 hours.

6. How many minutes are in 4 hours?

Changing minutes to hours

Note: 60 minutes = 1 hour

Hours	1	2	3	4	5	6	7
Minutes	60	120	180	240	300	360	420

Examples

1. Change 60 minutes to hours

   60 minutes = 1 hour

   60 minutes = 60 ÷ 60

   = 1 hour

2. How many hours are in 120 minutes?

   60 minutes = 1 hour

   120minutes = 120 ÷ 60

   = 2 hours

3. Our teachers had a staff meeting that lasted for 180 minutes. How many hours did the meeting take?

   60 minutes = 1 hour

   180 minutes = 180 ÷ 60

   = 3 hours

Activity

1. Convert 360 minutes to hours.

2. Change 420 minutes to hours.

2. John walked for 180 minutes to reach his home. Find the time he used in hours.

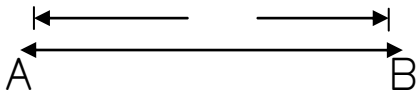
3. It takes 300 minutes to drive from Fortportal to Kampala. How many hours are taken to drive from Fortportal to Kampala?

4. Find the number of hours in 120 minutes?

LENGTH

Lesson 1

Length is the distance between two or more points.

i.e. 

- The standard units for length are metres (m)
- Other units used to measure length are:
  - *centimetres (cm)
  - *decimeters (dm)
  - *hectometers (hm)
  - *kilometres (km)

Changing metres to centimetres

Note:

1 metre = 100 centimetres

Example A

Change 3 metres to centimetres

Solution

1m	=	100cm	100	0x3=0
3m	=	(3x100)cm	x 3	0x3=0
	=	300cm	300cm	1x3=3

Example B

Convert 17metres to centimetres

Solution

1m = 100cm

17m = (17x100)cm

= 1700cm

Example C

If 1 metre = 100 centimetres. How many centimetres are in 8 metres.

Solution

1m = 100cm

8m = (8x100)cm

= 800cm

Activity 1

Convert the following metres to centimetres.

(a) 9m (b) 11m (c) 2m

(d) 7m (e) 15m (f) 20m

Changing from centimetres to metres

Note:

100cm = 1 metre

Example 1

Change 200cm to metres

Solution

100cm = 1metre

200cm = $\frac{200}{100}$ m

= 2m

Example 2

If 100cm = 1 metre. How many metres are in 1000cm?

Solution

100cm = 1metre

1000cm = $\left(\frac{1000}{100}\right)$m

= 10m

Example 3

If 100cm = 1m. Write 1800 centimetres in metres

Solution

100cm = 1metre

1800cm = $\left(\frac{1800}{100}\right)$m

= 18m

Activity 2

Change the following centimetres to metres

(i) 1200cm (ii) 1400cm (iii) 1500cm

(iv) 300cm (vi) 2000cm (vii) 1900cm

Addition of metres and centimetres

Example A

Add	m	cm
	2	45
+	6	36
	8m	81cm

5+6 = 11

1+4+3=8

2+6=8

Example B

Add 2m 25cm + 7m 20cm

Solution

	m	cm
	2	25
+	7	20
	9m	45cm

5+0 = 5
2+2=4
2+7=9

Word statements involving addition of metres and centimetres.

New words

-altogether, -total, -sum

Example 1

Namukasa had 5m 75cm of a string. Okot also had 9m 10cm. Find the total length of the string they had.

Solution

	m	cm
	5	75
+	9	10
	14m	85cm

5+0 = 5
7+1=8
5+9=14

Example 2

Nantaba's mattress is 6m 25cm and Carol's mattress is 7m 30cm. Find the total length of the mattresses.

Solution

	m	cm
	6	25
+	7	30
	13m	55cm

5+0 = 5
2+3=5
6+7=13

Activity 3

1. Workout the following numbers.

(a)

	m	cm
	1	26
+	7	14

(b)

	m	cm
	9	36
+	3	42

(c)

	m	cm
	8	40
+	3	14

2. (a) A shopkeeper has 3m 40cm of a red string. He then bought 2m 20cm of a white string. Find the total length of the string.

   (b) Noah's rope is 5m 56cm and Robinah's rope is 6m 20cm. Find the total length of their ropes.

   (c) Find the sum of 19m 36cm and 6m 15cm.

Subtraction of metres and centimetres.

Lesson 4

Example 1

	m	cm
	6	80
-	2	10
	4m	70cm

0-0 = 0
8-1=7
6-2=4

Example 2

	m	cm
	28	98
-	9	85
	19m	13cm

8-5 = 3
9-8=1
28-9=9

Example 3

	m	cm
	6	33
-	2	12
	4m	11cm

3-2 = 0
3-1=1
6-2=4

Word statements involving subtraction of metres and centimetres.

New words

Subtract, remain, difference, takeaway, left, minus

Example 1 Subtract 7m 75cm from 26m 85cm

Solution

	m	cm
	26	85
-	7	75
	19m	10cm

5-5 = 0
26-7=19
16-7=9

Example 2

Daniel had a ribbon measuring 14m 37cm. He cut off 4m 19cm. What length remained?

	m	cm
	14	37
-	4	21
	10m	16cm

7-1 = 6
3-2=1
14-4=10

Example 3

	m	cm
	7	75
-	4	38
	3m	37cm

Activity 4

1. Subtracting the following numbers.

(a)

	m	cm
	59	97
-	9	86

(b)

	m	cm
	8	24
-	4	18

(c)

	m	cm
	9	45
-	3	18

(b)

	m	cm
	6	80
-	2	60

2. (a) What is the difference between 15m 52cm and 5m 10cm.

(b) An electric wire is 9m 52cm long. If 5m 41cm is cut off, what length of a will remain?

(c) Ssekandi bought a carpet of length 18m 77cm. He cut off 9m 45cm. what length of the carpet remained?

(d) A trader had 24m 40cm of cloth. He sold 13m 24cm. What length of the cloth remained?

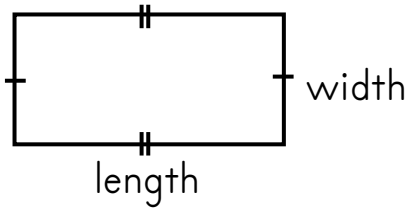
Finding the perimeter of the given figures.

Lesson 5

Perimeter is the total distance around the figure.

Finding perimeter of the rectangle.

Note: A rectangle has two equal sides

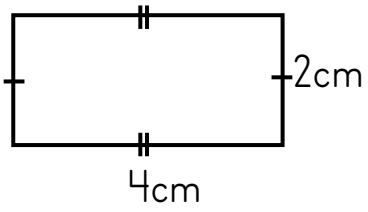


NB. Perimeter of a rectangle =

P = length + width + length + width

Example 1

Find the perimeter of the figure below.



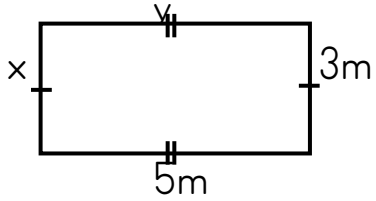
Perimeter = length + width + length + width

= 4cm +2cm +4cm+2cm

= 12cm

Example 2

Study the figure below and answer questions that follow.



a) Find the value of the unknown.

x = 3m y=5m

b) Find its perimeter

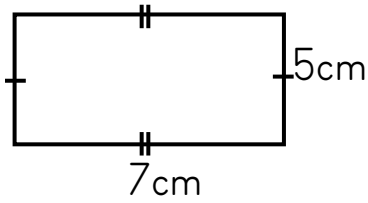
P = length + width + length + width

P = 5m+3m+5m+3m

P = 16m

Example 3

Find the total distance around the figure below.



P = L+W+L+W

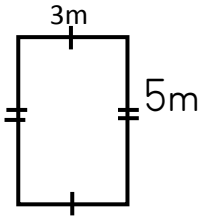
P = 7cm+5cm+7cm+5cm

P = 24cm

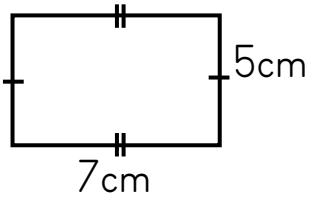
Activity 5

Find the total distance around the figures below.

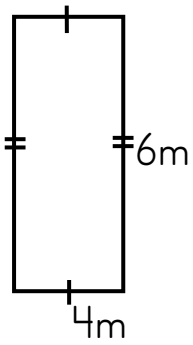
(a)



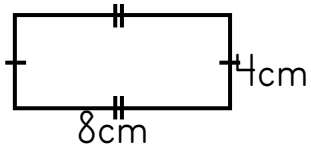
(b)



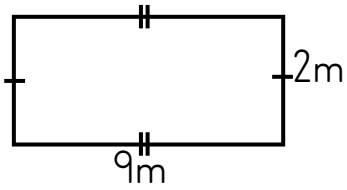
(c)



(d)



(e)

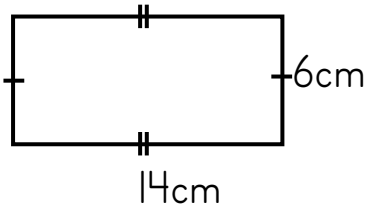


Lesson 6

Word statements involving finding the perimeter of a rectangle.

Example 1

Find the perimeter of a rectangular garden whose length is 14cm and width is 6cm. Solution



P = L + W + L + W

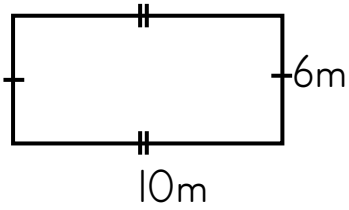
P = 14cm + 6cm + 14cm + 6cm

P = 40cm

Example 2

Eric's rectangular mat is 10m long and 6m wide. Find its perimeter

Solution



P = L + W + L + W

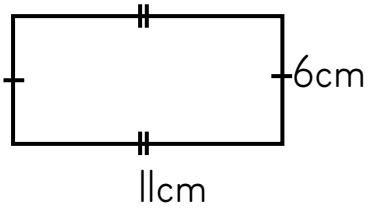
P = 10m + 6m + 10m + 6m

P = 32cm

Example 3

Mrs. Vickie rectangular piece of cloth is llcm long and 6cm wide. Find its perimeter.

Solution



P = L + W + L + W

P = llcm + 6cm + llcm + 6cm

P = 34cm

Activity 6

1. Find the perimeter of a rectangular compound whose length is 7cm long and 2cm width.

2. The length of a rectangular field is 12m and its width is 7m. Find its perimeter.

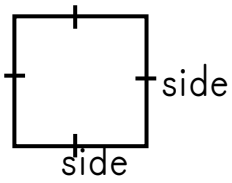
3. Mr. Kasule's rectangular cassava garden is 7 metres long and 3 metres wide. Find its perimeter.

4. A rectangular garden measures 9 metres long and 5 metres wide. Find the total distance around the garden.

Lesson 7

Finding perimeter of a square

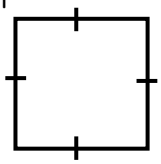
Note: All sides of a square are equal.



N.B. Perimeter = side + side + side + side

Example 1

Find the perimeter of the figure below.



Solution

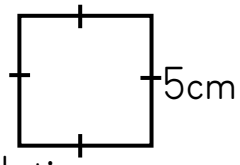
P = side + side + side + side

P = 7m + 7m + 7m + 7m

P = 28m

Example 2

Find the total distance around the figure below.



Solution

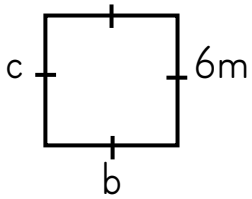
P = side + side + side + side

P = 5cm + 5cm + 5cm + 5cm

P = 20cm

Example 3

Study the figure below and answer questions that follow:



(a) Find the value of unknown

b = 6m

c = 6m

(b) Find the perimeter of the figure above.

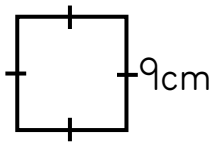
P = side + side + side + side

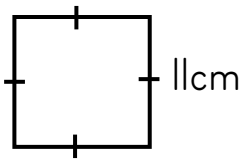
P = 6m + 6m + 6m + 6m

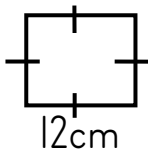
P = 24m

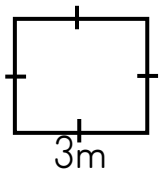
Activity 7

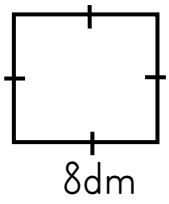
Find the perimeter of each of the squares below:

(a) 

(b) 

(c) 

(d) 

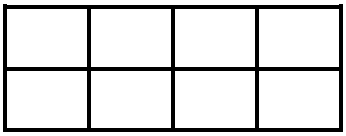
(e) 

Lesson 8: AREA

Area is the space occupied by an object.

Finding the area by counting squares.

Example 1

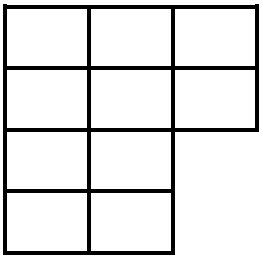


Area = number of square units

= 8 square units

Example 2

Find the area of the figure below.

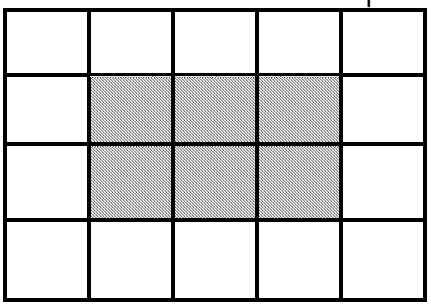


Area = number of squares

= 10 square units

Example 3

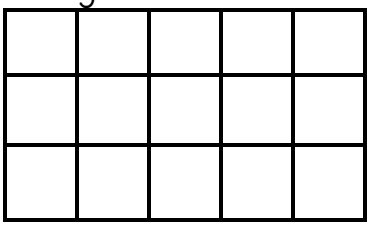
Find the area of the shaded part.



Area = number of small squares Area = 6 square units

Example 4

Study the figure below and answer question.



Find the area.

A = number of squares

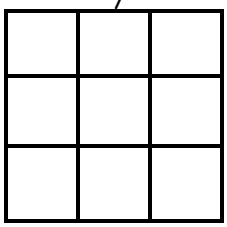
Area = 15 square unit

Find the value of; length = 5 cm

width = 3 cm

Activity 8

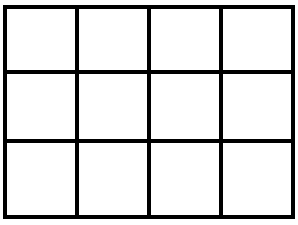
Find the area by counting the squares.



Length = _____cm

Width = _____cm

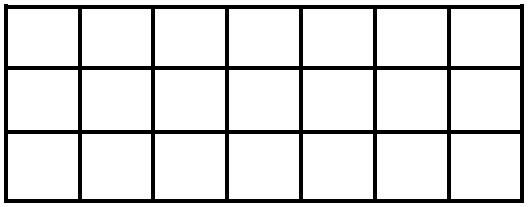
Area = _____sqcm



Length = _____cm

Width = _____cm

Area = _____sqcm



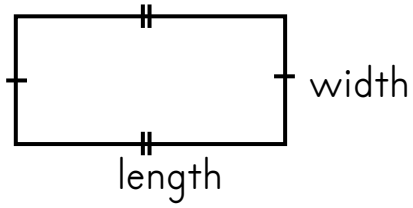
Length = _____cm

Width = _____cm

Area = _____sqcm

Lesson 9 : Finding the area of a rectangle by multiplying

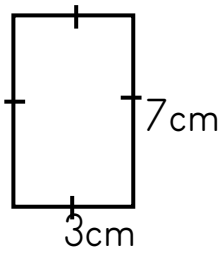
Note: A rectangle has two side i.e. length and width.



Area = length x width

Example 1

Find the area of the rectangle below.



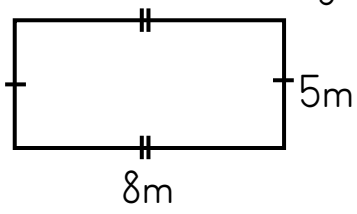
Solution: Area = Length x width

= 7cm x 3cm

= 21 square centimetres or $21cm^2$

Example 2

Find the area of the figure below.



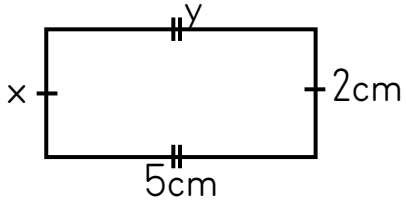
Area = Length x width

= 8m x 5m

= 40 square metres or $40m^2$

Example 3

Study the figure below and answer the questions.



(a) Name the figure above. **Rectangle.**

(b) Find the value of the unknown.

x = 2cm y = 5cm

(c) Find the area of the figure above.

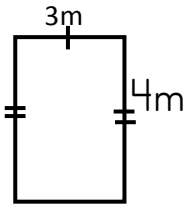
Area = Length x width

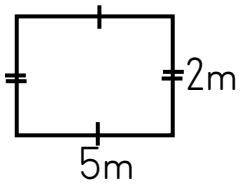
= 5cm x 2cm

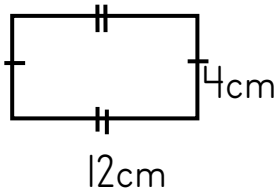
= 10cm^2

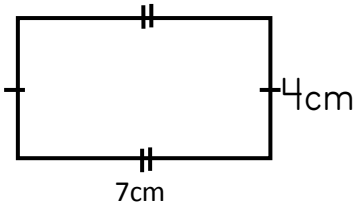
Activity 9

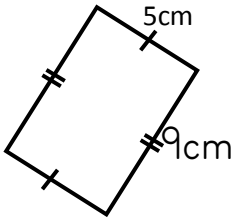
Workout the area of the following figures.

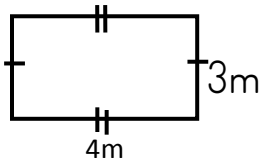
(a) 

(b) 

(c) 

(d) 

(e) 

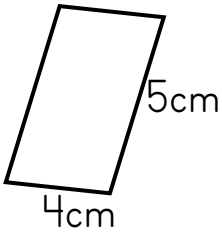
(f) 

Lesson 10

Word statements involving finding the area of a rectangle.

Example 1

Ssewa's note book is 5cm long and 4cm wide. Find its area.



Solution

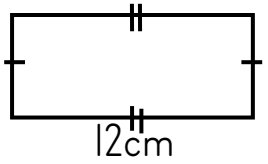
Area = L x W

Area = 5cm x 4cm

Area = 20cm^2

Example 2

Find the area of a rectangular mat which is 6cm long and 4cm wide.



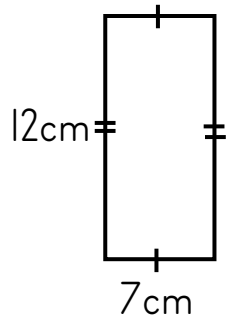
Area = Length x width

= 12cm x 8cm

= 96cm^2

Example 3

A rectangular sheet of paper is 12cm long and 7cm wide. Find its area.



Area = LxW

Area = 12cm x 7cm

Area = 84cm

Activity 10

1. Sarah's piece of cloth is 8m long and 5m wide. Find its area.

2. Find the area of a rectangular carpet which is 6cm long and 4cm wide.

3. The length of our compound is 20m long and 6m wide. Find its area.

4. Find the area of a rectangle whose length is 10cm and width is 3cm.

5. Find the area of a netball court whose length is 15m and width 5m.

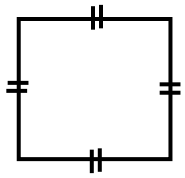
6. Vickie's piece of cloth is 11m long and 4m wide. Find its area.

7. Daniel's flower garden is 9m long and 3m wide. Find its area.

Lesson 11

Finding the area of a square.

Note: A square has equal sides.

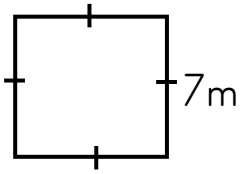


Area of a square

Area = side x side

Example 1

Find the area of the figure below.



Solution

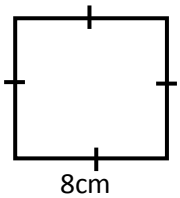
Area = sidexside

Area =7mx7m

Area = $49m^2$

Example 2

Find the area of the square below.



Solution

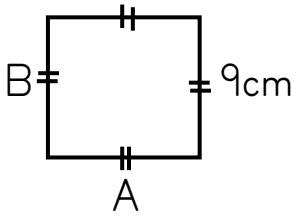
Area = sidexside

Area =8cmx8cm

Area = $64cm^2$

Example 3

Study the figure below and answer questions.



Find the value of the unknown.

B = 9cm A = 9cm

Name the figure above.

Square

Find its area.

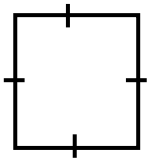
Area = sidexside

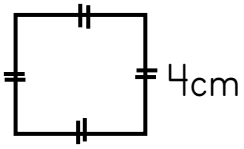
Area =9cmx9cm

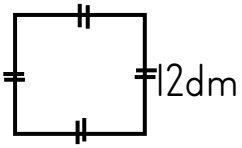
Area = 81cm^2

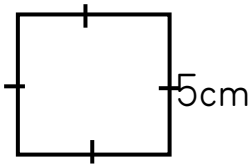
Activity II

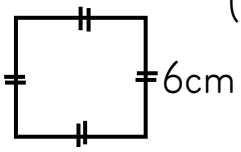
Find the area of the squares below;

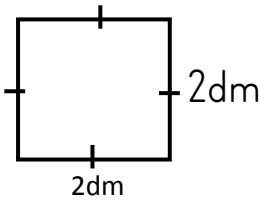
1) 

(2) 

(3) 

(4) 

(5) 

(6) 

Lesson I

CAPACITY

Capacity is the amount of liquid a container can hold. The standard units for capacity are litres (*l*)

Note: Other units used to measure capacity are centiliters (cl) and millilitres (ml)

Compare these containers in litres (Practical activity).

Example 1

How many 1 litre jugs will fill a 5 litre jerrycan?

Solution

1 litre in a jerrycan = 1 litre jug

5 litres in a jerrycan = (1x5)

= 5 litre jugs

Or: 1 litre in a jerrycan = 1 litre jug

= 5 litre jugs

Example 2

How many ½ litre cups will fill a 6 litre container?

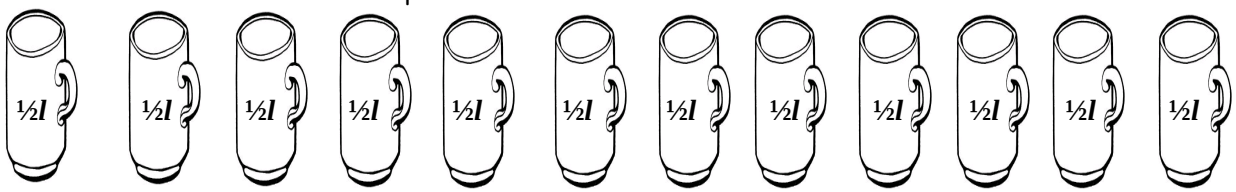
Solution

1 litre = 2 half litres

6 litres = (2x6) half litre cups

= 12 half litre cups

Or: 1 litre = 2 half litres cupts



= 12 half litre cups

Example 3

How many 2 litre bottles can fill a 10 litre jerrycan?

Solution

= 10 litres ÷ 2 litre

= 5 two litre bottles

Or:

= 5 two litre bottles

Activity 1

1. How many 1 litre cups will fill a 5 litre container?

   _____

2. How many ½ litres cups can fill a 3 litre bottle?

   _____

3. How many 1 litre bottles can fill a 2 litre jug?

   _____

4. How many ½ litre bottles can fill a 4 litre jug?

   _____

5. How many 3 litre jerrycan can fill a 12 litre jerrycan?

   _____

Lesson 2

Changing litres to centilitres

Example 1

Change 3 litres to centilitres

Solution

1 litre = 100centilitres

4 litres = (4x100)cl

100 — 0x4=0

x 4 — 0x4=0

400cl — 1x4=1

Or: 1 litre = 100cl

100cl

100cl

100cl

+ 100cl

400cl

Example 2

If 1 litre = 100 centilitres, how many centilitres are in 10 litres?

Solution

1 litre = 100cl

10litres = (10x100)cl

= 1000cl

Example 3

Convert 14 litres to centilitres

Solution

1litre = 100cl

14litres = (14x100)cl

= 1400cl

Activity 2

Change the following litres to centiliters

(a) 5 litres (b) 9 litres (c) 7 litres (d) 8 litres

(e) 2 litres (f) 6 litres (g) 12 litres (h) 11 litres

Lesson 3

Changing from centilitres to litres

Example 1

How many litres are in 500 centilitres?

Note: 100centilitres = 1 litre

Solution

100cl = 1 litre

500cl = $\left(\frac{500}{100}\right)$l

= 5*l*

Example 2

How many litres are in 400cl?

Solution

100cl = 1 litre

400cl = $\left(\frac{400}{100}\right)$l

= 4*l*

Example 3

If 100 centilitres = 1 litre

How many litres are in 1800cl?

Solution

100cl = 1 litre

$1800cl = \frac{(18\cancel{00})l}{1\cancel{00}}$

= 18litres

Example 4

Convert 1100cl to litres

Solution

100cl = 1 litre

$1100cl = \frac{(11\cancel{00})l}{1\cancel{00}}$

= 11 litres

Activity 3

Convert the following centilitres to litre.

(a) 1600cl (b) 700cl (c) 1500cl (d) 700cl

(e) 900cl (f) 1000cl (g) 800cl (h) 300cl

Lesson 4

Addition of litres

Example 1:

Add 34 litres + 20 litres

Solution

```
 3 4litres        4+0=4
+2 0litres        3+2=5
 5 4litres
```

Example 2

Add 600litres+422litres

```
 6 0 0litres      0+2=2
+ 4 2 2litres     0+2=2
 1022litres       6+4=10
```

Example 3

Add 7 0 0 litres	0+1=1
+ 4 3 1 litres	0+3=3
1 1 3 1 litres	7+4=11

Word statements involving addition of litres

New words

-altogether -sum -total

Example 1

Patricia's bucket holds 18litres of water and Dan's bucket holds 16 litres of water. Find the amount of water which both buckets hold.

Solution

Patricia's bucket	1	8litres	8+6=14
Dan's bucket	+1	6litres	1+1+1=3
Both buckets	3	4litres	

Example 2

A school uses 547 litres of milk and a hospital uses 253 litres of milk each day. How many litres of milk do both use in a day?

		Solution
School	5 4 7litres	7+3=10
Hospital	+2 5 3litres	1+4+5=10
Total	8 0 0litres	1+5+2=8

Activity 4

Add the following;

1. 2 4 7litres
   + 2 4litres
   _____

2. 4 7 4litres
   + 4 2litres
   _____

3. 9 7 7litres
   + 7 0litres
   _____

4. 5 6 6litres
   + 3 9litres
   _____

5. Kato has 142 litres of milk. James has 138 litres of milk. How many litres of milk do they have altogether?

6. Eri bought 24 litres of diesel and Phiona bought 64 litres of diesel. Find the amount of diesel they bought altogether.

7. Find the sum of 477litres and 65 litres.

8. Find sum of 351 and 451

Lesson 5

Subtraction of litres

Example 1

Subtract:	2 4 7litres	side work
	- 2 5litres	7-5=2
	2 2 2litres	4-2=2

Example 2

Subtract:	5 6 6litres	side work
	- 3 9litres	16-9=7
	5 2 7litres	5-3=2

Example 3

Subtract: 9 7 11 — sidework

- 8 5 1 — 7-5=2

8 9 2litres — 17-8=9

Word statement involving subtraction of litres

New words

-remain -left -takeaway etc

Example 1

Sarah bought 24litres of milk and she gave 16 litres to Musa. How much milk remained?

Solution

2 41 — 14-6=8

- 1 61

0 8litres — 8 litres of milk remained.

Example 2

Mummy had 640 litres of water in the tank. How much water remained in the tank if she used 37 litres for cooking.

Solution Water in tank 6 4 0litres — 10-7=3

Used - 3 7litres — 3-3=0

6 0 3litres — 603 litres remained in the tank

Activity 5

Subtract the following

1. 9 3 8litres
   - 7 9litres
   _____

2. 4 8 7litres
   - 9 8litres
   _____

3. 5 2 2 litres
   - 7 0 litres
   _____

4. 4 0 4litres
   - 6 2litres
   _____

5. Mr. Kintu's cow gives 347 litres of milk a week. Her mother uses 19 litres of it. How much milk is left?

6. A family water tank contained 769 litres. How much water remained if 395 litres were used for washing.

7. Kakembo filled his car with 92litres of petrol. If he used 74litres of petrol, how much petrol was left?

8. A shopkeeper had 565 litres of paraffin, 498 litres were sold. How much paraffin was left?

9. Take away 1029 litres from 1282 litres of water.

Lesson 1

THEME: ALGEBRA

Finding the missing numbers

Example 1

Find the missing number

$\square + 3 = 8$

Solution

$\boxed{5} + 3 = 8$ 0000

$\square = 8 - 3$ 0~~000~~

$\square = 5$

Example 2

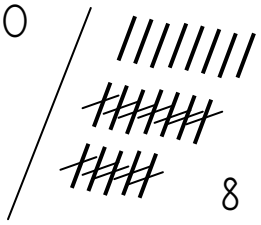
Find the missing number

$\boxed{8} + 12 = 20$

Solution

$\square = 20-12$

$\square = 8$



8

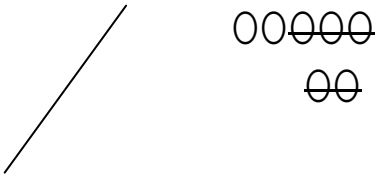
Example 3

Fill in the missing number.

$5 + \boxed{2} = 7$

$\square = 7 - 5$

$\square = 2$



Example 4

Find the missing number

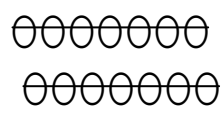
$16 + \square = 20$

Solution

$16 + \square = 20$

$\square = 20 - 16$

$\square = 4$



Activity

Fill in the missing numbers.

a) $\square + 6 = 20$

b) $\square + 12 = 20$

c) $\square + 3 = 9$

d) $\square + 6 = 15$

e) $\square + 9 = 18$

f) $15 + \square = 25$

g) $7 + \square = 12$

h) $5 + \square = 11$

Lesson 2

Word statements involving addition of algebra.

Example 1

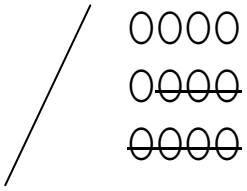
There are some pens in the box. Peter put 7 more pens in the box altogether there were 12 pens. How many pens were there in the box before?

Solution If $\square$ pens were in the box

$\therefore \quad \boxed{5} + 7 = 12$

$\square = 12-7$

$\square = 5$



Example 2

Think of a number, add 8 to it the answer is 13. What is the number?

Solution

$\boxed{5} + 8 = 13$

$\square = 13-8$

$\square = 5$

Example 3

Moses had 12 cows. David gave him more cows. Now he has 18 cows. How many cows did David give him?

Solution

$12 + \square = 18$

$\square = 18-12$

$\square = 6$

Example 4

Kato 23 cakes in his shop. Abu gave him more cakes. Now he has 30 cakes. How many cakes did Abu give him?

Solution

$23 + \square = 30$

$\square = 30-23$

$\square = 7$

Activity 2

1. I Think of a number, add 5 to it the answer is 14. What is the number?

2. I Think of a number, add 6 to it, the answer is 15. What is the number?

3. A teacher had some books. He bought 8 more. Altogether he had 14 books. How many books did the teacher have?

4. I had 16 apples. Mummy gave me more apples. Now I have 20 apples. How many apples did mummy give me?

5. John had 9 goats. He bought more goats. Now he has 12 goats. How many goats did John buy?

Lesson 3

Finding the missing numbers involving subtraction.

Example 1

Find the missing number.

Note: To get the first greater number, we add

$\square - 12 = 9$

$\square = 9+12$

$\square = 21$

Example 2

Find the missing number.

$10 - \square = 4$

$\square = 4+6$

$\square = 10$

Example 3

Fill in the missing number.

$8 - \square = 4$

$\square = 8 - 4$

$\square = 4$

0000

~~0000~~

Note: To find the missing middle number, we subtract or takeaway

Example 4

Fill in the missing numbers

$19 - \square = 3$

$\square = 19 - 3$

$\square = 16$

Activity 3

Fill in the missing numbers.

(a) $12 - \square = 2$

(b) $9 - \square = 6$

(c) $30 - \square = 10$

(d) $10 - \square = 4$

(e) $14 - \square = 7$

(f) $\square - 8 = 18$

(g) $\square - 5 = 25$

(h) $\square - 7 = 14$

(i) $\square - 2 = 12$

Lesson 4

Word statements involving subtraction of algebra equation

Example 1

Daddy had some sweets. He gave me 19 and he remained with 12. How many sweets did he have before?

Solution

$\square - 19 = 12$

$\square = 12 + 19$

$\square = 31$

Example 2:

Wasswa had some passion fruits. He gave me 6 and he remained with 8. How many passion fruits did he have before?

Solution

$\square - 6 = 8$

$\square = 8 + 6$

$\square = 14$

Example 3

A box had some books. 8 books were removed and 3 books were left. How many books were in the box before?

Solution

$\square - 8 = 3$

$\square = 3 + 8$

$\square = 11$

Activity 4

1. I Think of a number, take away 8 from it, the answer is 12. What is the number?

2. Betty had some pineapples, she gave 5 to Suzan. If she remained with 12 pineapples, how many pineapples did Betty have at first?

3. I Think of a number, take away 4 from it, the answer is 9. What is the number?

4. Kizza had some goats. When he sold 8 of them he remained with 9 goats. How many goats had he before?

5. I think of a number, take away 7 from it, the answer is 15. What is the number?

Lesson 5

Algebra involving multiplication.

Example 1

Find the missing number

$\square \times 2 = 8$

Solution

$\boxed{4} \times 2 = 8$

$\square = 8 \div 2$

$\square = 4$

Example 2

Find the missing number

$\square \times 4 = 12$

Solution

$\boxed{3} \times 4 = 12$

$\square = 12 \div 4$

$\square = 3$

Example 3

Find the missing number

$\square \times 4 = 16$

Solution

$\boxed{4} \times 4 = 16$

$\square = 16 \div 4$

$\square = 4$

Example 4

Find the missing number

$7 \times \square = 21$

Solution

$7 \times \boxed{3} = 21$

$\square = 21 \div 7$

$\square = 3$

Activity 5

Work out the following

(a) $\square \times 6 = 12$

(b) $\square \times 5 = 20$

(c) $\square \times 7 = 35$

(d) $\square \times 8 = 24$

(e) $\square \times 6 = 36$

(f) $6 \times \square = 12$

(g) $\square \times 6 = 18$

(h) $5 \times \square = 10$

Lesson 6

Algebra involving devision.

Example 1

Fill in the missing number.

$\square \div 3 = 4$

Solution

$\boxed{12} \div 3 = 4 \times 3$

$\square = 4 \times 3$

$\square = 12$

Note: To get the first greater number we multiply.

Example 2

Fill in the missing number.

$15 \div \boxed{5} = 3$

Solution

$15 \div \square = 3$

$\square = 15 \div 3$

$\square = 5$

To get the middle number, we divide.

Example 3

Fill in the missing number.

$\square \div 3 = 9$

Solution

$\boxed{27} \div 3 = 9$

$\square = 9 \times 3$

$\square = 27$

Example 4

Fill in the missing number.

$28 \div \boxed{7} = 4$

Solution

$28 \div \square = 4$

$\square = 28 \div 4$

$\square = 7$

Activity 5

Work out the following

(a) 30 ÷ ☐ = 6

(b) 6 ÷ ☐ = 3

(c) 18 ÷ ☐ = 9

(d) ☐ ÷ 4 = 5

(e) ☐ ÷ 6 = 3

(f) ☐ ÷ 7 = 2

(g) ☐ ÷ 2 = 14

Lesson 7: Collecting like terms

Note: To collect like terms is to put similar things/items on one side.

Example 1

(a) 3 cups+2eggs+4cups+3eggs

Solution

3cups+4cups+2eggs+3eggs

7cups + 5eggs

Example 2

2y+x+3y+4x+8z+3x

Solution

2y+3y+x+4x+3x+8z

5y+8x+8z

Activity 7

Collect like terms

a) 2boys+3girls+1boy+2girls

b) 4apples+2mangoes+2apples+1mango

c) 20x+9y+4x+19y+x

d) 2cups+1book+2cups+3books

e) 8p+3y+9q+10p+q

f) 3books+4pencils+2books+5pencils