



**FIRST TERM LESSON NOTES**

**FOR**

**MATHEMATICS**

## **TOPICAL BREAKDOWN**

### **THEME 2: LIVELIHOOD IN OUR SUB-COUNTY / DIVISION.**

#### **WHOLE NUMBERS**

- Numbers and their symbols
- Forming numbers using basic digits
- Arrange the given numbers in increase and decrease order.
- Grouping in ones, tens and hundreds.
- Representing numbers on the abacus and writing numbers from the abacus.
- Finding numbers represented on the abacus.
- Writing numbers in words and figures.
- Place values of numbers.
- Expanded form of natural numbers.
- Values of numbers (digits)
- Adding numbers using the abacus.
- Subtracting numbers using the abacus.
- Roman numerals up to 100 (C).
- Changing Hindu Arabic Numerals to Roman Numerals and Vice versa.
- Application on Roman Numerals.

### **THEME 3: OUR ENVIRONMENT IN OUR SUB-COUNTY OPERATION OF NUMBERS**

- Comparing digits  
Using greater than  $>$ , less than  $<$  or equals  $=$
- Addition of numbers
- Subtraction of numbers
- Multiplication of numbers
- Division of numbers

#### **SET CONCEPT**

- Definition of a set
- Matching sets
- Naming sets
- Listing sets
- Comparing sets
- Types of sets
  - a) Equal sets and not equal sets
  - b) Equivalent and non equivalent sets
  - c) Union sets

- d) Intersection
- e) Empty set
- f) Different types of sets being represented on a Venn diagram.
- g) Identifying difference of sets i.e. members in a set that are not in another.
- h) Getting information from a Venn diagram.
- i) Shading of difference sets.
- j) Finding number of elements in a given set using a symbol.

#### **THEME 4: OUR ENVIRONMENT AND WEATHER IN OUR SUB-COUNTY NUMBER**

##### **FACTS**

##### **AND SEQUENCES**

- Even numbers
- Odd numbers
- Prime numbers
- Counting numbers
- Whole numbers
- Multiples of natural numbers
- Factors of numbers
- Finding L.C.M
- Magic square

##### **GEOMETRY**

##### **Simple plan shapes with their properties**

- Square
- Rectangle
- Triangle
- Circle
- Trapezium

## **THEME 1: OUR SUB COUNTRY / DIVISION**

### **THEME ONE**

### **LIVELIHOOD IN OUR SUB-COUNTY / DIVISION**

### **WHOLE NUMBERS.**

### **WEEK**

### **Lesson one and two**

### **Place values of numbers to thousands of whole numbers.**

This is the position of a digit in a given number. e.g

1.      46       $\begin{array}{c} 4 \quad 6 \\ \downarrow \quad \downarrow \\ \text{Ones} \quad 4 \text{ tens } 6 \text{ ones} \\ \text{Tens} \end{array}$

2.      1 3 5      =       $\begin{array}{c} 1 \quad 3 \quad 5 \\ \downarrow \quad \downarrow \quad \downarrow \\ \text{Hundreds} \quad \text{Tens} \quad \text{Ones} \end{array}$       1 hundreds 3 tens 5 ones

3.      4732      =       $\begin{array}{c} 4 \quad 7 \quad 3 \quad 2 \\ \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \\ \text{Thousands} \quad \text{Hundreds} \quad \text{Tens} \quad \text{Ones} \end{array}$       4 thousands 7 hundreds 3 tens 2 ones

### **Activity:**

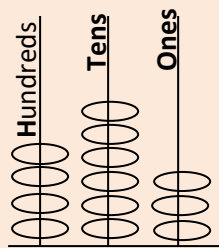
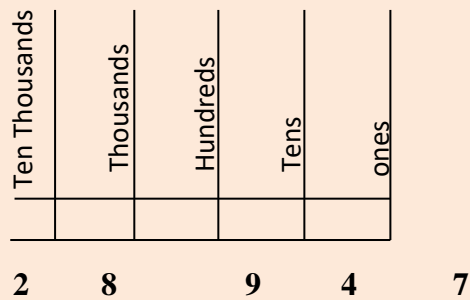
*Mk mathematics book 3 pages 21- 23 and 28- 30*

*Mk maths bk 4 pg 20*

### Lesson three and four.

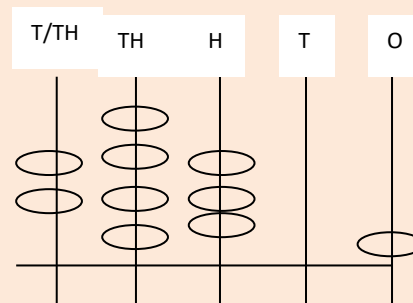
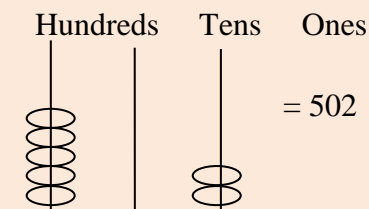
#### Representing numbers on the abacus and writing numbers from the abacus

An abacus emphasizes places of digits making up the number.



$$463 = 4 \text{ hundred } 6 \text{ tens } 3 \text{ ones}$$

#### **Finding numbers represented on the abacus.**



Represent the following numbers on an abacus.

- a) 68
- b) 444
- c) 2541
- d) 23064

#### Exercise

*Primary Mathematics for Uganda book Pgs 12, 16.*

*Primary schools MTC book 3pg 11 and 12.*

## Lesson five and six.

Expanded form of numbers.

Expand. 640

H    T    O

6    4    0    6hundreds 4tens 0ones    =  $600 + 40 + 0$

Expand 7253

Th   H   T   O

7    2    5    3    7 thousands 2hundreds 5tens 3ones    =  $7000 + 200 + 50 + 3$

Finding the expanded numbers.

a)  $400 + 30 + 6$

H	T	O
4	0	0
	3	0
<hr/>		
		6
<hr/>		

b)  $7000 + 50 + 9$

Th	H	T	O
7	0	0	0
		5	0
<hr/>			
			9
<hr/>			

## Activity:

*Mk book 3 page 32*

*Understanding Maths book 3 page*

Lesson seven and eight.

Counting and writing numbers in words.

All numbers have names of their symbols to represent them.

<u>Name</u>	<u>Symbol</u>
One	1
Two	2
Three	3
Four	4
Five	5
Six	6
Seven	7
Eight	8
Nine	9
Ten	10



## WEEK THREE

### Lesson one and two

#### Writing number symbols in figures

##### Examples

One hundred thirty six.

$$\begin{array}{r} \text{One hundred} \quad 100 \\ \text{Thirty} \quad \quad 30 \\ \text{Six} \quad \quad \quad + 6 \\ \hline \quad \quad \quad 136 \end{array}$$

Two thousand three hundred fourteen.

$$\begin{array}{r} \text{Two thousand.....} \quad 2\,000 \\ \text{Three hundred.....} \quad 300 \\ \text{Fourteen} \quad \quad \quad \quad + 14 \\ \hline \quad \quad \quad 2314 \end{array}$$

##### Activity:

*Primary school mathematics for Uganda book3 pg 15 and 16.*

*Primary MTC for Uganda book 4 pg 10 and 11.*

*MK Bk 3 pg 24.*

### Lesson three and four

#### Forming numbers using basic digits

The basic digits are 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 using digits to form numbers.

Use,  $1, 2 \longrightarrow 12, 21$

$3, 6 \longrightarrow 36, 63$

$1, 2, 7 \longrightarrow 127, 217, 271, 721, 712$

##### Activity:

*Primary Mathematics for Uganda book4 page 14*

*Photocopied work*



**Forming the biggest (largest) and smallest number using the following digits**

- a) 1, 3, 2
- b) 2, 4, 7
- c) 1, 6
- d) 9, 2

Lesson five and six.

**Arrange the given digits in ascending and descending order.**

- a) 20, 13, 31, 0
- b) 12, 32, 20, 46

**Activity:**

*Primary school MTC book 3 pg 8 – 10*

*Primary mathematics for Uganda book 3 pg 11*

What number comes before and after?

Before

After

$$24 = 24 - 1 = 23$$

$$24 = 24 + 1 = 25$$

**Activity:**

*Primary school Mathematics page 8- 10*

**Lesson seven and eight**

**Grouping hundreds, tens and ones**

- 1. Eleven

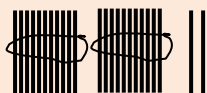


= 1 ten 1 one

$$10 + 1$$

$$11$$

2. Twenty two



= 2 tens 2 ones

$$20 + 2$$

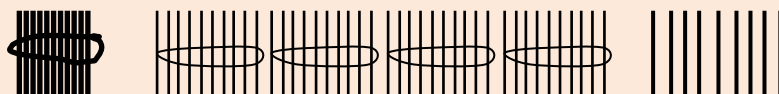
$$22$$

3. 32, 4, 56, 5, 47, 692, 798

4. one hundred forty nine

= 1 hundred 4 tens 9 ones

$$100 + 40 + 9 = 149$$



**Activity:**

*Primary school mathematics Bk 3 pages 6 – 7, 12, 19, 30, 31.*

*Primary mathematics for Uganda book 3 pages 11 – 12*

## **WEEK FOUR**

### **Lesson one and two**

#### **Values of numbers (digits)**

Values of digits represent the size of the numeral in a position it holds.

4 5 6 7

Value of digit 4 = (4 x 1000) its place value is thousands

$$4000$$

Value of digit 5 = (5 x 100) its place value is hundreds.

$$500$$

Value of digit 6 = (6 x 10) its place value is tens.

$$60$$

Value of digit 7 = (7 x 1) its place value is ones.

Activity:

Mk Primary Mathematics book 4 page 21

## Lesson three and four

### Finding expanded numbers using place values.

E.g. 1.  $(4 \times 100) + (3 \times 10) + (2 \times 1)$

$$400 + 30 + 2 =$$

H	T	O
4	0	0
	3	0
+		2
<hr/>		

E.g. 2.  $(5 \times 1000) + (9 \times 10) + (7 \times 1)$

$$5000 + 90 + 7 =$$

TH	H	T	O
5	0	0	0
		9	0
		+	7
<hr/>			

*Understanding Mathematics book 3 page*

*Mk Primary school MTC book 4 pg 24.*

## Lesson five and six.

### Adding numbers using an abacus

e.g.  $24 + 13$

$$(20 + 10) + (4 + 3)$$

$$30 + 7$$

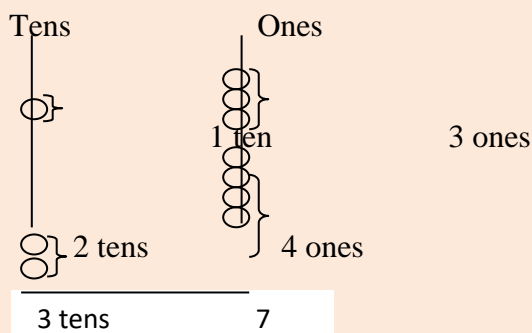
$$3 \text{ tens} + 7 \text{ ones}$$

**T O**

$$2 \quad 4$$

$$+ \quad \underline{1 \quad 3}$$

$$\underline{3 \quad 7}$$



### Activity:

Practical work using children's abacii.

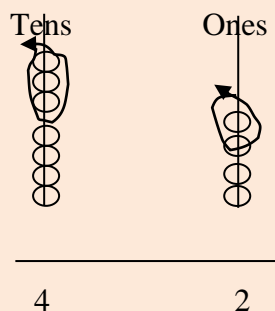
## Lesson seven and eight.

### Subtracting numbers using the abacus

$$74 - 32$$

$$(7 \text{ tens} - 3 \text{ tens}) - (4 \text{ ones} - 2 \text{ ones})$$

T	O
7	4
- 3	2
<hr/>	
4	2



## Practical work using children's abacii

### WEEK FIVE

#### Lesson one and two

#### Roman Numerals up to C

Long ago people kept records in form of pictures, which were difficult to draw. Therefore they discovered the way of using symbols to represent the pictures. The first people to use symbols were the Greeks, Romans and Egyptians.

#### Roman Numerals

They work on the principle of expanded numbers.

$$\begin{aligned}23 &= (20 + 3) \\ &= XX + III \\ &= XXIII\end{aligned}$$

#### The basic Roman symbols for numbers

<u>Hindu Arabic</u>	<u>Roman Numerals</u>
1	I
2	II
3	III
4	IV
5	V
6	VI
7	VII
8	VIII
9	IX
10	X

Other Roman numerals include, XX, XXX, XL, L LX, LXX, LXXX, XC and C

#### **Activity:**

Reading and writing numbers in Roman numerals.

## Lesson three and four

### Changing Hindu Arabic Numerals to Romans up to 100.

1. Change 12 to Roman Numerals

$$12 = (10 + 2)$$

$$X + II$$

$$XII$$

Change 45

$$40 + 5$$

$$XL + V$$

$$XLV$$

Activity :

Photocopied work

## Lesson five and six.

### Changing Roman Numerals to Hindu Arabic up to C

$$XIX = X + IX$$

$$10 + 9$$

$$19$$

$$XLIII = XL + III$$

$$40 + 3$$

$$43$$

Activity:

Photocopied work

## Lesson seven and eight.

### Application on Roman Numerals

Word sums in Roman Numbers (Numerals)

Activity:

1. *Primary MTC for Uganda Bk 4 page 15 - 17*
2. *Mk Primary Mathematics Bk 4 page 35*

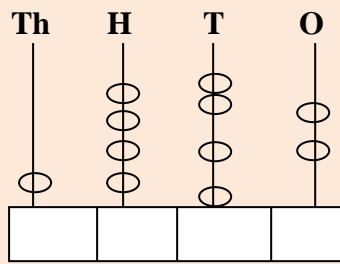
## WEEK SIX

### Lesson one and two

### TOPICAL QUESTIONS

1. Fill in the missing numbers.  
143, 144, \_\_\_\_\_, \_\_\_\_\_, 148.
2. Draw an abacus for the figure below.  
7216.

3. What number has been shown on the abacus?



4. Write in figures.  
Two thousand four hundred twenty nine.
5. What is the place value of 6 in the number below?  
1607
6. What number comes after 1568?
7. Complete the following numbers.
- a)  $3254 = \underline{\hspace{1cm}}$  thousands  $\underline{\hspace{1cm}}$  hundreds  $\underline{\hspace{1cm}}$  tens  $\underline{\hspace{1cm}}$  ones.
- b) Write the following in Roman numerals: a) 76    b) 93    c) 44
8. A trader earned sh. 9050 on Monday. Write the amount of money he earned in words.

## **OPERATION OF NUMBERS**

### **Lesson three and four.**

Comparing digits using  $>$ ,  $<$  or  $=$

Using greater than, less than or equal to

$>$                        $<$     or     $=$

Activity:

Using the above symbols to do the work.

### **Which is greater?**

- a) 6  $\underline{\hspace{1cm}}$  3
- b) 2  $\underline{\hspace{1cm}}$  7
- c) 4  $\underline{\hspace{1cm}}$  0
- d) 17  $\underline{\hspace{1cm}}$  6

### **Which is less?**

- a) 98  $\underline{\hspace{1cm}}$  89
- b) 412  $\underline{\hspace{1cm}}$  241
- c) 934  $\underline{\hspace{1cm}}$  943
- d) 521  $\underline{\hspace{1cm}}$  512

## Lesson five and six.

### Addition of numbers with and without regrouping

Numbers should be arranged correctly according to their place value. When adding we start from ones.

If there is any carrying, then we carry 1 ten to tens.

We continue in that order until all numbers are added correctly.

Three by three

H	T	O
1	4	7
+4	0	2
<u>5</u>	<u>4</u>	<u>9</u>

four by four

Th	H	T	O
3	7	4	2
+2	1	3	5
<u>5</u>	<u>8</u>	<u>7</u>	<u>7</u>

1. *Primary School Mathematics bk 3 pg 14.*
2. *Understanding MTC bk 3 pg 12*

### Word problems in addition.

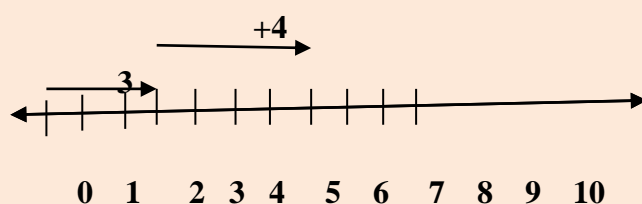
#### Activity:

1. *Primary Mathematics Bk 3 pg 11.*
2. *Primary MTC for Uganda bk 3 pg 25, 26*
3. *Mk mathematics book three page 44 and 46*

## Lesson seven and eight

### Addition on a numberline.

Eg  $3 + 4 = 7$



## WEEK SEVEN

### Lesson one and two.

### Subtraction of members with regrouping and without regrouping

Numbers should be arranged correctly according to their place value. When subtracting we begin with or start handling with one. If there is borrowing (re-grouping). It is done in groups of tens.

That order is done until all numbers are completed.

### Example

$$\begin{array}{r} 4 \quad 4 \\ - 1 \quad 3 \\ \hline 3 \quad 1 \end{array}$$

$$\begin{array}{r} \text{T} \quad \text{O} \\ 4 \quad 3 \\ - 1 \quad 9 \\ \hline \end{array} \longrightarrow \begin{array}{r} \text{T} \quad \text{O} \\ 3 \quad 13 \\ - 1 \quad 9 \\ \hline 2 \quad 4 \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 10 \quad 10 \\ - \quad 3 \quad 6 \\ \hline \end{array} \longrightarrow \begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 1 \quad 9 \quad 10 \\ - \quad 3 \quad 6 \\ \hline 1 \quad 6 \quad 4 \end{array}$$

Activity:

Mk mathematics book three pages 48, 50 and 52

Primary school mathematics book 3 pages 16 and 33

### Word sums involving subtractions

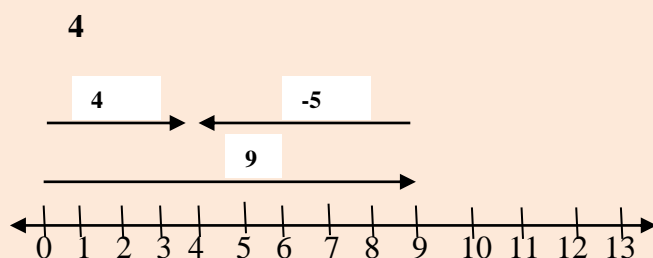
Activity:

1. *Mk Primary Mathematics book 3 pages 49, 51 and 54.*
2. *Understanding mathematics pg 21 – 24, 44.*

**Lesson three and four.**

**Subtraction on a numberline.**

**Eg 9- 5=**

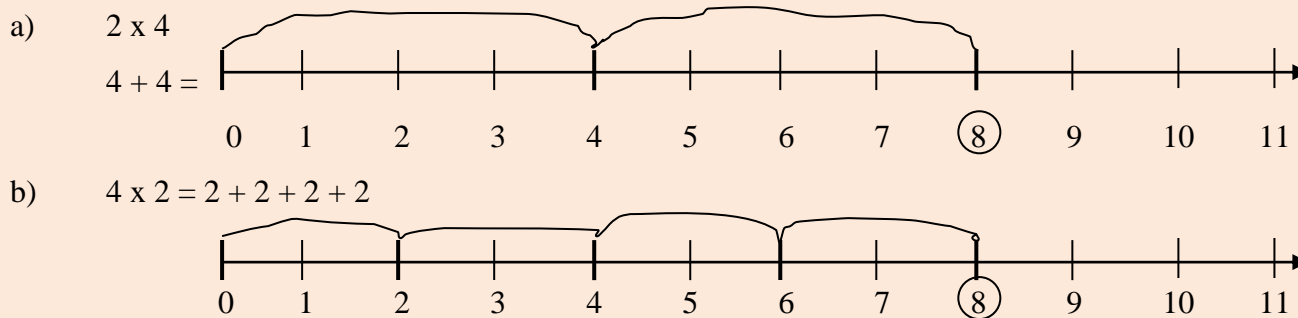




## Lessons five and six

Multiplication of numbers on a number line.

Workout numbers using the number line.



**Activity:**

*Photocopied work*

*Mk Mathematics book 3 page 70*

*Primary school Mathematics book 3 page 86*

## Lesson seven and eight

### Multiplying of two digits by one

e.g. I

$$\begin{array}{r} 1 \quad 6 \\ \times \quad 2 \\ \hline 3 \quad 2 \end{array}$$

Multiplying 6 ones by 2 =  $6 \times 2 = 12$

Write 2 under one, take 1 ten to tens. Multiplying 1 ten by 2 then add one.

$$(1 \times 2) + 1 = 2 + 1 = 3$$

### Example II

$$124 \times 6 = \text{expanded} \rightarrow 100 + 20 + 4$$

$$100 \times 6 = 600$$

$$20 \times 6 = 120$$

$$4 \times 6 = +24$$

$$\underline{\underline{744}}$$

**Activity:**

*Primary school Mathematics book 3 page 17 to 21*

*Mk mathematics book 3 page 55 to 70*

## WEEK EIGHT

### Lesson one and two

#### Multiplying two digits by two.

##### Example; 1

$$\begin{array}{r} 12 \times 13 \\ 12 \\ \times 13 \\ \hline 36 \\ + 120 \\ \hline 156 \end{array}$$

##### Example 2

$$\begin{array}{rcl} 12 \times 13 & \text{Expand 12} & 10 + 2 \\ & & 10 \times 13 = 130 \\ & & 2 \times 13 = + 26 \\ & & \hline & & 156 \end{array}$$

#### Activity

1. *Mk mathematics book 3 pages 69 to 70*
2. *Primary school MTC Bk 3 pg 36 – 37 and 84 and 85.*

### Lesson three and four

#### Word problems in multiplication

Word sums will be handled as well.

#### Activity

1. *Primary MTC for Uganda Bk 3 pg 21.*
2. *Mk Primary Mathematics Bk 3 pg 71.*

### Lesson five and six

#### Division of one numbers by one digit number.

Introduction of division.

$$2 \div 2 = 1$$

Children will share objects to learn division of numbers.

#### Activity:

*Photocopied work.*

## Lesson seven and eight

Division of two numbers by one digit number.

Children should be able to:-

1. Drawing multiplication tables up to 9.
2. Divide given numbers correctly.

### Example 1

$$\begin{array}{r} 17 \\ 2 \overline{) 34} \\ \underline{2} \phantom{0} \\ 14 \\ 2 \times 7 = \underline{14} \end{array}$$

X	2
1	2
2	4
3	6
4	8
5	10
6	12
7	14

### Example 2

$$\begin{array}{r} 26 \\ 2 \overline{) 52} \\ \underline{4} \phantom{0} \\ 12 \\ 6 \times 2 = \underline{12} \end{array}$$

X	2
1	2
2	4
3	6
4	8
5	10
6	12
7	14

### Activity:

Primary school Mathematics book 3 page 23

Mk Mathematics book 3 page 72

## WEEK NINE

### Lesson one and two.

Word sums in division.

Word sums will be handled as well.

### Activity:

*Mk mathematics book 3 page 76 to 77*

## Lesson three and four

### TOPICAL TEST

1. Add;  $25 + 33$ .
2. Subtract 20 from 100.
3. A class was given 24 pencils to share. If there are 4 pupils in the class, how many pencils does each pupil receive?
4. What is the difference between 96 and 69?
5. 432 seedlings were planted in 4 gardens. Each garden got the same number of seedlings. How many seedlings were planted in each garden?
6. Multiply;  $148 \times 5$
7. Workout;  $23 \times 5$
8. Divide;  $7 \overline{)252}$
9. A farmer sells 245 bunches of bananas to a school in a week. How many bunches of banana will be sold in 4 weeks?
10. Add;  $267 + 143$

### THEME: OUR SUB-COUNTY / DIVISION

#### SET CONCEPT

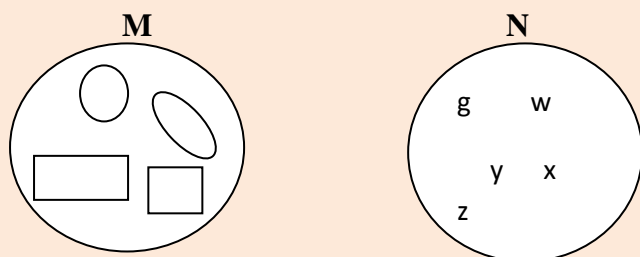
#### Revision work

#### Definition of a set

A set is a collection of well defined members or elements.

#### Comparing and matching sets

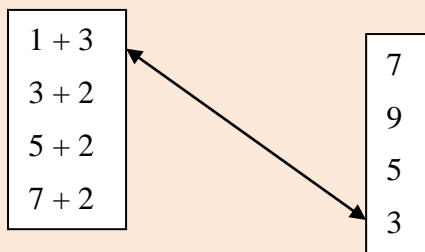
#### Comparing sets



Set M has 4 members.

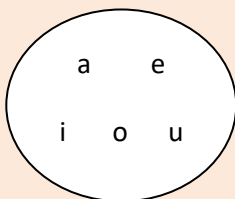
Set N has 5 members.

Set N has more members than M.

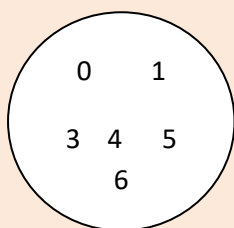


### **Forming and) naming sets**

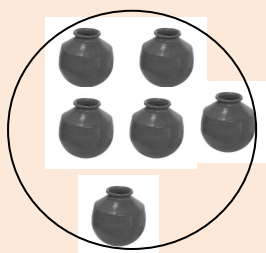
Names of sets are based on members or elements e.g



A set of vowels.



A set of numbers.



A set of pots.

### **Writing down sets.**

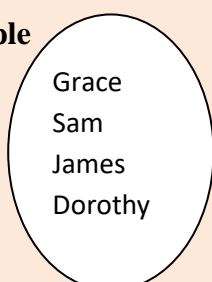
Capital letters are used to name different sets.

e.g A,B,C, or D etc.

Members of sets are written in curl brackets and are separated by commas.

$A = \{ 1,2,3,4 \}$

### **Example**



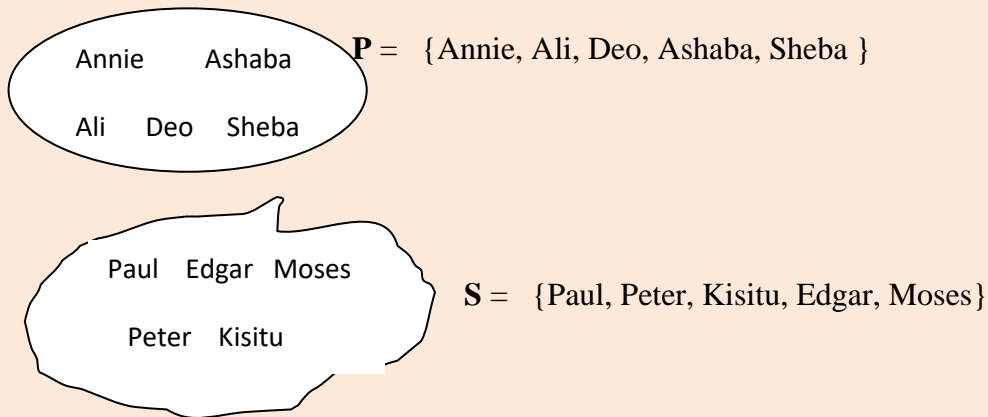
$X = \{\text{Grace, Sam, James, Dorothy}\}$

*Ref: 1. Understanding MTC Bk 3 page 1*

*2. Mk Primary Mathematics Pupils bk 3.*

*3. Pri School MTC*

**Drawing and listing sets.**



Finding number of members in a given set.

How many members are in set P above?

There are 5 members in set P.

$n(P) = 5$  members.

*Ref: 1. Primary School Mathematics*

*2. Mk Book 2*

*3. Understanding mathematics.*

**Lesson three and four**

**TYPES OF SETS AND THEIR SYMBOLS**

**EQUAL SETS (=)**

These are sets that have same numbers and same members.

**Examples;**

1.  $Y = \{a, b, c\}$

$N = \{c, b, a\}$

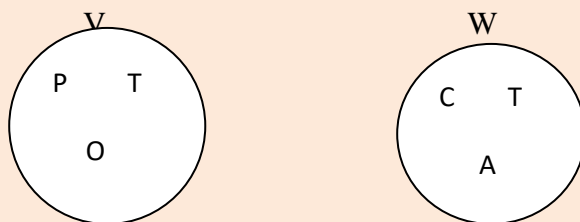
Set Y is equal to set N.

Set Y = set N

### Not equal sets ( $\neq$ )

Sets are not equal when they have different number of numbers and members.

**Example:**



Set V is not equal to set W.

Set V  $\neq$  set W

**Activity:**

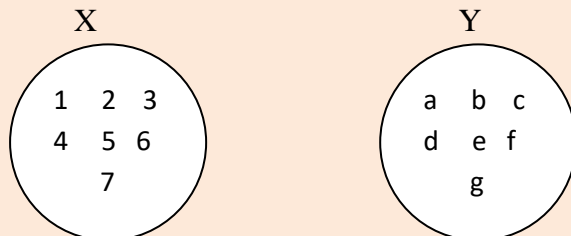
1. *Understanding mathematics Bk 3 pages 3, 4 – 5.*
2. *Primary Mathematics Bk 3 page 1.*
3. *MK Mathematics Bk 3 page 5.*

**Lesson five and six**

### Equivalent sets ( $\leftrightarrow$ )

Equivalent sets are sets that have the same number of members but different members.

**Example**

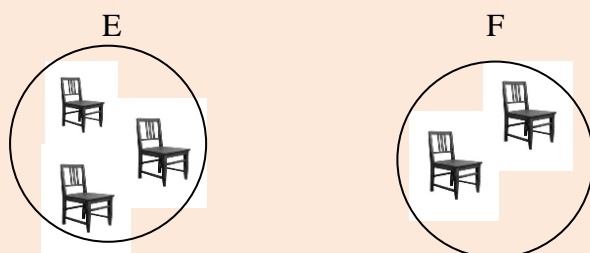


Set X is equivalent to set Y

Set X  $\leftrightarrow$  set Y

### Non-equivalent sets ( $\leftrightarrow$ )

They don't have the same number of members.



Set E is not equivalent to set F

Set E not equal to Set F

**Activity:**

1. *Understanding Maths Bk 3 page 2.*
2. *Primary School maths Bk 3 page 1.*

**Lesson Five****Union sets ( $\cup$ )**

Writing the members together without repeating any member or uniting different members of sets without repeating any member.

**Examples**

a)  $A = \{1, 2, 3\}$                        $B = \{4, 5, 6\}$

$$A \text{ union } B = \{1, 2, 3, 4, 5, 6\}$$

$$A \cup B = \{1, 2, 3, 4, 5, 6\}$$

$$n(A \cup B) = \quad \text{members.}$$

b)  $X = \{1, 2, 3\}$                        $Y = \{3, 4, 5\}$

$$X \text{ union } Y = \{1, 2, 3, 4, 5\}$$

$$X \cup Y = \{1, 2, 3, 4, 5\}$$

$$n(X \cup Y) = \quad \text{members.}$$

**Activity:**

1. *MK Mathematics Bk 4 page 14 ( to be photocopied)*
2. *Understanding Mathematics book 4 page 7 ( to be photocopied)*

**Lesson six****Intersection set ( $\cap$ )**

Common members found in given sets.



### Examples

$$C = \{a, c, f\} \quad D = \{m, a, f\}$$

Set C intersection Set D =  $\{a, f\}$

$$M = \{1, 2, 3\} \quad N = \{2, 4, 5, 3\}$$

Set M intersection Set N =  $\{2, 3\}$

$$\text{Set } M \cap \text{Set } N = \{2, 3\}$$

$$n(M \cap N) = \quad \text{members}$$

1. *MK Mathematics Bk 4 page 9 and 10 ( to be photocopied)*

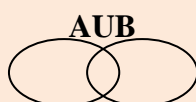
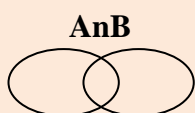
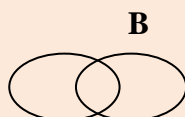
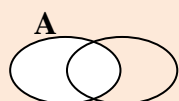
2. *Understanding Mathematics book 4 page 8 and 9 ( to be photocopied)*

### **Lesson seven**

**Shading different regions of sets in Venn diagrams.**

**Activity:**

**Shade the following sets.**



### Empty sets $\emptyset, \{ \}$

An empty set is a set that has no members. It is also called a NULL set.

### Examples

- a) A set of books made of stones.
- b) A set of houses made of hair.
- c) A set of bags with water covers.

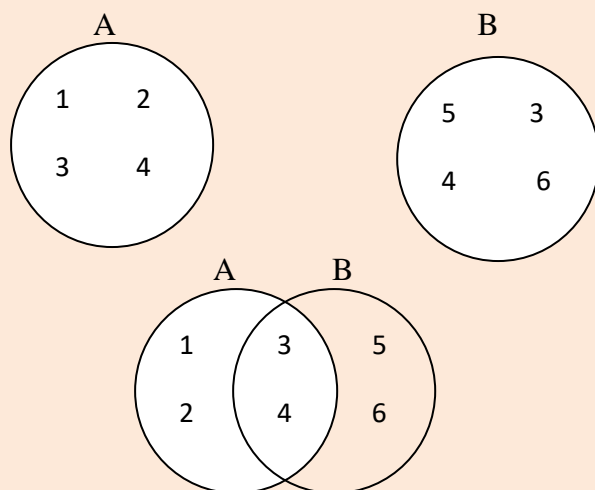
The symbol  $\{ \}$  or  $\emptyset$  means empty set or null set.

### Activity:

1. *MK Primary Mathematics pupil's book 3 page 12.*
2. *Understanding mathematic bk 4 page 6.*
3. *MK Primary Mathematics pupil's book 4 page 2.*

### Lesson seven and eight

#### Representing different types of sets on a venn diagram



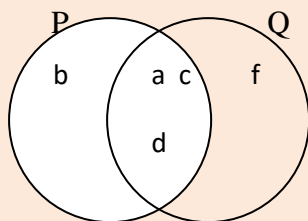
Set A Union B = {1, 2, 3, 4, 5, 6}

Set A  $\cup$  B = {1, 2, 3, 4, 5, 6}

Set A intersection B = {3, 4}

Set A  $\cap$  set B =

P = {a, b, c, d}      Q = {a, c, d, f}



$P \cup Q = \{a, b, c, d, f\}$

$P \cap Q = \{a, c, d\}$

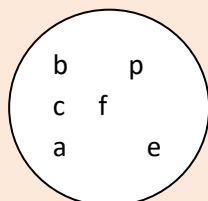
$n(P) =$       members.       $n(Q) =$       members.

## Activity

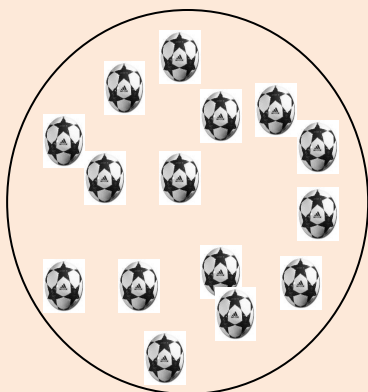
1. *Primary mathematics pupil's book 4 page 14 to 15.*
2. *Understanding mathematics bk 4 page 7 – 9.*

## TOPICAL TESTS

1. What is a set?
2. How many members are in the sets below?

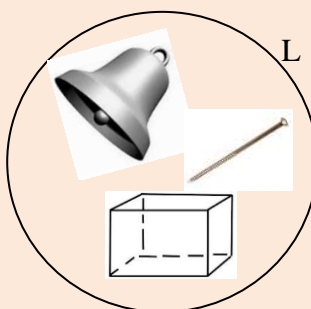
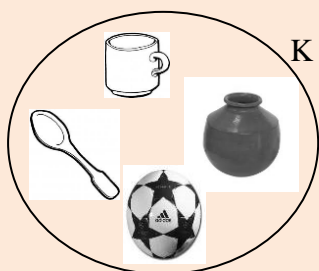


3. Draw a set of three oranges.
4. Name the set given below;  
 $K = \{\text{Anna, Liz, Anita, Lucy}\}$
5. If  $B = \{\}$ . How many members are in set B?
6. Given that set below is Q



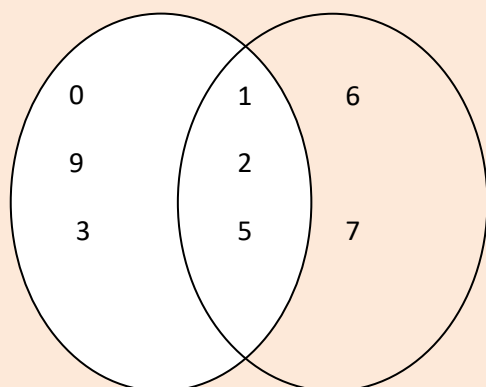
How many groups of threes are in set Q above?

7. Study the sets below and answer questions that follow.



- a) Which set has more members?
- b) Which set has less members?

- c) How many members are in Set K?
- d) How many members are in set L?
8. Study the venn diagram and answer questions that follow.



Find:

a.  $Z \cap Y =$

b.  $Z \cup Y =$

c.  $n(Z) =$

d.  $n(Y) =$

## **THEME FOUR**

### **ENVIRONMENT AND WEATHER IN OUR SUB COUNTY**

#### **Lesson Three**

##### Number facts sequences

##### Even numbers

They leave no remainders when divided by 2. Zero is an even number and it is the first even number.

e.g

$$0 \div 2 = 0$$

$\therefore 0$  is an even number.

0, 2, 4, 6, 8, 10, .....

#### **Activity:**

Understanding Mathematics book 3 page 40 and book 4 pages 42 to 44.

Primary mathematics for Uganda book 3 page 80

Photocopied work from Mk book 4 page 58 to 63 and Primary school Mathematics book 4 page 5

#### **Lesson Four**

##### **Odd numbers**

Numbers that cannot be exactly divided by 2 are odd numbers. The first odd number is one.

E.G

$$3 \div 2 = 1 \text{ remainder } 1$$

$\therefore 3$  is an odd number.

Odd numbers less than 13.

1, 3, 5, 7, 9, 11, .....

*Understanding Mathematics book 3 page 40 and book 4 pages 42 to 44*

*Primary mathematics for Uganda book 3 page 80*

*Photocopied work from Mk book 4 page 58 to 63 and Primary school Mathematics book 4 page 5*

## **Lesson Five**

### **Prime numbers**

These are numbers that have two factors, One and itself.

e.g  $1 \times 2 = 2$ ,  $1 \times 3 = 3$

$\therefore$  2 and 3 are prime numbers.

Prime numbers include;

2, 3, 5, 7, 11, 13, 17, .....

*Photocopied work*

### **Counting numbers**

They are numbers we use to count. They are also called Natural numbers. Natural numbers include;

1, 2, 3, 4, 5, 6, 7, 8, 9, .....

### **Whole numbers**

These are like counting numbers but they begin with zero. The following is a list of whole numbers.

0, 1, 2, 3, 4, 5, 6, 7, 8, .....

**Activity :**

*Photocopied work*

## **Lesson Six**

### **Workout missing numbers using the four rules of numbers**

The number pattern tend to follow a certain sequence numbers,

0, 2, 4, 6, 8, .....

The next number was got by adding.

Begin from 0.

$$0 + 2 = 2$$

$$2 + 2 = 4$$

$$4 + 2 = 6$$

$$6 + 2 = 8$$

$$8 + 2 = 10$$

$$10 + 2 = 12$$

$\therefore$  0, 2, 4, 6, 8, 10, 12, 14.

12, 10, 8, 6, \_\_, \_\_

Keep on subtracting 2.

$$12 - 2 = 10$$

$$10 - 2 = 8$$

$$8 - 2 = 6$$

$$6 - 2 = 4$$

$$4 - 2 = 2$$

$\therefore$  12, 10, 8, 6, 4, 2, \_\_\_\_

**Activity:**

*Mk book 3 page 87*

*Understanding Mathematics book 4 pages 38 to 39*

Division and multiplication will be handled in the same way

**Activity:**

*Mk book 3 page 81*

## Lesson Seven

### Multiple of natural numbers

These are products of a given table.

$$M_2 = 2, 4, 6, 8, \text{____}, \text{____}$$

$$M_3 = 3, 6, 9, 12, \text{____}$$

### Factors of Numbers

Factors are numbers which are multiplied to give us a product (multiple).

$$1 \times 2 = 2 \quad \quad \quad -1 \text{ and } 2 \text{ are factors of } 2.$$

$$2 \times 3 = 6 \quad \quad \quad -2 \text{ and } 3 \text{ are factors of } 6.$$

Activity:

Photocopied work from Mk book 4 pages 64, 65, 66 and 73

## WEEK EIGHT

### Lesson one

### Magic squares

Each row, columns and diagonal add up to the same number which we call a magic number.

$$6 + 1 + 8$$

6	a	2
1	b	c
8	d	e

$$b + 8 + 2 = 15$$

$$b + 10 = 15.$$

$$b + 10 - 10 = 15 - 10$$

$$\underline{\underline{b = 5}}$$

$$c + 1 + 5 = 15$$

$$c + 6 = 15$$

$$c + 6 - 6 = 15 - 6$$

$$\underline{\underline{c = 9}}$$

## Activity

*Primary school Maths page 110*

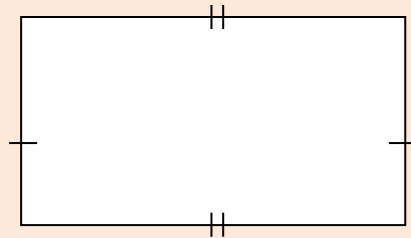
*Mk Maths book 3 page 87*

## LIVINGTHINGS; ANIMALS AND PLANTS IN OUR ENVIRONMENT

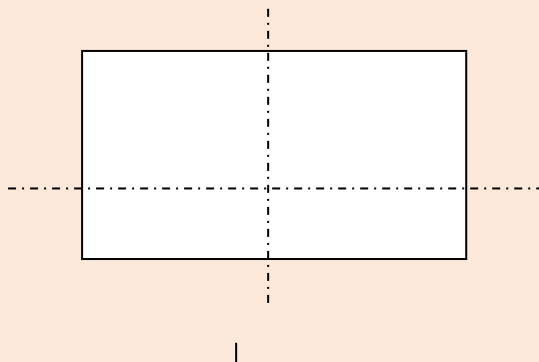
### GEOMETRY

#### Lesson one Week one

##### Rectangle



1. A rectangle has four sides.
2. The two opposite sides of a rectangle are equal.
3. A rectangle has 2 lines of symmetry.

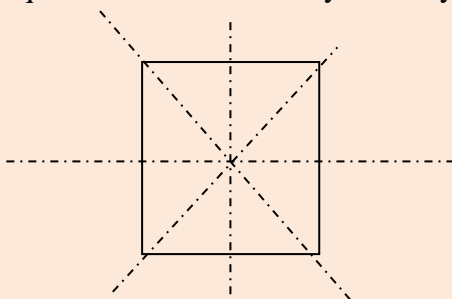
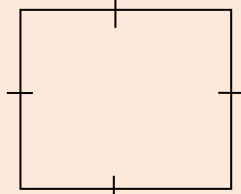


## Activity

#### Lesson one Week two

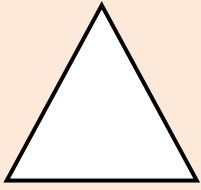
##### Square

1. A square has 4 sides.
2. All the sides are equal.
3. A square has four lines of symmetry.



### Lesson one Week three

#### Triangle



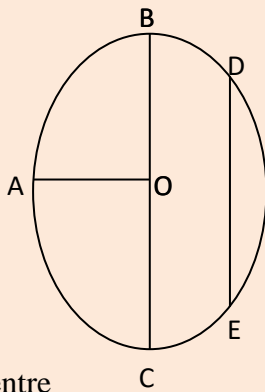
A triangle has three sides.

A triangle has three vertices.

### **Lesson one WEEK FOUR and FIVE**

#### Circle

A circle has the following.



O = Centre

AO = Radius

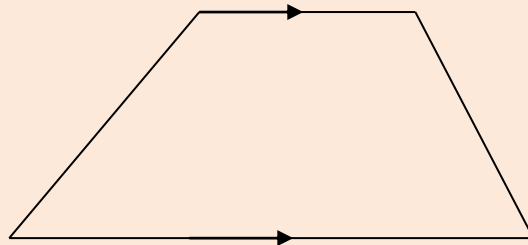
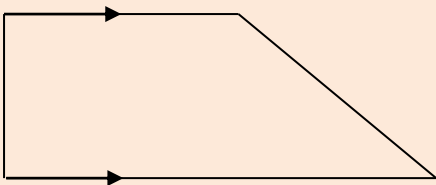
BC = Diameter

DE = Chord

ABCED = Circumference

### Lesson one Week Six

#### TRAPEZIUM



A trapezium has two lines which are parallel to each other.





**GREENHILL ACADEMY**

**SECOND TERM LESSON**

**NOTES**

**FOR**

**MATHEMATICS**

## **TOPIC BREAKDOWN**

### **THEME: SEVEN, MANAGING RESOURCES IN OUR ENVIRONMENT**

#### Fractions

- Definition
- Names and parts of fractions
- Types of fractions
  - a) Proper
  - b) Improper
  - c) Mixed fractions

Writing fractions in words and vice versa.

- Finding the shaded and unshaded fractions.
- Equivalent fractions
- Addition of fractions
- Subtraction of fractions
- Multiplication of fractions

### **THEME: EIGHT; KEEPING PEACE IN OUR SUB-COUNTRY / DIVISION**

#### Measures

- Time
- Months, weeks and days
- Telling time by hours, half an hour, a quarter past and quarter to.
- Minutes past and to.
- Changing hours to minutes and vice versa.
- Adding hours and minutes
- Changing days to week s and vice versa.
- Adding days and weeks.
- Subtracting days and weeks.
- Duration.

### **THEME NINE; CULTURE AND GENDER**

#### Graphs

- Pictographs – Using pictures to show information.



Stands for 10 books

1 book stands for 10 books.

- Bar graphs / column

## **THEME TEN; OUR HEALTH**

### **Measures**

#### **Money**

- Background
- Conversion of units
- Addition of money
- Word sums
- Subtraction of money
- Multiplication of money
- Division of money
- Shopping

### **Geometry**

#### Simple planes

- Kite
- Cone
- Cylinder
- Rhombus
- Parallelogram
- Semi-circle

## **THEME SEVEN; MANAGING RESOURCES**

### **Fractions**

A fraction is a part of a whole.

The whole is always cut or divided into equal parts.

Names and parts of a fraction.

- Numerator top number
- Denominator bottom number.
- A whole number.

#### **Ref:**

- 1. Primary MTC bk 3.**
- 2. Primary School Maths bk 3.**

### **Types of fractions**

Proper fractions:- These are fractions that have their top number smaller than the bottom number.

e.g  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{5}$ ,  $\frac{63}{89}$

### **Improper fractions**

These are fractions that have top number bigger than the bottom number.

e.g

$$\frac{4}{3}, \frac{83}{12}, \frac{15}{2}$$

### **Mixed fractions**

These are fractions that have both whole numbers and fractions.

e.g

$$2\frac{1}{4}, 3\frac{2}{5}, 4\frac{1}{3}$$

- Ref:**
1. Tr's Collections
  2. National Primary School Curriculum for Uganda.

### **Writing fractions in words**

$\frac{1}{2}$  - a half

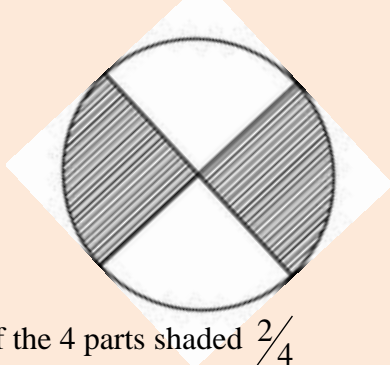
$\frac{1}{5}$  - One fifth or a fifth

### **Writing word fractions in figures**

1) Three seventh =  $\frac{3}{7}$

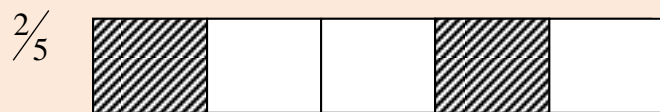
2) Four ninths =  $\frac{4}{9}$

### **Shaded and unshaded fractions**



2 of the 4 parts unshaded  $\frac{2}{4}$

**Drawing and shading given fractions**

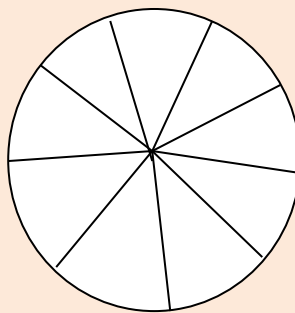
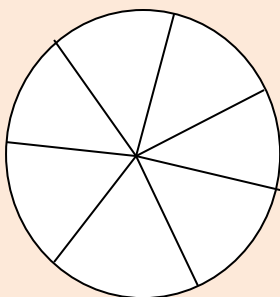


**Ref:**

1. Understanding MTC Bk 3 pg 46 – 49.
2. MK Primary Mathematics 2000 Bk 3 page 97 – 98.

**Comparing fractions**

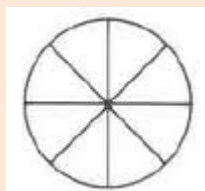
$\frac{1}{7}$  and  $\frac{1}{9}$



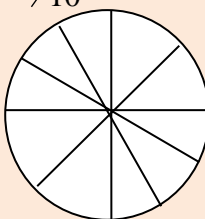
$\frac{1}{7}$  is greater than  $\frac{1}{9}$ .

**Which is smaller**

$\frac{1}{8}$



$\frac{1}{10}$



$\frac{1}{10}$  is smaller than an eighths ( $\frac{1}{8}$ )

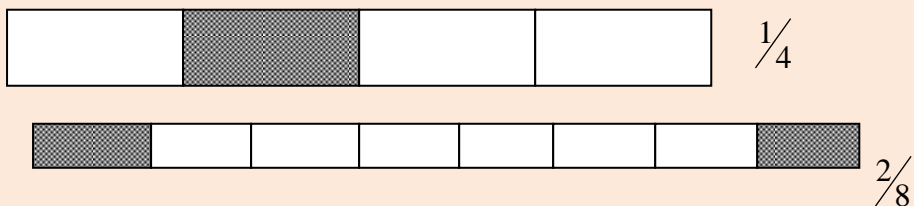
**Ref:**

1. Understanding Mathematics Bk 3 pag 50-51.

**2. Primary Mathematics Bk 3 Pg 99.**

**Equivalent fractions**

These are fractions which give the same number.



**Ref:**

- 1. Understanding MTC Bk 3 pg 54.**
- 2. Primary School MTC Bk 3.**

**Addition of fractions**

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

**Ref:**

- 1. Understanding MTC Bk 3 pg 52.**
- 2. MK Bk 3 pg 101 – 104.**

**Subtraction of fractions**

1.  $\frac{3}{4} - \frac{1}{4} = \frac{3-1}{4} = \frac{2}{4}$

