IBANDA DISTRICT LOCAL GOVERNMENT

TEACHING / LEARNING LESSON NOTES

P.6 MATHEMATICS TERM II 2023

LESSON : 1

TOPIC : FRACTIONS

SUB-TOPIC : DECIMALS

READ AND WRITE

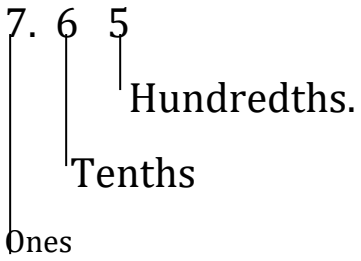
Decimals, Place values, Digits, Tenths, Hundredths.

CONTENTS: Finding place values of decimals

Example 1:

What is the place value of each digit?

7.65



2. What is the place value of the underlined digit?

21.<u>4</u>7.

The place value of underlined digit 4 is Tenths.

Suggested activity.

1. What is the place value of each of the digits.

(a) 0.18

(b) 18.12

(c) 1.65

(d) 21.47

2. What is the place value of the underlines digit?

(a) 1<u>2</u>.38

(b) 3.1<u>2</u>

(c) <u>0.</u>7

(d) 14.<u>5</u>6

LESSON : 2

TOPIC : FRACTIONS

SUB-TOPIC : DECIMALS

READ AND WRITE: Place values, Values, Decimals, Tenths, Hundredths.

CONTENT: Finding values of decimals.

Examples:

1. What is the value of each digit?

7. 6 5

Hundredths. ⟶ 5 x 0.01 = 0.05

Tenths ⟶ 6 x 0.1 = 0.6

Ones ⟶ 7 x 1 = 7

2. What is the value of the underlined digit?

9.8<u>3</u> 3 hundredth ⟶ 3 x 0.01 = 0.03

Suggested activity

1. What is the value of each digit?

(a) 6.5
(b) 12.01
(c) 9.4
(d) 21.47

2. What is the value of the underline digit?

(a) 0.<u>4</u>
(b) 9.8<u>3</u>
(c) <u>4</u>2.9
(d) 7.<u>8</u>3

LESSON : 3

TOPIC : FRACTIONS

SUB-TOPIC :DECIMALS

READ AND WRITE:

Converts, Change, Fractions, Decimals, Numerator, Denominator, Equivalent.

CONTENT: Converting decimals to fractions.
Change 0.5 to a fraction.

0.5

Tenths = $0.5 = \frac{5}{10}$ – One zero denominator

Reduce to the lowest term $\frac{5}{10} \div \frac{5}{5} = \frac{1}{2}$

Express 4.08 as a fraction

4. 0 8

Hundredths.

Tenths

Ones

$4.08 \quad = 4 + \frac{8}{100} = 4 + \frac{8}{100} \div \frac{4}{4}$

$= 4 + \frac{2}{25} = 4\frac{2}{25}$

2. What is the value of the underlined digit?

9.8<u>3</u> 3 hundredth $\longrightarrow$ 3 x 0.01 $= 0.03$

Suggested activity

Change the following decimals to fractions.

1. 0.75
2. 0.96
3. 2.05
4. 0.48
5. 0.72
6. 20.55

LESSON : 4

TOPIC : FRACTIONS

SUB-TOPIC : DECIMALS

READ AND WRITE:

Change, Fractions, Decimals, Conversion, Numerators, Denominators.

CONTENTS: Converting fractions to decimals.

Examples:

(i) Change $\frac{3}{10}$ to a decimals

The number of zeros in the denominators must be equal to the number of decimals places.

3 _____ 1 decimal place $= 0.3$

10 _____ one zero denominator

(ii) Change $\frac{2}{5}$ to a decimal

$$5\overline{)20}\quad 0.4$$

$4x5 = 20$ so. $\frac{2}{5} = 0.4$

Suggested activity

Change the following decimals to fractions.

1. 0.7
2. 0.02
3. 0.48
4. 0.72
5. 2.05
6. 15.5

LESSON : 5

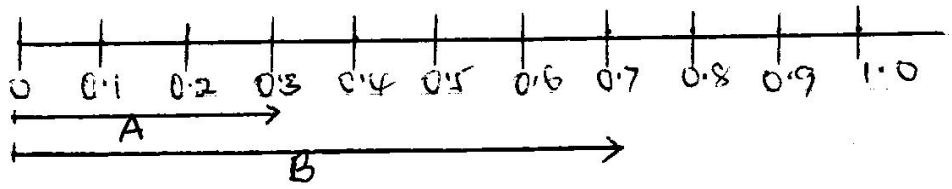
TOPIC : FRACTIONS

SUB-TOPIC :DECIMALS

READ AND WRITE: Comparing decimals using a number line.

Examples

Use symbols >, < or = to compare A and B

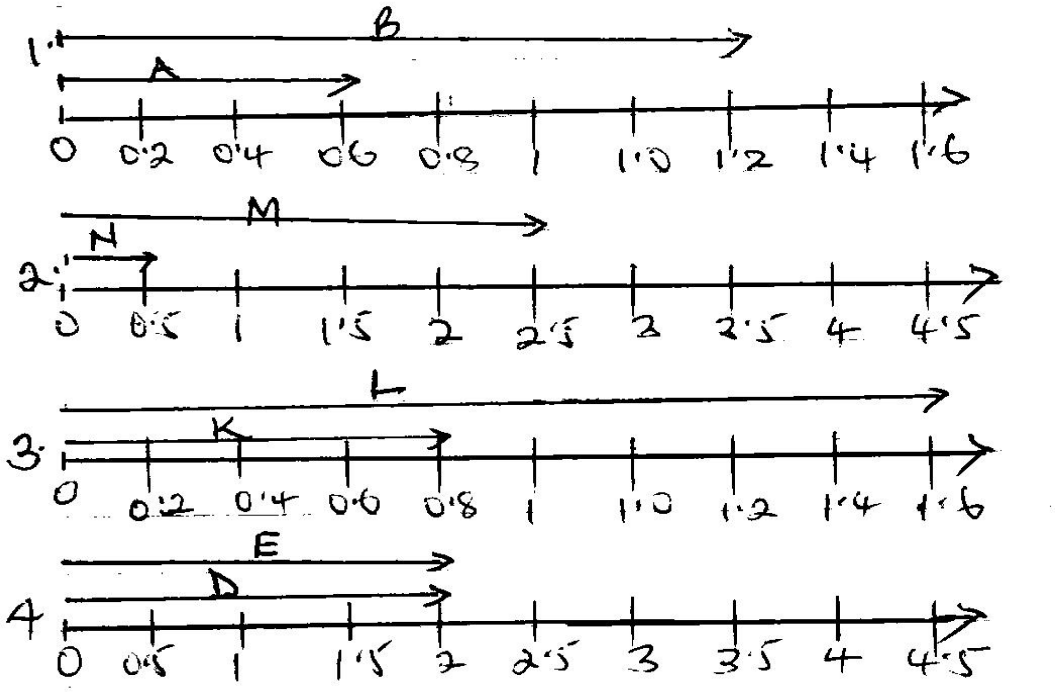


Arrow A = 0.3, Arrow B = 0.7

Therefore 0.3 < 0.7 or arrow A is less than arrow B.

Suggested Activities

Use symbols >, < or + to compare the following.



LESSON : 6

TOPIC : FRACTIONS

SUB-TOPIC : DECIMALS

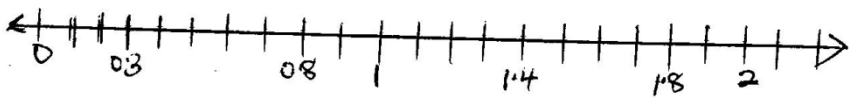
READ AND WRITE:

Ordering, Decimals, Ascending , Lowest, Highest, Descending, Arrange.

CONTENT: Arranging decimals in order of size

Example 1.

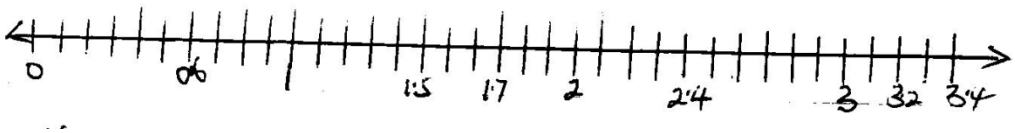
Arrange from lowest to highest: 0.8, 1.4, 1.8, 0.3



The order from lowest to highest is: 0.3, 0.8, 1.4, 1.8.

Example 2.

Arrange from highest to lowest: 2.4, 0.6, 3.2, 1.7.



The order from highest to lowest is 3.2, 2.4, 1.7, 0.6.

Suggested activities

A. Arrange the following from lowest to highest.

1. 0.3, 0.4, 0.6
2. 0.7, 7.77, 0.77
3. 9.8, 0.99, 9.99
4. 0.8, 8.0, 8.08

B. Arrange the following from highest to lowest.

1. 1.1, 0.01, 0.001
2. 2.2, 0.02, 0.22, 0.002
3. 3. 1.67, 0.58, 0.08, 0.04
4. 1.11, 0.111, 11.1, 1.011

LESSON : 7

TOPIC : FRACTIONS

SUB-TOPIC : DECIMALS

READ AND WRITE: Adding, decimals, place values, tenths, hundredths

CONTENT

Examples: Add 4.8 + 6.75 + 15.579

$$\begin{array}{r} 4.800 \\ 6.750 \\ +\ 15.579 \\ \hline 27.129 \end{array}$$

Include zeros on 4.8 and 6.75 to balance place values, keep the decimal points.

A rope is 8.36m long. Another rope is 6.78m long. What is the total length of the two ropes?

One rope is 8.36m

Another rope is + 6.79m

15.14m

The length of two ropes is 15.14 metres long.

Suggested activities

Workout.

1. 8.6 + 0.9

2. 6.5 + 1.35
3. 6.54 + 18.76
4. 5.6 + 6.75
5. Mr. Kato bought 4.5kg of meat, Uncle Sali bought 3.25kg. How many kilogrammes of meat did they buy altogether?
6. A piece of cloth measures 3.1m and another measures 8.45m.
   What is the total length of the cloth?

LESSON : 8

TOPIC : FRACTIONS

SUB-TOPIC : DECIMALS

READ AND WRITE:

Subtracting, Decimals, Place values, Tenths, Hundredths, Arrange, Digits, Right, Left.

CONTENT:

Examples:

1. Workout: 9.23 - 6.504

   9.2 3 0
   - 6.5 0 4
   2.7 2 6

   Include zeros on 9.23 and maintain decimal point.

2. A sack of onions weighs 50.3kg. if 39.8.5kg are sold. How many kg of onions are left?

   50.30kg
   - 39.85kg.
   10.45kg

Suggested activities

Work out

1. 6.3 - 4.5
2. 8.2 - 6.8
3. 15.1 - 7.5
4. 20.36 - 16.774

5. Take away 4.5kg from 9.25kg of sugar
6. Subtract 4.35kg from 10.25 kg of salt.
7. Find the difference between 17.29 and 11.34

LESSON : 9

TOPIC : FRACTIONS

SUB-TOPIC : DECIMALS

READ AND WRITE: Adding, Subtracting, Arrange, Digits, Sum, Take away.

CONTENTS:

Examples

Workout.

1. 15.1 – 9.24 + 7.35

First carry out addition then subtraction .

15 .10 (15.1 + 7.35) – 9.24 22.45

+ 7. 3 5 - 9.24

22.45 13.21

Therefore 15.1-9.24 + 7.35 = 13.21

2. 7.1-0.8+1.4 7 . 1 8 . 5

(7.1+1.4) – 0.8 + 1 . 4 - 0 . 8

8 . 5 7 . 7

Therefore 7.1-0.8+1.4= 7.7

Suggested activities

Work out

1. 8.6 + 6.3 - 0.9
2. 0.8 - 135 + 5.31
3. 0.01 - 3.7 + 5.05
4. 17.6 + 34.4 - 50.9
5. Our basketball team scored 3.4 points in the first round, lost 7.2 points in the second round and gained 6.8 points in the third round. What was the total score?

LESSON : 10

TOPIC : FRACTIONS

SUB-TOPIC :DECIMALS

READ AND WRITE:

Fractions, Different Denominators, Lowest, Common, Multiple.

CONTENT

1. Work out: $\frac{2}{3}+\frac{3}{4}+\frac{5}{12}$ LCM of 3, 4 and 12 is 12

$$\frac{2}{3}+\frac{3}{4}+\frac{5}{12}=\frac{(4x2)+(3x3)+(5x1)}{12}=\frac{8+9+5}{12}=\frac{22}{12}=\frac{1\ 10\div 2}{12\div 2}$$

$$=1\frac{5}{6}$$

2. Add $3\frac{2}{3}+4\frac{1}{9}(LCM)=9$

   Whole numbers first $3+4+\frac{2}{3}+\frac{1}{9}=7+\frac{2}{3}+\frac{1}{9}$ $\frac{(2x3)+(1x1)}{9}$

   $=7\frac{6}{9}+\frac{1}{9}=7\frac{7}{9}=7\frac{7}{9}$

Suggested activities

Work out

1. $\frac{4}{5}+\frac{3}{4}$
2. $\frac{1}{3}+\frac{1}{4}+\frac{1}{2}$
3. $7\frac{4}{5}+6\frac{3}{4}$
4. A parcel is made up of five layers which are:-

   $\frac{3}{8},\frac{5}{12},\frac{3}{4},\frac{7}{8}$, and $\frac{1}{2}$. how thick is the parcel?
5. What is the sum of $5\frac{1}{5}$ and $3\frac{1}{2}$
6. Liz poured $3\frac{1}{2}$ litres of water in a container, and again $4\frac{2}{3}$ litres and finally $2\frac{5}{8}$ litres of water.

   Find the total capacity.

LESSON : 11

TOPIC : FRACTIONS

SUB-TOPIC : REVISION

READ AND WRITE:

Fractions, Subtract, Denominators, Improper, Fractions

CONTENT:

1. Subtract $\frac{2}{5}$ from $\frac{3}{4}$ LCM $= 20$

$$\frac{3}{4}-\frac{2}{5}=\frac{(3x5)-(2x4)}{20}=\frac{15-8}{20}=\frac{7}{20}$$

2. Workout $6\frac{1}{4}-2\frac{2}{3}$

   Change to improper fractions LCM $=12$

$$\frac{25}{4}-\frac{8}{3}=\frac{(25\ x3-(8x4)}{12}=\frac{75-32}{12}=\frac{43}{12}=3\frac{7}{12}$$

Suggested activities

Calculate:

1. $\frac{7}{8} - \frac{3}{4}$
2. $\frac{3}{4} - \frac{2}{3}$
3. $5\frac{1}{3} - 4\frac{4}{5}$
4. $5\frac{1}{2} - 7\frac{2}{3}$
5. What should be added to $4\frac{5}{12}$ to make $9\frac{3}{4}$?
6. Subtract $7\frac{3}{4}$kg from $8\frac{1}{2}$kg

LESSON : 12

TOPIC : FRACTIONS

SUB-TOPIC :MUTIPLICATION

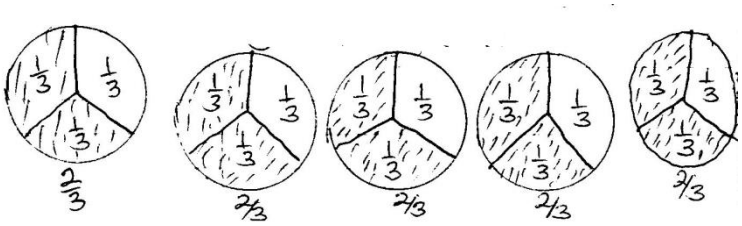
READ AND WRITE:

Multiply, Whole numbers, Fractions, Product, Numerator, Denominator.

CONTENT

Examples : Multiply $5\ X\ \frac{2}{3}$

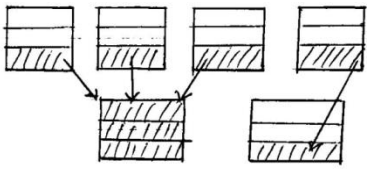
If $5x2 = 5$ groups of 2 then $5x\frac{2}{3} = 5$ groups of $\frac{2}{3}$



Count the number of thirds = 10 thirds.

Use numerator product / denominator product $= \frac{5}{1} x \frac{2}{3} = \frac{5x2}{3} = \frac{10}{3} = 3\frac{1}{3}$

2. Simplify $\frac{1}{3}$x4



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

$$\text{Also } \frac{1}{3}\text{x } 4 = \frac{1\text{x}4}{3} = \frac{4}{3} = 1\frac{1}{3}$$

Suggested activities

Workout

1. $4 \times \frac{1}{2}$ 2. $6 \times \frac{1}{3}$ 3. $10 \times \frac{2}{5}$

4. $\frac{5}{8} \times 4$ 5. $\frac{1}{2} \times 12$ 6. $\frac{1}{3} \times 15$

7. Kato has 12 tins each hold $^5/_9$ litress of juice. How many litres of juice does he have altogether?

LESSON : 13

TOPIC : FRACTIONS

SUB-TOPIC : MULTIPLICATION

READ AND WRITE:

Multiply, Fraction, Numerator, denominator, Divide, Pesult, product.

CONTENT

Example: $\frac{2}{5} x \frac{3}{4} = \frac{2 x 3}{5 \times 4} = \frac{1 x 3}{5 \times 2} = \frac{3}{10}$

2. Simplify : $2\frac{1}{3} x 1\frac{1}{5}$ improper fraction

$\frac{7}{3} x \frac{6}{5} = \frac{7 x 2}{1 \times 5} = \frac{14}{5} = 2\frac{4}{5}$

SUGGESTED ACTIVITIES

Simplify

1. $\frac{1}{3} \times \frac{3}{5}$ 2. $\frac{2}{3} \times \frac{2}{5}$ 3. $\frac{5}{9} \times \frac{12}{15}$

4. $\frac{1}{2} \times \frac{1}{3} \times \frac{2}{3}$ 5. $2\frac{1}{2} \times 1\frac{1}{3}$ 6. $3\frac{1}{5} \times 2\frac{1}{2}$

LESSON : 14

TOPIC : FRACTIONS

SUB-TOPIC : MULTIPLICATION

READ AND WRITE:

Reciprocals, Fractions, Exchanging, Numerator, Denominator, Quotient.

CONTENT:

Example:

1.Find the reciprocal of 4 and 13

a) Divide 1 by 4 = $1 \div 4 = \frac{1}{4}$

The reciprocal of 4 is $\frac{1}{4}$

b) Divide 1 by 13 = $1 \div 13 = \frac{1}{13}$

The reciprocal of 13 is $\frac{1}{3}$

What is the reciprocal of $\frac{3}{4}$?

The product of a number and its reciprocal=1

$\frac{3}{4}$ x reciprocal =1

its reciprocal R $= 1 \div \frac{3}{4} = 1\ x \frac{4}{3} = \frac{4}{3}$

What is the reciprocal of $2\frac{1}{5}$?

$2\frac{1}{5}$ x rec. $= 1$ $\frac{11}{5}$ x rec. $= 1$

rec. $= 1 \div \frac{4}{5} = 1$ x $\frac{5}{11} = \frac{5}{11}$

Suggested activities:

A. Give the reciprocal of the following.

1. $\frac{3}{8}$ 2. $\frac{2}{9}$ 3. $\frac{3}{11}$ 4. $4\frac{1}{2}$ 5. 11

B. Fill in the box to make the sentence true.

1. $\square$ x $\frac{3}{4} = 1$ 2. $\frac{5}{2}$ x $\square$ = 1

c. Multiply each number by the reciprocal of 3.

1) 18 2) 24 3) 2

LESSON :15

TOPIC : FRACTIONS

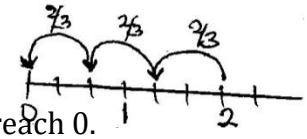
SUB-TOPIC : DIVISION OF FRACTIONS.

READ AND WRITE:

Dividing, Fractions, Changing , Multiplication, Reciprocal, division.

CONTENT:

Example: Divide 2 by $\frac{2}{3}$



Start from 2 subtract $\frac{2}{3}$ until you reach 0.

$2 \div \frac{2}{3} = \left(\frac{2}{3} - \frac{2}{3} - \frac{2}{3}\right)$ $2 \div \frac{2}{3} = 3$

2. Divide $12 \div \frac{4}{5} = 12\ x \frac{5}{4} 3x5 = 15$

Multiply by the reciprocal of the divisor $\frac{4}{5}$

3. Workout. $\frac{3}{4} \div 2 = \frac{3}{4} \div \frac{2}{1} = \frac{3}{4}x\frac{1}{2} = \frac{3}{8}$

Changing the sign goes with using the reciprocal

Suggested activities:

Workout.

Use a number line to work out the following.

A. Use a number line to work out the following

1. $3 \div \frac{1}{2}$ 2. $4 \div \frac{2}{5}$ 3. $6 \div \frac{3}{5}$

Divide using the reciprocal of the divisor.

1. $12 \div \frac{1}{2}$ 2. $9 \div \frac{3}{4}$ 3. $12 \div \frac{2}{3}$

4. $\frac{2}{7} \div 5$ 5. $\frac{4}{9} \div 8$ 6. $\frac{7}{10} \div 2$

LESSON : 16

TOPIC : FRACTIONS

SUB-TOPIC :DIVISION OF FRACTIONS

READ AND WRITE:

Divide, Fraction, Multiple, Multiply, Reciprocal, Division.

CONTENT:

Example 1 Workout $\frac{1}{4} \div \frac{1}{3} = \left(\frac{1}{4}x\ 12\right) \div (\frac{1}{3}x\ 12)$

LCM of 4 and 3 is $12 = 3 \div 4 = \frac{3}{4}$

2. Simplify $4\frac{1}{2} \div 1\frac{1}{3}$ (using reciprocal method)

$4\frac{1}{2} \div 1\frac{1}{3} = \frac{9}{2} \div \frac{4}{3} = \frac{9}{2}\text{x}\frac{3}{4} = \frac{27}{8} = 3\frac{3}{8}$

SUGGESTED ACTIVITIES

Workout the following.

1. $\frac{3}{4} \div \frac{1}{2}$ 2. $\frac{2}{3} \div \frac{5}{12}$ 3. $\frac{1}{3} \div \frac{2}{3}$

4. $3\frac{1}{2} \div 2\frac{1}{3}$ 5. $2\frac{1}{4} \div 1\frac{4}{5}$ 6. $2\frac{1}{2} \div 1\frac{1}{4}$

LESSON : 17

TOPIC : FRACTIONS

SUB-TOPIC : MIXED OPERATIONS ON FRACTIONS

READ AND WRITE:

Mixed, Operation, Brackets, Order, Division, Multiplication, Addition subtraction.

CONTENT:

Examples. Simplify $\frac{2}{3}\ \text{of}\frac{3}{4} - \frac{1}{3} + \frac{1}{2}$

$$\frac{2}{3}\ \text{of}\frac{3}{4} - \frac{1}{3} = \frac{1}{2} - \frac{1}{3} + \frac{1}{2} = \frac{1}{2} + \frac{1}{2} - \frac{1}{3} = \frac{(1x3) + (1x3) - (1x2)}{6}$$

$$= \frac{6+3-2}{6} = \frac{6-2}{6} = \frac{4}{6 \div 2} = \frac{2}{3}$$

2. Simplify :$1\frac{1}{3}\ x\frac{3}{5} + \frac{1}{4} \div 1\frac{1}{2} - \frac{3}{4}$ *Write as improper fraction*

$\frac{4}{3}x\frac{3}{5}+\frac{1}{4}\div\frac{3}{2}-\frac{3}{4}$

Division first $\frac{4}{3}x\frac{3}{5}+\frac{2}{3}-\frac{3}{4}$

$\frac{4}{5}+\frac{1}{6}-\frac{3}{4} LCM\ of\ 5,6\ and\ 4\ is\ 60$

$$= \frac{48+10-45}{60} = \frac{58-45}{60} = \frac{13}{60}$$

Suggested activities

Simplify

1. $\frac{1}{3}x\frac{1}{4}+\frac{1}{2}$ 2. $\frac{1}{3}x\frac{1}{2}+\frac{1}{4}x\frac{1}{5}$ 3. $\frac{1}{2}-\frac{1}{4}+\frac{1}{2}$

4. $\frac{1}{3}x\frac{1}{2}\div\frac{1}{4}x\frac{1}{5}$ 5. $\frac{5}{6}\div\left(\frac{3}{4}of\ 3\right)$ 6. $\frac{1}{2}-\frac{2}{5}of\frac{5}{6}+\frac{1}{4}$

LESSON : 18

TOPIC : FRACTIONS

SUB-TOPIC : DECIMALS

READ AND WRITE: Rounding off, Place value, Less than, Greater than , Unchanged, Nearest.

CONTENT:

Example I: Round off 17.63 to the nearest whole number (ones).

17.63 7 is in the required place value.

6 is on the right of the required place value

So we round it up by adding 1 to 7since 6 is greater than 5.

Add 1 to the digit in the required place value and remove all digits to the right of the required place value.

$$\begin{array}{r} 17.63 \\ +\ 1\_\_ \\ \hline 18 \end{array}$$

Hence 17.63 rounded to the nearest whole number (ones) $= 18$.

Example 2: Round off 29.985 to the nearest tenths

29.985 9 is in the required place value

8 is on the right of the required place value.

Add 1 to the digit in the required place value and remove all digits to the right of the required place value 0 is a place keeper.

$$\begin{array}{r} 29.985 \\ +\ \ 1\_\_ \\ \hline \end{array}$$

3.00

Hence 29.985 rounded to the nearest tenths is equal to 30.

Example 3: Round off 29.973 to the nearest hundredth

29.973 7 is in the required place value

3 is on the right of the required place value

Add 0 to the digit in the required place value and remove all digits to the right of the required place value.

29.973

\+ 0

29.97

Suggested activities

Workout

A. Round off to the nearest whole number (ones)

1) 1.42 2) 5.68

B. Round off to the nearest tenths (1 place of decimal).

1) 9.83 2) 7.84

C. Round off to the nearest hundredths (2 places of decimals)

1) 12.623 2) 21.685

LESSON : 19

TOPIC : FRACTIONS

SUB-TOPIC :OPERATIONS ON DECIMALS

READ AND WRITE:

Multiplying, decimal place, Decimal point, Right.

CONTENT:

Example I: Workout. 0.06 x 10.

$\frac{6}{100}$ x 10 change the decimal number to a common fraction

$= \frac{6}{10} = 0.6$

Example 2: Workout. 0.84 x 100

100 has two zeros. Move the decimal point 2 places to the right 0.84 = 84.

Suggested activities.

Workout

1. 0.9 x 10
2. 4.33 x 10
3. 5 .45 x10
4. 9.09 x 100
5. 1.6 x 100
6. 0.46 x 100

LESSON : 20

TOPIC : FRACTIONS

SUB-TOPIC : OPERATIONS ON DECIMALS

READ AND WRITE: Multiplying, decimals, Decimal point, Right.

CONTENT

Example 1: Workout : 0.8 x 1000

1000 has three zeros. Move decimal

3 places to the right

0.8 x 100 = 0.800 = 800

Example 2:

Workout : 0.85 x 1000

1000 has three zeros. Move decimal

3 places to the right

0.85 x 1000= 0.850 = 850

Suggested activities

1. 0.39 x 1000
2. 2.56 x 1000
3. 90.37 x 1000
4. 0.46 x 1000

LESSON : 21

TOPIC : FRACTIONS

SUB-TOPIC : OPERATIONS ON DECIMALS

READ AND WRITE:

Multiplying, product, number, decimal places, multiplier

CONTENT

Example 1: Workout: 2.84 x 3

2.84 two decimal places

X 3

8.52 two decimal places

Example 2: What is the product of 24.42 and 12?

24 . 42 two decimal places

X 12

_____

4884

+ 244420

293.04 two decimal places

Example 3: A string is 38.5 cm long. What is the length of 8 such strings?

One string 38.5cm

8 strings 38.5cm

X 8

308.0cm

Suggested activities

1. 0.48 x 4
2. 1.38 x 5
3. 0.13 x 9
4. 11.43 x 3
5. A school consumes 25.5litres of milk every day. How many litres of milk will it consume in a week?

LESSON : 22

TOPIC : FRACTIONS

SUB-TOPIC : OPERATIONS ON DECIMALS

READ AND WRITE:

Multiplying, Decimal, Product, Multiplier, multiplicand, Decimal places

Content

Example 1: Simplify 0.8 x 0.4

0 . 8 1 decimal place

x 0 . 4 1 decimal place

3 2

+ 000

0. 32 2 decimal places

Method 2: $\frac{8}{10} x \frac{4}{10}$ change to fractions

$\frac{32}{100} = 0.32$ back to decimal

Examples 2

Simplify : 0.17 x 0.5 =

0. 1 7 2 decimal places

x 0. 5 1 decimal places

8 5

000

0.085 3 decimal places

Method 2: $\frac{17}{100} x \frac{5}{10} = \frac{85}{1000} = 0.085$

Suggested activities

Workout the following:

1. 0.5 x 1.2
2. 1.4 x 0.8
3. 0.74 x 0.2
4. 0.08 x 0.6
5. 34.07 x 18.6
6. 46.1 x 13.11

LESSON : 23

TOPIC : FRACTIONS

SUB-TOPIC :OPERATIONS ON DECIMALS

READ AND WRITE:

Divisor, Quarter, Litres, Half, Whole number, Decimal number, Denominator, Decimal places.

CONTENT

Example 1: Workout $10 \div 0.5$

Multiply all by 10 to make the divisor a whole number.

$= (10 \times 10) \div (0.5 \times 10)$

$= 100 \div 5 = 20$

Therefore $10 \div 0.5 = 20$

Example 2: Workout: $21 \div 0.03$

Multiplying by 100 to make the divisor whole number.

$= (21 \times 100) \div (0.03 \times 100$

$= 2100 \div 3 = 700$

Therefore $210.03 = 700$

Example 3: Divide 0.12 by 4

$$= \frac{12}{100} \div \frac{4}{1} \; or$$

$$\frac{12}{100} x \frac{1}{4}$$

$$= \frac{3}{100} = 0.004$$

$$\begin{array}{r} 0.03 \\ 4 \overline{)\,0.12} \\ 4x0 = 0 \;\downarrow\downarrow \\ \quad\;\; 12 \\ 4 \times 3 \quad -12 \\ \hline \quad\;\; 00 \end{array}$$

Example 4: A pile of 10 thick books is 35.5 cm high. What is the thickness of each book?

Thickness of $\frac{355}{10} \div \frac{10}{1} = \frac{355}{10} \text{x} \frac{1}{10} = \frac{355}{100} = 3.55\text{cm}$

Or

$$
\begin{array}{r}
3.55 \\
10 \overline{)\,35.5} \\
10\text{x}3\ -30 \\
\hline
5\ \ 5 \\
10\text{x}5 = -\ 5\ 0 \\
\hline
5\ 0 \\
10\text{x}5 = \ -50 \\
\hline
00
\end{array}
$$

Suggested activities

A. **Workout**

1. $8 \div 0.5$ 2. $9 \div 0.03$
3. $108 \div 1.2$ 4. $100 \div 2.5$
5. A jerrycan contains 20litre. How many 0.5litre bottles can be got from it?

B. **Workout**

1. $0.4 \div 4$ 2. $0.14 \div 7$
3. $0.09 \div 3$ 4. $0.002 \div 10$
5. A piece of rope is 1.44m long. If we want to cut it into 8 equal pieces. What will be the length of each piece.

LESSON :24

TOPIC : FRACTIONS

SUB-TOPIC : OPERATIONS ON DECIMALS

READ AND WRITE:

Dividing, decimal, Fractions, Divisor, Ordinary.

CONTENT

Example 1: Workout $1.2 \div 0.4$

$1.2 \div 0.4 = \frac{12}{10} \div \frac{4}{10}$

$= \frac{12}{10} x \frac{4}{10}$

$= \frac{3 \text{ x } 1}{1} = 3$

Method 2. $1.2 \div 0.4$ 1 decimal

$= (1.2\text{x}10) \div (0.4x10)$ place so

$= 12 \div 4$

$= 3$ multiply all by 10

Example 2: Divide 10. 4 by 0.02

$$10.4 \div 0.02 = \frac{104}{10} \div \frac{2}{100}$$

$$= \frac{104}{10} \; x \frac{100}{2}$$

$$= 52 \text{ x } 10 = 520$$

Method $10.4 \div 0.02$

$$= (10.4 \text{ x } 100) \div (0.02 \text{x} 100)$$

$$= 1040 \div 2$$

$$= 520$$

Suggested activities

Workout the following:

1. $0.8 \div 0.2$
2. $0.036 \div 0.4$
3. $30.3 \div 0.5$
4. $0.108 \div 0.8$
5. $0.144 \div 0.12$
6. $32.4 \div 1.8$

LESSON : 25

TOPIC : FRACTIONS

SUB-TOPIC : OPERATIONS ON DECIMALS

READ AND WRITE: Multiplying, Dividing, Decimals, Reciprocal method, Decimal point, Multiplier.

CONTENT

Example

Simplify : $\dfrac{0.24 \text{x} 0.3}{0.8}$

Reciprocal method

$$= \left(\frac{24}{100} x \frac{3}{10}\right) \div \frac{8}{10}$$

for

$$= \frac{24}{100} x \frac{3}{10} x \frac{10}{8}$$

$$= \frac{3}{100} x \frac{3}{1} x \frac{1}{1}$$

$$= \frac{9}{100} = 0.09$$

Decimal method

$$= \frac{0.24 \text{ x } 0.3}{0.8}$$ 1 decimal place

denominator

$$= \frac{0.24 \text{ x } 0.3 \text{ x } 10}{0.8 \quad \text{x } 10}$$ multiply all by 10

$$= \frac{0.24 \text{ x } 3.0}{8}$$

$$= 0.03 \text{ x} 3 = 0.09$$

SUGGESTED ACTIVITIES

Workout the following:

1) $\frac{0.7 \times 0.6}{0.3}$ 2) $\frac{0.09 \times 0.4}{0.06}$ 3) $\frac{0.36 \times 0.4}{0.018}$

4) $\frac{20 \times 0.4}{0.05}$ 5) $\frac{0.25 \times 3.6}{0.018}$ 6) $\frac{0.72 \times 0.2}{0.036}$

LESSON 26:

TOPIC: FRACTIONS

SUB-TOPIC: OPERATIONS ON DECIMALS

READ AND WRITE:

Decimals, Mixed operations, BODMAS, Brackets, of, Division, Multiplication, Addition, Subtraction.

CONTENT:

Example 1: Workout: $0.7 + 0.6 \text{ X } 0.4 - 0.5$

$= 0.7 + (0.6 \times 0.4) - 0.5$

$= 0.7 + 0.24 - 0.5$

$= 0.94 - 0.5$

$= 0.94$

$- \quad 0.5$

0.44

Example 2: Workout: $\overline{(0.12 + 0.2)} \div 0.8$.

$= \frac{0.12 + 0.2}{0.8}$ bracket first add and then divide

$= \frac{0.32}{0.8}$ multiply by 10 to make divisor a whole number

$= \frac{0.32 \times 10}{0.8 \times 10} = \frac{3.2}{8} = 0.4$

Suggested activities.

Simplify

1. $0.6 + 0.5 \times 0.3 - 0.31$
2. $0.4 + 2.1 \times 2 - 0.63$
3. $1.5 \times 2.1 \times 2 - 0.63$
4. $7.5 \div 1.5 \times 0.5 + 1.2$
5. $(5.4 + 1.8) \div 0.3 \times 0.2$
6. A tailor bought 6 rolls of fabric each 62.7m long. He cut the rolls into pieces of 2.5m each. How many pieces did he get?

LESSON : 27

TOPIC : FRACTIONS

SUB-TOPIC : RATION AND PROPORTIONS

READ AND WRITE: Ratios, Proportions, Comparing, Quantities, Units

CONTENT

Example 1: What is the ratio of 15 minutes to 1 hour?

$$\text{The fraction} = \frac{15 \text{ minutes}}{60 \text{ minutes}} = \frac{15}{60} = \frac{1}{5}$$

(1hour has been changed to minutes)

The ratio is 1:4

Example 2: Express 200m as a ratio of 6km

$1\text{ km} = 1000\text{m}$,

$6\text{km} = 6000\text{km}$

$200{:}600 = \frac{200}{6000} = \frac{2}{60} = \frac{2}{6} \; 30$

The ratio is 1:30

Suggested activities

Work out

1. Find the ratio of the following

a) 80cm to 40 cm

(b) 1 week to 14 days

2. Find the ratio of the pairs of quantities

(a) 5ml and 1 litre

(b) 15kg and 24g

3. In a school there are 240 boys and 300 girls.

(a) What is ratio of boys to girls?

(b) What is the ratio of boys to the total number of pupils?

LESSON : 28

TOPIC : FRACTIONS

SUB-TOPIC : RATIOS AND PROPORTIONS

READ AND WRITE: Expressing, Fractions, Ratios, Numerator, Denominator.

CONTENT

Example 1: Nakinga served $\frac{3}{5}$ of her birth day cake.

Express the part served as ratio

$\frac{3}{5}$ as ratio $= 3{:}5$

Example 2: The ratio of boys to girls in a class is 3:4.

Express this as a fraction.

3:4 as a fraction is $\frac{3}{4}$

Suggested activities:

1. Express the following fractions as ratios.

(a) $\frac{2}{3}$ (b) $\frac{9}{5}$

2. $\frac{5}{12}$ of a farmer's land is covered with cassava. Express this as a ratio.

3. Express the following ratios as fractions

(a) 5:9 (b) 1:20

4. The ratio of sheep to goats to cows in Junju's home is 3:4:5 respectively.

(a) What is the fraction of sheep to goats?

(b) What is the fraction of goats to cows?

(c) What is the fraction of sheep to cows?

LESSON : 29

TOPIC : FRACTIONS

SUB-TOPIC :RATIOS AND PROPORTIONS

READ AND WRITE: Increasing, Quantities, Ratios, Fractions

CONTENT

Increasing quantities using ratios.

Example: Increase shs 200 in the ratio of 5:4

Method 1 5: 4

? : 200

4 parts make 200

5 part make $\frac{200}{4} x\ 5$

= shs 50x5

= shs 250

Method 2 Fraction of given ratio

$\frac{5}{4}$ new amount $= \frac{5}{4} x200$

$= \frac{5}{\cancel{4}_{1}} \text{ x } \overset{50}{\cancel{200}} = \text{sh } 250$

For increase put bigger over smaller

Suggested activities:

Work out

1. Increase shs. 4800 in a ratio of 5:4
2. A school increased the price of uniforms from shs. 8000 in the ratio of 11:10. What is the new price of uniforms?

3. Ntungamo College charges shs. 360,000 a term. The fees increased in a ratio of 5:4 what is the new school fees charge?

4. The number of pupils in a school was 800. This year it has increased in the ratio of 6:5 how many pupils are in school this year?

LESSON : 30

TOPIC : FRACTIONS

SUB-TOPIC : RATIOS AND PROPORTIONS

READ AND WRITE: Decreasing, Quantities, Ratios, Change, Fractions, Quantity.

CONTENT: Decreasing quantities using ratios.

Example:

The price of a pair of shoes is shs. 20,000. If it is decreased in the ratio 3:4, find the new price.

Method 1

Fraction of given ration $\frac{3}{4}$

Original price 20,000

New price $= \frac{3}{4} x \overset{5}{\cancel{20}},000$

For decrease put smaller over bigger

$=$ 3 x 5000

$=$ shs 15000

Method 2 New : old

3 : 4

? : sh.20,000

4 pairs make – 20,000

1 pair makes - $\frac{20,000}{4}$

3 pairs make $\frac{\overset{5}{\cancel{20}},000}{4}$ x 3

Example 2: Decrease 600 in a ratio of 2:3

Original 600

New $\frac{2}{\cancel{3}} x \overset{2}{\cancel{6}}00$

New. $= 2$ x 200

$= 400$

Suggest activities

1. Decrease 400kg in a ratio of 2:5
2. Decrease sh 1000 in a ratio of 3:5
3. Decrease 800l in a ratio of 5:8
4. Obbo's daily income was shs. 18,000. It decreased in a ration of 9:10. What is his new income

LESSON : 31

TOPIC : FRACTIONS

SUB-TOPIC : RATIOS AND PROPORTIONS

READ AND WRITE:

Applying, Increases, Direct proportions, Problems, Ratios, Decreases, Quantity.

CONTENT

Applying direct proportions to solve problems.

Example 1: The cost of 3kg of sugar is shs. 7500. What is the cost of 5kg of sugar?

Method 1

New : old

5 : 3

? : 7500

$\frac{5}{3} x$ 7500

5 x 2500

= 12500

Method 2

3 kg cost sh. 7500

1kg costs $\frac{7500}{3}$ = sh. 2500

5 kg = 5 x 2500

= sh 12500

Example 2: A loaf of bread costs shs. 3500. How much will 9 loaves of the same loaf cost?

1 bread costs shs. 3500

9 loaves cost 9x3500 = 31500

= 31,500

Suggested activities

1. A bus carries 60 people. How many people will 20 such buses carry?
2. If 2 stools cost shs.8000. Find the cost of 6 similar stools.
3. .In 1 hour, a typesetter types 4000 words. How many words can she type in 4 hours at the same rate?
4. If 4 pairs of bed sheets cost shs.48000, find the cost of 10 similar pairs of bed sheets.

LESSON :32

TOPIC : FRACTIONS

SUB-TOPIC :RATIOS AND PROPORTIONS

READ AND WRITE: Inverse, Proportion, Applying, Problems, Decreases, Ratio, Increases.

CONTENT: Applying inverse proportion to solve problems.

Example 1: 5 builders take 4 days to build a wall.

How many days will 10 builders take?

5 builders take 4 days

1 builder takes (4 x 5) days

10 builders take $\frac{4 \times 5}{10} = \frac{20}{10} = 2$ days

Example 2:

4 men take 12 days to paint a house. How many men can paint the same house in 6 days when working at the same rate?

12 days need 4men

1 day needs (12 x 4) men

6 days need $\frac{(12 \times 4)}{6} = \frac{48}{6} = 8$ men

Suggested activities:

1. 4 people can do a piece of work in 5 days. How many days will 10 people take to do the same piece of work?
2. 12 technicians can paint a school building in 10 days. How long will 15 technicians take?
3. 15 workers can take 30 days to construct a road.

(a) How many days will 10 workers take to do the same work?

(b) How many workers will be needed to construct the road in 18 days?

LESSON :33

TOPIC : FRACTIONS

SUB-TOPIC :PERCENTAGES

READ AND WRITE: Percentages, Symbols, Fractions, %, Cent

CONTENT:

Example 1: Write the following as percentages.

(a) 25 out of 100

$= \frac{25}{100}$

$= 25\%$

Twenty five percent

(b) 80 out of 100

$\frac{80}{100}$

$= 80\%$

Eighty percent

(c) 86 out of 100

$= \frac{86}{100}$

$= 86\%$

Eighty six percent

(d) 71 out of 100

$= \frac{71}{100}$

$= 71\%$

Seventy one percent

Suggested activities

Write the following using denominator 100, then using (%) and in words.

1. 5 out of 100
2. 55 out of 100
3. 40 out of 100
4. 97 out of 100
5. 215 out of 100
6. 800 out of 100
7. 100 out of 100
8. 39 out of 100.

LESSON : 34

TOPIC : FRACTIONS

SUB-TOPIC :PERCENTAGES

READ AND WRITE: Expressing, Fractions, Percentages, Change, Multiply, Divide.

CONTENT: Expressing fractions as percentages.

Example 1.

Change $\frac{2}{5}$ to percentage

$\frac{2}{5}$

$= \frac{2}{5}x100$

2 x 20

$= 40\%$

Example II

express $1\frac{1}{2}$ as a percentage

$1\frac{1}{2}$ to improper fraction

$\frac{3}{2}x\ 100 \quad = 3 \text{ x } 50 \quad = 150\%$

Example III:

Express $\frac{2}{3}$ as a percentage.

$\frac{2}{3}$ $\quad \frac{2}{3}\ x\ 100 = \frac{200}{3} = 66\frac{2}{3}\%$

Suggested activities

Convert the following fractions to percentages.

1. $\frac{1}{5}$
2. $\frac{4}{10}$
3. $\frac{3}{4}$
4. $\frac{11}{20}$
5. $\frac{7}{40}$
6. $\frac{3}{8}$
7. $\frac{13}{50}$
8. $\frac{7}{20}$

LESSON : 35:

TOPIC : FRACTIONS

SUB-TOPIC : PERCENTAGES

READ AND WRITE:

Percentages, Expressing, Fractions, Change, Reduce, Lowest, Values.

CONTENT: Expressing percentages as fractions.

1. Change 20% to a fraction

   20%

   $\frac{20}{100} = \frac{1}{5}$
2. Express 140% as a fraction

140%

$\frac{140}{100} = \frac{14}{10} = \frac{7}{5}$ or $1\frac{2}{5}$

3. Write $33\frac{1}{3}\%$ as a fraction

$33\frac{1}{3}\% = \frac{100}{3}\%$

$\frac{100}{3}\% = \frac{100}{3} \div \frac{100}{1} = \frac{100}{3} \text{x} \frac{1}{100} = \frac{100}{300} = \frac{1}{3}$

Suggested activities

Convert the following percentages info fractions.

1. 50%
2. 130%
3. 65%
4. 25%
5. 21%
6. 124%
7. 12 ½ %
8. $16\ ^{2}/_{3}$ %

LESSON : 36

TOPIC : FRACTIONS

SUB-TOPIC : PERCENTAGES

READ AND WRITE:

Decimals, expressing, percentages, change, equivalence, numerator, denominator, divide.

CONTENT: Expressing decimals as percentages and vice versa.

Example 1:

Express 0.40 as a percentage

$0.40 = \frac{4}{10} x\ 100\%$

$= 40\%$

Example 2:

Express 0.48

$0.48 = \frac{48}{100} x\ 100\%$

$= 48\%$

Example 3.

Express 20% as a decimal

$20\% = \frac{20}{10}$ (reduce by 10

$= \frac{2}{10} = 0.2$

Example 4.

Express 12% as a decimal

$12\% = \frac{12}{100} = 0.12$

Suggested activities

A. Express the following as decimals.

1. 10%
2. 25%
3. 30%
4. 75%

B. Express the following as percentages.

1. 0.3
2. 0.9
3. 0.25
4. 0.62

LESSON : 37

TOPIC : FRACTIONS

SUB-TOPIC : PERCENTAGES

READ AND WRITE: Find, Percentages, Phrase, Balance, Solve, Unknown.

CONTENT: Finding parts of percentages.

Example 1:

If 80% of a class are boys, what percentage are girls?

The whole class = 100%

Percentage of boys = 80%

Percentage of girls = 100% - 80% = 20%.

Example 2:

There are 20% more boys than girls in the class. What is the percentage of:-

(a) Boys b. Girls.

Let the girls be y

Girls	Boys	Total
Y	Y + 20%	100%

y + y + 20% = 100%

2y = 20% = 100%

2y + 20% - 20% = 100% - 20%

2y = 8%

$\frac{2y}{y} = \frac{80\%}{2}$

y = 40%

(a) The boys = 100 – 40 = 60 %

(b) The girls = 40%

Suggested activities:

Work out.

1. There are 40% boys and 70 pupils in a class. How many girls are there?
2. Mrs. Okoti sold 60% of her land. What percentage of the land was left?
3. If 10% of a mixture is water and 35% is milk. What percentage is the other content?
4. There are 30% more old students than new students in a class.

i. What is the percentage of the new student?

ii. What is the percentage of old students?

LESSON : 38

TOPIC : FRACTIONS

SUB-TOPIC :PERCENTAGES

READ AND WRITE

Quantities, expressing, percentages, fraction required, multiply.

CONTENT: Expressing quantities as percentages.

Examples:

1. Henry had 40 goats. He sold 15 of them. What percentage of goats were:-

sold? B. not sold?

Fraction sold

$\frac{15}{40} = \frac{15}{40} x\ 100\% = \frac{75\%}{2} = 37\frac{1}{2}\%$

Goats not sold (40-15) $= 25$

Fraction unsold $\frac{25}{40} = \frac{25}{40} x\ 100\% = \frac{125\%}{2} = 62\frac{1}{2}\%$

2. Express 500 grammes as a percentage of 1 kilogramme.

1kg = 1000g.

Fraction $= \frac{500}{1kg} = \frac{500g}{1000g}\ x\ 100\% = 50\%$

Suggested activities

Attempt the following.

1. A boy got 8 correct sums out of 20

What percentage was

(a) correct? (b) not correct

2. If 14 out of 56 goats were sold, what percentage was.

(a) sold? (b) not sold?

3. If 40 out of 120 pupils in a class passed their exams.

(a) What percentage of the pupils passed the exams?

(b) What percentage of the pupils failed the exams?

(c) What percentage of sh240 is sh60?

4. Express 72 objects as a percentage of 1 gross of objects.

5. Write 60 as a percentage of 80.

LESSON : 39

TOPIC : FRACTIONS

SUB-TOPIC : PERCENTAGES

READ AND WRITE:

Increasing, Quantities, Percentages, Original number, New number.

Example1:

Increase 6000 by 10%

Original number is 100%

New number = (100% + given %) of original number

$= 100 + 10 = \frac{110}{100} x\ 600$

$= 110 \text{ x } 6 = 660$

New number = 660

Example 2:

Increase 8000 by $12\frac{1}{2}\%$

Original number = 100% = sh. 8000.

New number = (100%+given) of original number

$= 100\% + 12\frac{1}{2}\%$ of sh 8000

To improper fraction $= \frac{225}{2} x \frac{1}{100} x \frac{8000}{1}$

= 225 x 40 = 900

= sh 9000

Suggested activities

Work out these.

1. Increase 1000 by 100%
2. Increase shs. 3000 by 20%
3. Increase 40,000 by 12 ½ %
4. Increase 60,000 by 33 ½ %
5. Last year the amount of milk sold in Ibanda Town was 8,000,000litres. If the milk demand increases by 12 ½ % this year. How much milk will be sold this year?
6. The number of books supplied to our school by the government last year was 6 million. If this number of books increases by 20%, how many books will be supplied this year?

LESSON : 40:

TOPIC : FRACTIONS

SUB-TOPIC : PERCENTAGES

READ AND WRITE

Decreasing, Quantities, Percentages, Original number, New number.

CONTENT: Decreasing quantities by percentages.

Example 1.

Decrease 6000 by 20%

Original number is 100% = 6000

New number = 100 – given % of original number.

= (100% - 20%) of 6000

= 80% of 600

$= \frac{80}{100} x\ 6000 = 80\ x\ 60 = 4800$

New number = 4800

Example 2:

Decrease 12,000 by 33 $^1/_3$ %

Original number is 100% =12,000.

New number = 100% - given % of original number.

$= 100\% - 33\frac{1}{3} of\ shs. 12{,}000$

$= 66\frac{2}{3} of\ shs. 12000$

$= \frac{200}{300} x\ 1200$

$= 200$ x 40

$= 8000$

New number = sh. 800

Suggested activities.

1. Decrease 1200 by 20%
2. Decrease 2400 by 15%
3. Decrease 3600 by 12 ½ %
4. Decrease 7200 by 33 ½ %
5. The price of a radio is shs. 80,000. If it is decreased by 10%. What is the new price of the radio?
6. The number of books in the library is 36,000. What is the new number if books are decreased by 20%.

LESSON : 41

TOPIC : FRACTIONS

SUB-TOPIC :PERCENTAGES

READ AND WRITE

Percentage increase, Percentage decrease, Original number.

CONTENT: Finding percentage increase or decrease.

Example 1.

The number of pupils increased from 400 to 440 this year.

Calculate the percentage increase.

The increase = 440-400 = 40.

% increase $= \frac{increase}{original\ number} x100\%$

$= \frac{40}{100} x\ 100\%$

$= 10\%$

Example 2:

When 240 was decreased, it became 192.

Calculate the percentage decrease.

The decrease = 240 – 192 = 48

% decrease $== \frac{increase}{original\ number} x100\%$

$= \frac{48}{240} x\ 100\%$

$= 2$ x10

$= 20\%$

Suggested activities:

1. By what percentage will 800 be increased to make 880?
2. When 300 is decreased it becomes 270. Calculate the percentage decrease.
3. A worker's salary was increased from shs.15000 to shs.18000. By what percentage was the salary increased?
4. I bought a radio for sh.60,000 and sold it at shs.50,000. What is the percentage decrease in price?

LESSON : 42

TOPIC : FRACTIONS

SUB-TOPIC : PROFIT AND LOSSES

READ AND WRITE: Percentage, Profit, Loss, Finding, Difference, Original number.

CONTENT: Finding percentage profit or loss.

Example 1:

Find the percentage profit on a dress bought at shs.10,000 and sold at shs. 12,000.

$$\% \text{ profit} = \frac{\text{Difference (profit)}}{\text{Original number}} \times 100$$

$$= \frac{12000}{10000} - 10000 \; x \; 10\%$$

$$= \frac{2000}{10000} \; x \; 100\%$$

$$= 2 \times 10$$

$$= 20\% \text{ profit}$$

Example 2:

Calculate the percentage loss on a radio bought at shs.80,000 and sold at shs.60,000.

$$\% \text{ loss} = \frac{\text{difference (loss)}}{\text{Original number}} \times 100$$

$$= \frac{80,000}{80000} - 60,000 \; x \; 100\%$$

$$= \frac{20,000}{80000} x \; 100$$

$$= 25\%$$

Suggested activities:

Calculate the percentage profit or loss.

1. James bought a television set at shs.400,000 and sold it at shs.500,000. Calculate her percentage profit.
2. A shop keeper bought items worth shs.100,000 and sold them at shs.120,000. Calculate her percentage profit.
3. Epedu bought a shirt at shs.15,000 and sold it at shs.12,000. Find Epedu's percentage loss.

4. Halima bought a car at shs.8,000,000 and sold it at shs.4,000,000. Calculate her percentage loss.

LESSON : 43

TOPIC : FRACTIONS

SUB-TOPIC : PROFIT AND LOSS

READ AND WRITE: Relationship, Between, Loss , Profit, Percentage, Subtraction, Fraction.

CONTENT: Finding the relationship between loss, profit and percentage.

Example 1:

A shirt costs shs.18,000. At what price should it be sold to make a profit of 30%?

Cost price shs.18,000. Percentage profit 30%.

Working fraction $= \frac{100}{100} + 30 = \frac{130}{100}$

Selling price = cost price x working fraction

$= 18000\ x \frac{130}{100} = shs.23400$

Example 2:

A book costs shs.25,000. What would its selling price be to make a loss of 20%?

Cost price shs.25,000. Percentage loss 20%.

Working fraction $\frac{100}{100} - \frac{20}{100} = \frac{80}{100}$

Selling price = Cost price X working fraction

$= 25{,}000 \times \frac{80}{100} =$ shs.20,000=

Suggested activities

1. A telephone set was bought at shs.80,000. It was sold at a loss of 30%.
   What was the selling price.
2. A cow was bought at shs.900,000. It was sold at a loss of 15%.
   What was the selling price?
3. By selling a goat at shs.400,000, Kahwa made a profit of 20%. What was the cost price?
4. The selling price of a turkey at a profit of 10% was shs.77,000. What was the cost price.

LESSON : 44:

TOPIC : FRACTIONS

SUB-TOPIC : SIMPLE INTEREST

READ AND WRITE

Simple interest, principal, rate, time, deposit monthly, annually, years, weeks, original amount.

CONTENT: Finding simple interest.

Example 1:

Calculate the simple interest on sh. 80,000 kept for 2 years at a rate of 20% per year.

Simple interest = Principal X Rate X Time

= P X R X T

= sh.8 0,000 x $\frac{20}{100} x$ 2

= 800 x 20 x 2 = sh16000x 2

= sh. 32000

Example 2:

Calculate the simple interest on shs.60,000 kept for 3 months at a rate of 15% per a num.

S.I = Principal x Rate x Time

= sh.60,000 x$\frac{15}{100} x \frac{3}{12}$

= sh. 600 x 15 x $\frac{3}{12}$

= sh.50 x 15 x 3

= Sh. 2, 250

Suggested activities

Workout

1. Find the simple interest on shs.100,000 kept in the bank for 2 years at 5% per annum.
2. Owuma kept shs.300,000 in the bank which gives an interest rate of 10% for 1 $\frac{1}{2}$years. How much interest did he get?
3. Find the simple interest on shs.50,000 for 5 years at 10% per year.
4. Find the simple interest on shs.200,000 borrowed for 3 months at an interest rate of 12% per month.

LESSON : 45

TOPIC : FRACTIONS

SUB-TOPIC : SIMPLE INTEREST

READ AND WRITE: Amount, principal, simple interest, rate, time.

CONTENT: Finding amount

Example 1:

Calculate the amount on sh. 20,000 borrowed for 2 years at 8% per year.

Interest =Principal x Rate x Time

= 20000 x $\frac{8}{100} x$ 2

= 200 x 8 x 2

= sh. 3200

Amount = principal + interest

$=20000 + 3200$

$=$ sh. 23,200

Example 2:

Find the amount paid on a loan of sh. 120,000 for 6 months at 20% per annum.

Interest $=$Principal X Rate X Time

$= 120{,}000\ x\frac{20}{100}\ x\frac{6}{12}$

$= 100$ x 20 x $6 = 12000$

Amount $=$ interest $+$ principal

Or principal $+$ interest

$= 120{,}000 + 12000$

$=$ sh. 132000

Suggested activities

Calculate

1. Mugabo borrowed sh. 450,000 from the bank and promised to pay at an interest rate of 8% per annum for 2 years. Calculate the amount he paid back.

   Copy and complete the table below:

Principal	Interest rate (%) P.A	Time	Simple interest (sh.)	Amount (sh.)
Shs. 200,000	3	2 years		
Shs. 180,000	5	3months		
Shs. 300,000	10	1 ½ years		
Shs. 480,000	8	8 months		
Shs. 600,000	15	2 ½ days		

LESSON : 46:

TOPIC : FRACTIONS

SUB-TOPIC : END OF UNIT TEST

READ AND WRITE: Words related to topic of fractions and in unit test.

CONTENT

1. Divide 0.36 by 0.04
2. Express 0.72 as a common fraction.
3. Work out: $\frac{2}{3} - \frac{1}{4}$
4. $\frac{1}{2}$ of my salary is sh. 15,000. What is my salary?
5. Simplify $\frac{1}{2}x\frac{2}{3} \div \frac{3}{4}$
6. Change $\frac{3}{5}$ to a percentage
7. Decrease shs. 10,000 in the ratio of 4:5
8. Round off 6.275 to the nearest tenths

9. Express 3% as a decimal
10. How many pieces of wire each 0.36cm long can be cut from a long wire of 14.4m?
11. Simplify 2.36 - 8.4 + 9.07
12. Six men can do work in 4 days. In how many days will 8 men do the same work at the same rate?
13. Increase 500 by 20%
14. Calculate the simple interest on shs. 60,000 kept for 2 years at a rate of 12% per year.
15. Work out $\frac{35 \times 0.5}{0.05}$

LESSON : 47

TOPIC : DATA HANDLING

SUB-TOPIC : COLLECTING DATA

READ AND WRITE: Data, collecting, tally, bar graph, scale, tables.

CONTENT: Collecting and organizing data in tables.

Example: Collect as you record the age for 30 of your class mates.

12 11 10 12 11 12 11 13 11 14 11 11 12 11
10 11 12 11 12 14 13 10 11 11 12 11 12 11
11 12

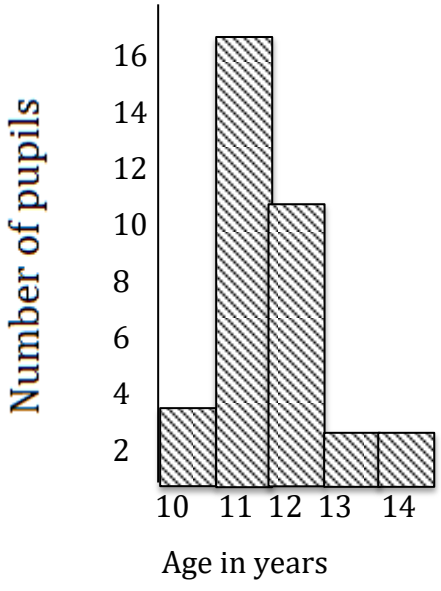
Organize the date using tally marks.

Age group	Tallies	Number of pupils
10 years	///	3
11 years	𝍸 𝍸 ////	14
12 years	𝍸 ////	9
13 years	//	2
14 years	//	2

Tabulate the information

Age in years	10	11	12	13	14
Number of pupils					

Represent the information On a bar graph.



Suggested activities

Work out

Below are the results of primary six pupils in a math examination.

82 73 60 82 58 73 90 60 82 90 82 90 90
73 82 58 73 90 60 82 90 73 73 90 58 90
60 90 82 82

Use tally marks to organize this information in the table below:

Marks	Tallies	Number of pupils
58		
60		
73		
82		
90		

(b) Tabulate the information
(c) What was the lowest mark which was scored?
(d) How many pupils scored 90 marks?
(e) Find the total number of pupils in that class
(f) Find the difference of the highest and the lowest score
(g) Draw a bar graph to represent the information.

LESSON :48

TOPIC : DATA HANDLING

SUB-TOPIC : INTERPRETING BAR GRAPHS

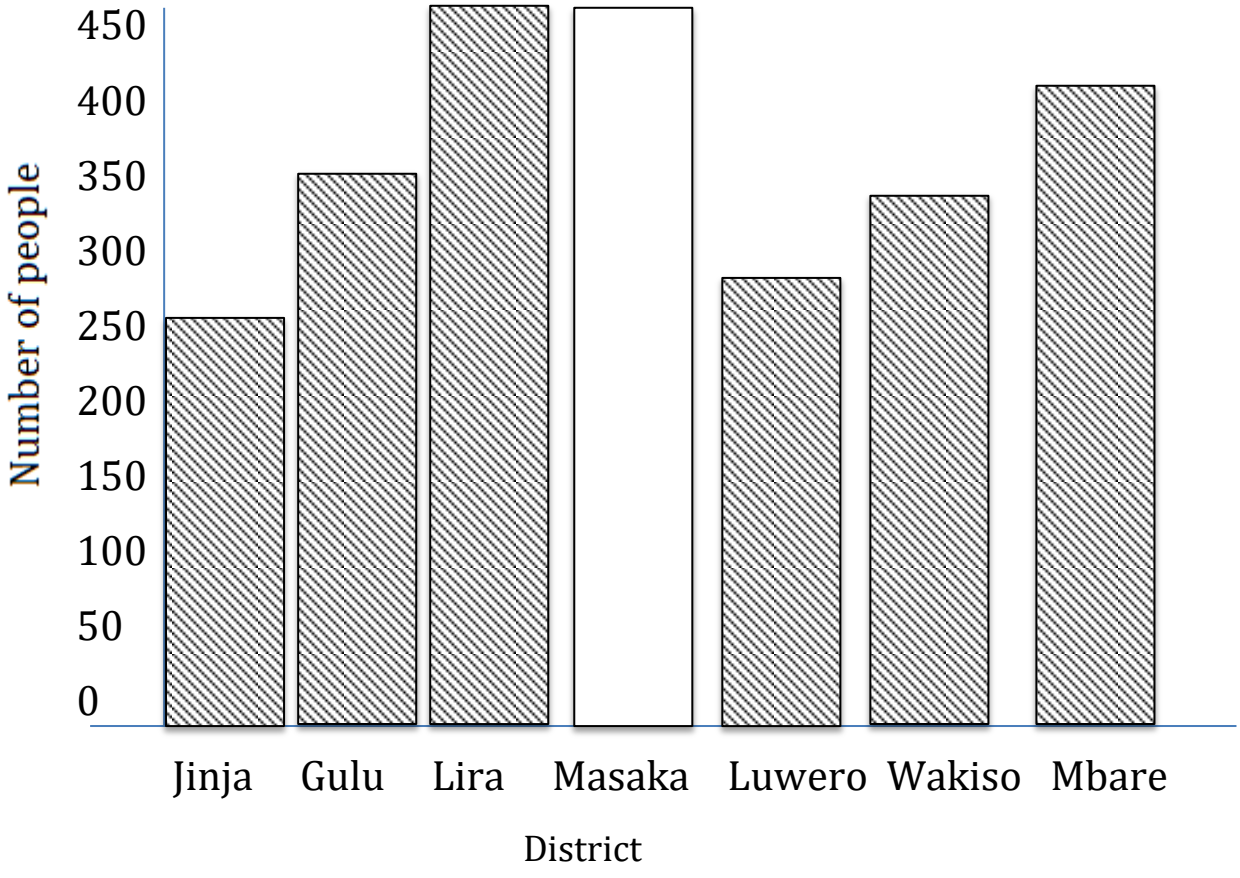
READ AND WRITE: Interpreting, bar graphs, title, horizontal axis, vertical axis.

CONTENT

Example

Study the bar graph below and answer the questions that follow.

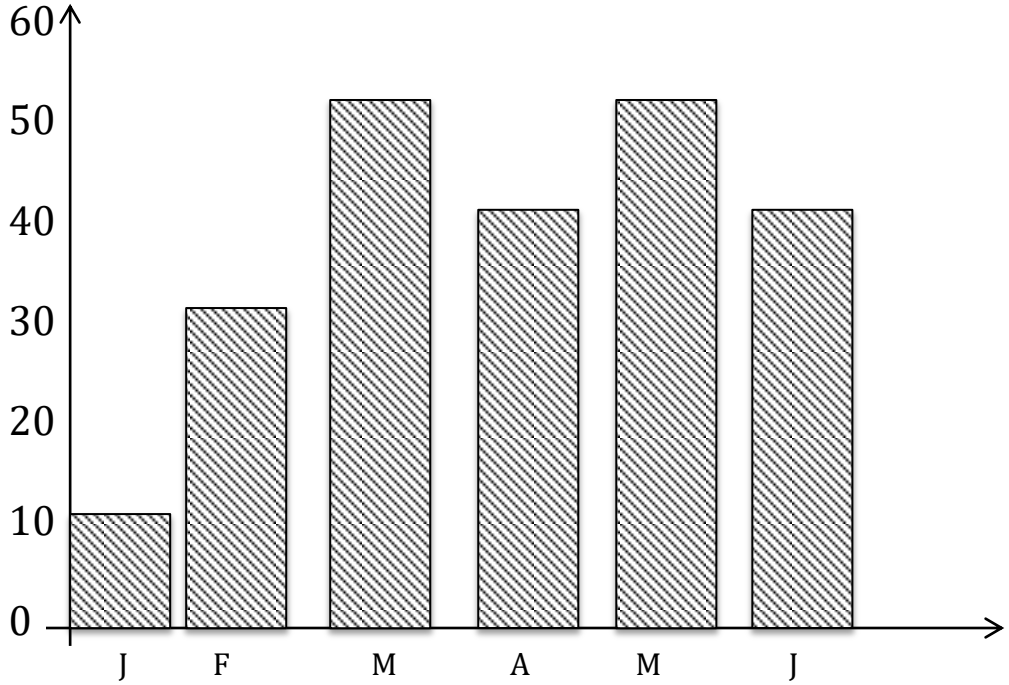
Number of people who attended the AIDS prevention seminar in the seven districts



(a) Which type of graph is this?
It is a bar graph
(b) What does the horizontal axis show?
It shows the districts
(c) Which district had the highest attendance?
Lira district had the highest attendance

Suggested activity

1. Study the graph and answer the questions that follow.
Rainfall recording at central park primary school in the first half of the year.



(a) What is the graph about?
(b) What does the horizontal axis show?
(c) What is the scale on the horizontal axis?
(d) In which months was rainfall recorded the same?
(e) Find the difference of the highest and lowest rainfall recorded.

LESSON : 49
TOPIC : DATA HANDLING
SUB-TOPIC : STATISTICS
READ AND WRITE: Range, mode, median, and statistics
CONTENTS:
Example 1: Finding range, mode, median.
The following records were found with the sports master. Mass of primary six pupils in kg.

40	35	36	35	35	36	38	40	39
35	40	39	38	37	37	36	37	38
37	39	40	36	36	38	36	36	40

Use tallies to organize the data

Mass in kg	Tallies	No. of pupils
35	////	4
36	𝍸 //	7
37	////	4
38	////	4
39	///	3
40	𝍸	5

(a) Find the range.

Range = Highest - Lowest

= 40kg - 35kg

= 5kgs.

(b) Find the mode. (Most common number)

Most of the pupils have mass 36kg, so the mode is 36kg.

What is the median (the middle number)

~~35~~ ~~35~~ ~~35~~ ~~35~~ ~~36~~ ~~36~~ ~~36~~ ~~36~~ ~~36~~ ~~37~~ ~~37~~ 37 ~~37~~ ~~38~~ ~~38~~

~~38~~ ~~39~~ ~~39~~ ~~40~~ ~~40~~ ~~40~~ ~~40~~ ~~40~~

So 37 kg is the middle mass.

It is the median.

Suggested activity:

Work out

The following records were found at the hospital. Number of AIDS patients who visited the HIV/AIDS clinic in a certain week.

Days	Mon	Tue	Wed	Thur	Fri	Sat	Sun
No. of patients	7	10	4	15	12	9	4

(a) Show the information above using tallies
(b) Find the range
(d) Find the mode
(d) Find the median

LESSON :50

TOPIC : DATA HANDLING

SUB-TOPIC : STATISTICS

READ AND WRITE: Statistics, Frequency, Range, Average.

CONTENT: Finding frequency, range and average.

Example:

Below is a record of pupil's age in a certain class.

10 12 11 10 12 11 12 13 10 11 14
12 11 11 12 14 14 13 15 12 10 14

(a) Find the frequency using tallies
(b) Find the range
(c) Find the average

Number	Frequency
10	4
11	5
12	6
13	2
14	4
15	1

Age in years	Tallies	No. of pupils (frequency)
10	////	4
11	~~////~~	5
12	~~///~~ /	6
13	//	2
14	////	4
15	/	1

Range = Highest - Lowest

= 15 - 10 = 5.

Average or mean = total age

Number of pupils

$$= \frac{(10x4) + (11x5) + (12 \times 6) + (14x4) + (15x1)}{4+5+6+2+4+1}$$

$$= \frac{40+55+72+26+56+15}{22} = \frac{264}{22} = 12$$

Suggested activity.

1. The data below represents the daily temperature of a place in ^0C

16	17	20	20	16	17	18	19	19	16
17	18	18	16	20	18	20	18	19	18

a. Find the range
b. Find the frequency
c. Calculate the average temperature

LESSON : 51
TOPIC : DATA HANDLING
SUB-TOPIC : STATISTICS
READ AND WRITE: Applying, average, daily life, total, multiply items.
CONTENT : Applying average in daily life.
Example 1
The average age of 5 women is 35 years.
What is their total age?
Method 1.
Total age = 35 + 35 + 35+35+35years
= 70+70+35
= 175 years
Method 2
= total age = 35 years x 5 women = 175 years
Example 2.
Ariho's average mark in 6 examinations is 73.
What is the total score?
Method 1 total score = 73+73+73+73+73+73
= 146+ 146+146 = 438
Method 2 . Total score = 6 x 73 = 438
Suggested activities

Workout

1. The average length of 5 rolls of cloth is 60m. what is the total length of the cloth?
2. The average cost of 8 books is shs. 2350.what is the total cost of the books?
3. A family spends an average of shs. 4500 every day. How much money does it need every fortnight?
4. Find the total wages of 8 factory workers whose average pay is shs. 7,400 per day per worker.

LESSON : 52

TOPIC : DATA HANDLING

SUB-TOPIC : STATISTICS

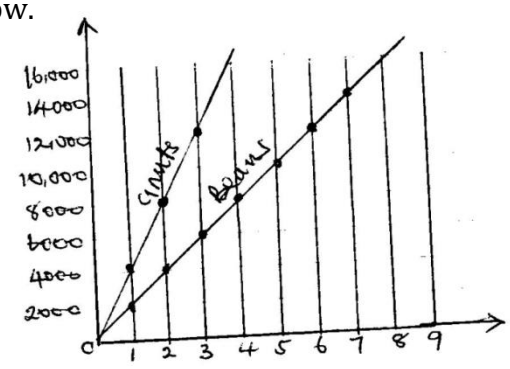
READ AND WRITE:

Interpreting, units, vertical axis, line graph directly proportion, horizontal axis.

CONTENT: Interpreting line graphs.

Example:

The graph below shows the cost of beans and that of ground nuts in shillings. Study it and answer the questions that follow.



Number of kilogrammes

(a) What is the cost of 1kg of beans?

The cost of 1kg of beans is 2,000 shillings

(b) What is the cost of 1kg of g. nuts?
The cost of 1kg of ground nuts is shs. 4,000

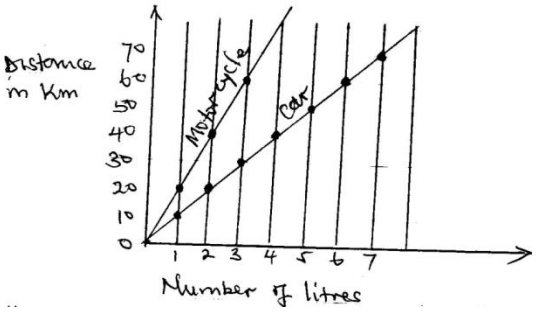
(c) How many kg of beans can one buy with shs. 8,000?
One can buy 4 kg of beans with shs. 8,000.

(d) What is the cost of 3kg of ground nuts?
The cost of 3kg of ground nuts is shs.12,000=

Suggested activity.

Workout

The graph shows litres of fuel consumed by a motorcycle and a car through a certain distance.



(a) How many km does the car travel on 1 litre of fuel?
(b) What distance can the motorcycle cover on 1 litre of fuel?
(c) How many litres of fuel does the car need to cover 65km?
(d) What distance can the motorcycle cover on 3 litres of fuel?
(e) If a litre of fuel costs 3100 shillings, how much money will the car owner need to cover a distance of 70km?

LESSON : 53

TOPIC : DATA HANDLING

SUB-TOPIC : STATISTICS / PIE CHARTS

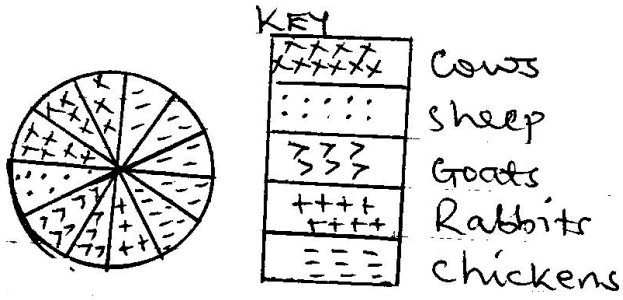
READ AND WRITE:

Interpreting, pie charts, sectors, circle graphs, fractions, percentage, degrees.

CONTENTS: Interpreting data on pie chart

Example:

The graph below shows different animals kept on Mukasa's farm. Study it and use it to answer the questions that follow.



(a) Find the fraction for each sector.

Cows $=\frac{3}{12}=\frac{1}{4}$ Goats $=\frac{2}{12}=\frac{1}{6}$

Chickens$=\frac{5}{12}$ sheep $=\frac{1}{12}$ rabbits $\frac{1}{12}$

(b) If there are 720 animals on the farm;

i. How many cows are on the farm?

The cows $=\frac{3}{12}\ x\ 720 = 3\ x\ 60 = 180 cows$

ii. How many chickens are there?

The chicken $=\frac{5}{12} x\ 720 = 5\ x\ 60 = 300\ chicken$

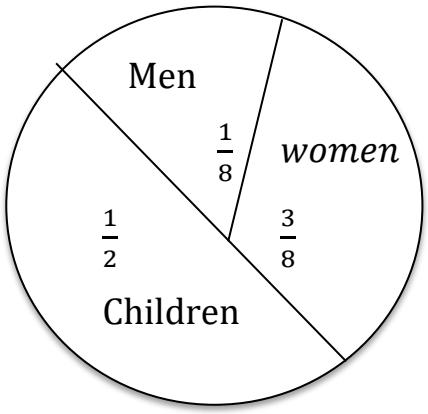
(c) Find the angle sector for cows.

$\frac{1}{4}$x $360 = 9^0$ (multiply by 360^0 to get the angle sector)

Suggested activity

Workout.

The pie chart below shows the population of a town. The population of the town is three million people.



(a) How many men are in the town?

(b) How many more children than women are in the town?

(c) How many children are in the town?

(d) If each child in the town was given 2 mosquito nets, how many nets were given out altogether?

LESSON : 54

TOPIC : DATA HANDLING

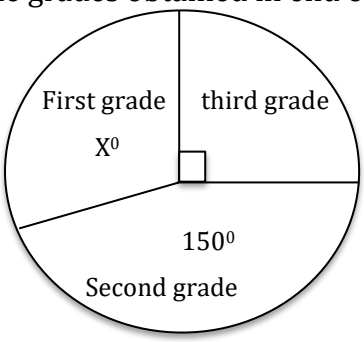
SUB-TOPIC : STATISTICS / PIE CHARTS

READ AND WRITE: Interpreting , pie charts, unknown, percentage sectors.

CONTENT: Interpreting pie charts involving the unknown

Example.

The pie chart below shows the grades obtained in end of term exam in a class of 180 pupils.



(a) Find the value of X

(b) How many pupils passed in first grade?

(c) What percentage of the pupils passed in third grade?

(d) How many more pupils passed in second grade than in third grade?

Solution:

(a) To find the value of X

$X^0 + 90^0 + 1500 = 3600$

$X + 240 = 360^0$

$X + 240 - 240 = 360 - 240$

$X = 120^0$

(b) Number of pupils who passed with a first grade.

$\frac{120}{360} x\ 180$

$= 60$ pupils passed in grade one or first grade.

(c) Percentage of the pupils who passed in third grade.

$\frac{90}{360} x\ 100 = 25\%$ of the pupils passed in third grade .

(d) Number of pupils who passed in second grade than in third grade.

Number of pupils passed in second grade.

$\frac{150}{360} x\ 180 = 75$ pupils

Number of pupils passed in third grade.

Number of pupils in third grade

$\frac{90}{360}$ x $180 = 45$ pupils

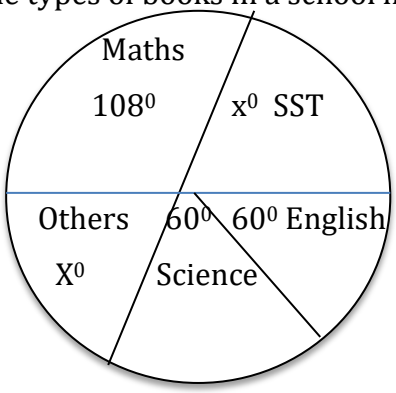
75 pupils – 45 pupils

$= 30$ pupils more

Suggested activity

Workout

The pie chart below shows the types of books in a school library which holds 1,440 books.



(a) Find the value of X

(b) How many books are there for:-

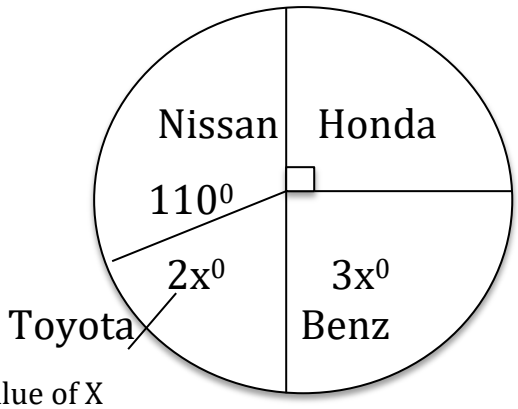
(i) Mathematics

(ii) English?

(iii) Science?

(iv) Social studies?

2. The pie chart below shows types of cars which were imported by Lukas car importers in 10 years. The company imported 10,800 cars.



(a) Find the value of X

(b) Find the sector angle for Toyota

(c) How many cars of each type did the company import

LESSON : 55

TOPIC : DATA HANDLING

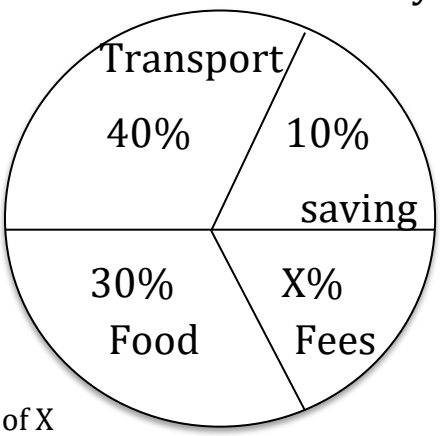
SUB-TOPIC : STATISTICS / PIE CHARTS

READ AND WRITE: Pie charts, sectors, degrees, value, dealing, involving.

CONTENT: Interpreting pie charts involving percentages.

Example:

The pie chart below shows how a family spends its income of shs. 540,000=.



(a) Find the value of X

X+ 30% + 40% + 10 % = 100%

X + 80% =100%

X+ 80%- 80% = 100%-80%

X = 20%

(b) Find the sector angle for transport

$=\frac{40}{100}X\ 360 = \ 144^0$

(c) How much is spent on food?

$= 30\%$ of sh. 540,000=

$= \frac{30}{\cancel{100}}x\ 540{,}0\cancel{00}$

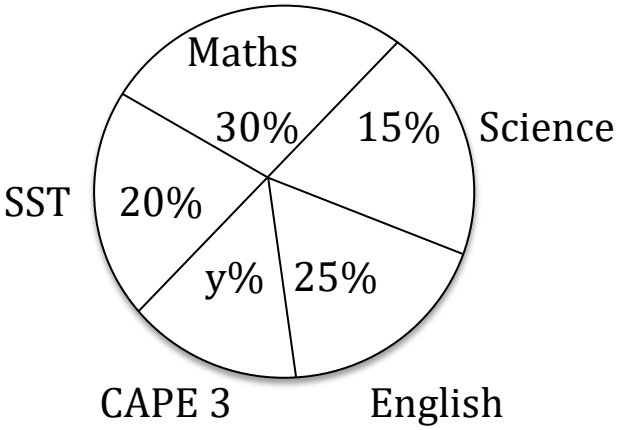
$=$ sh. 162,000=

Suggested activity.

Workout

The pie chart shows the number of pupils who passed different subjects.

These were 80 pupils in the class.



(a) Find the value of Y

(b) How many pupils passed mathematics (math)?

© What fraction of the class passed CAPE 3?

(d) Express the sector for social studies in degree.

LESSON : 56:

TOPIC : DATA HANDLING

SUB-TOPIC : STATISTICS / PIE CHARTS

READ AND WRITE:

Drawing, pie charts, sector, circle, measure, protractor angle, coins, bottle tops.

CONTENT: drawing a pie chart

Example:

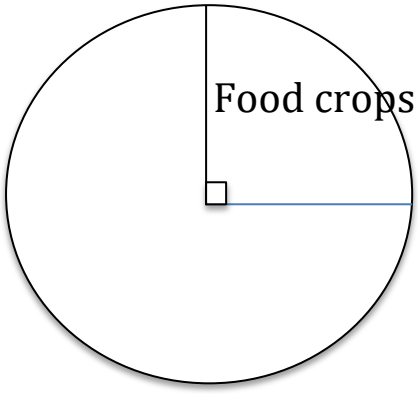
A farmer divided his land as follows ¼ of the land for food crops, 1/3 for cash crops and 5/12 for pasture.

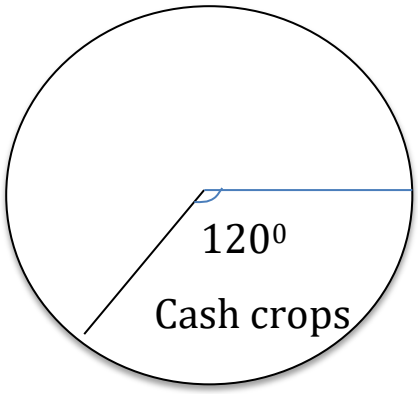
The sector for food crops $\frac{1}{4}$ x 360 = 90^0

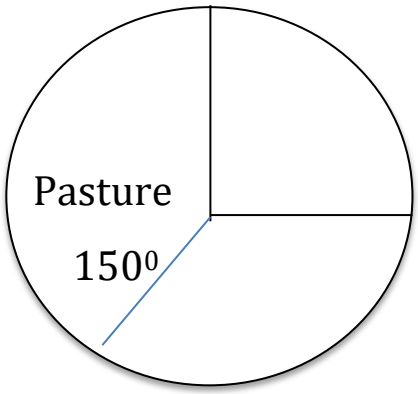
The sector for cash crops $\frac{1}{3}$ x 360 = 120^0

The sector for pasture $\frac{5}{12}$ x 360 = 150^0

Using a protractor to measure the angles.







Suggested activities

Work out:

1. $\frac{6}{20}$ of the exports of our country is cotton $\frac{1}{2}$ is coffee and $\frac{1}{5}$ are flowers. Use the above information to draw a pie chart.
2. $\frac{1}{3}$ of the people in a district are children, $\frac{5}{18}$ are youth, $\frac{1}{6}$ are men and the rest are women.

(a) What is the fraction of women?

(b) Draw a pie chart.

LESSON : 57

TOPIC : DATA HANDLING

SUB-TOPIC : STATISTICS / PIE CHARTS

READ AND WRITE: Size, sector, data, items, total number, pie chart fraction, multiply, represent, draw, information.

CONTENT: Drawing more pie charts.

In P.6 class there are 10 pupils who are twelve years old, 12 who are thirteen, 8 who are fourteen and 6 who are fifteen years old.

Use the given data to draw a pie chart representing each age group.

The total number of pupils $= 10 + 12 + 8 + 6 = 36$ pupils.

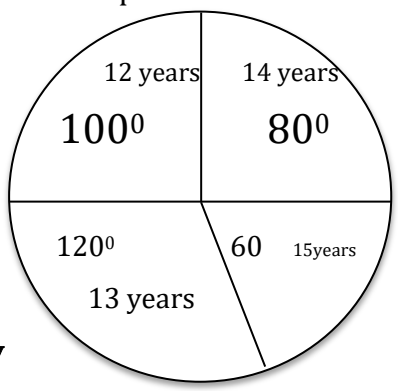
Sector for twelve years $= \frac{10}{36} x\ 360 = 10x10 = 100^0$

Sector for thirteen years $= \frac{12}{36} x360 = 12\ x\ 10 = 120^0$

Sector for fourteen years $= \frac{8}{36} x360 = 8\ x\ 10 = 80^0$

Sector for fifteen years $= \frac{6}{36} x360 = 6\ x\ 10 = 60^0$

Using a protractor draw a pie chart.



Suggested activity

1. There are 5 bulls, 9 calves, 12 cows, 6 heifers and 8 bullocks on the farm.

(a) Represent the information above in a table

(b) Draw a pie chart to represent the data.

2. 30% of the pupils in Tendo's class are 11 years, 40% are 12 years, 25% are 13 years and the rest are 14 years.

   Draw a pie chart to represent the data.

LESSON : 58

TOPIC : DATA HANDLING

SUB-TOPIC :PROBABILITY

READ AND WRITE:

Probability, Expected out comes, Total number, Possible outcomes, Picking, Random, Sample space

CONTENT: Finding probability

Example:

Jacob recorded the names of his groupmates on cards using initials. Below was his record.

K	N	A	N	M	A	O	N	M

a. What is the probability that the card with letter M is picked?

$$\text{Probability} = \frac{\text{Number of expected outcomes (2)}}{\text{Total number of possible outcomes (9)}}$$

$$= \frac{2}{9}$$

b. What is the probability that the card with letter O is picked.

$$\text{Probability} = \frac{\text{Number of expected outcomes (1)}}{\text{Total number of possible outcomes (9)}}$$

Suggested activity

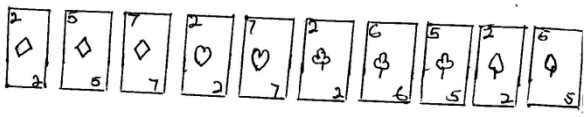
1. Use Jacob's cards above and answer the question below. What is the probability of picking;

(a) Letter A?

(b) Letter K?

(c) Letter N?

2. Alfred had playing cards as shown below.



(a) What is the probability that a card with 2 will be picked?

(i) A card with 7?

(ii) A card with 5?

LESSON : 59

TOPIC :DATA HANDLING

SUB-TOPIC : PROBABILITY

READ AND WRITE: Probability, Chance, Picked, Possible expected, Events.

CONTENT: More about probability

Example:

There are 8 girls and 7 boys in a group. If a teacher chooses a pupil at random to clean the blackboard, what is the probability of picking a girl?

There are 15 possible chances of picking any pupil.

There are 8 expected chances of picking a girl

$$\text{The probability of picking a girl} = \frac{\text{Expected outcomes}}{\text{Total possible out comes}}$$

$$\text{no. girls} = 8$$

$$\text{no. total pupils} = 8 + 7$$

$$= \frac{8}{15}$$

Example 2:

There are 3 blue pens, 4 red pens in a packet.

What is the probability of picking a black pen?

$$\text{Probability of picking a black pen} = \frac{\text{no. black pens}}{\text{Total possible outcomes}}$$

$$= \frac{0}{3}$$

$$= \frac{0}{7}$$

Suggested activities

1. There are 3 blue pens and 4 red pens in a packet.
   What is the probability of picking?

(a) A red pen?

(b) A blue pen?

(c) A blue and red pen?

(d) A black pen?

2. There are 4 mangoes, 7 oranges and 9 passion fruits in a basket.
   What is the probability of picking.

(a) An orange?

(b) A mango?

(c) A mango or passion fruit?

LESSON : 60

TOPIC : DATA HANDLING

SUB-TOPIC : END OF UNIT TEST

READ AND WRITE:

Words in end of unit test related to the topic of data handling:

CONTENT: Attempt all the questions.

1. Given numbers 8, 7, 5, 9, 3, 7, 4, 7, 4 find the:

(a) Mode

(b) Modal frequency

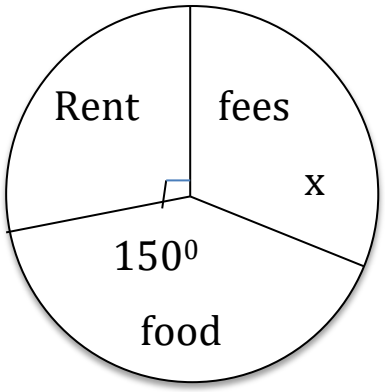
(c) Median

(d) Range

(e) .Work out the mean

2. The average age of 5 pupils is 11 years.
   What is their total age?

3. The pie chart shows Esther spends her shs. 720,000 salary.



(a) Find the value of X?

(b) How much does she spend on rent?

(c) How much does she spend on food?

(d) How much more does she spend on food than on fees?

(e) Draw a table showing Esther's percentage expenditure.

4. There are 5 green apples and 4 red apples in a basket. What is the probability of picking a green apple?

5. Kaita read a book of 230 pages in 5 days. Find the average number of pages he read per day.

LESSON : 61

TOPIC : DATA HANDLING

SUB-TOPIC : BUYING AND SELLING

READ AND WRITE: Buying, Selling, Change, Currency.

CONTENT: Buying and selling using Uganda currency

Example

Moses bought 2 loaves of bread at sh. 3500 each, 4 exercise books at sh. 700 each and 2 geometry sets at sh. 8,000 each.

What was his change? If he gave a sh. 50, 000 note to the shop keeper?

He bought.

Bread at 3500x2 = sh. 7000

Books at 700 x 4 = sh. 2800

Sets at 8000 x 2 = + sh. 16000

Total amount spent sh. 25800

Suggested activities:

1. Sarah bought 4 trays of eggs at sh. 7500 each

   8kg of sugar at sh. 2500 per kg and 3 bars of soap at shs. 3,000 each

   If she had sh. 60,000, what was her change?

2. Amos bought 5kg of meat at sh. 13,000 per kg.

   500g of curry powder at sh. 10,000 per kg and 2 bars of soap all for shs. 8000. If Amos had sh. 72,000. Calculate the change he received.

3. Hajjati sold 5 dresses at sh. 32,000 each.

   2 shirts at sh. 28,000 and 3 pairs of shoes at sh. 48,000 each.

(a) How much did she get?

(b) If she paid sh. 135,000 to the land lady, how much remained?

LESSON :62

TOPIC : DATA HANDLING

SUB-TOPIC : BUYING AND SELLING

READ AND WRITE: Finding, amount, unit cost, items, total

CONTENT: Finding unit cost

Example:

A father bought a tray of eggs at sh. 7200.

If a tray had 30 eggs, what was the cost of one egg?

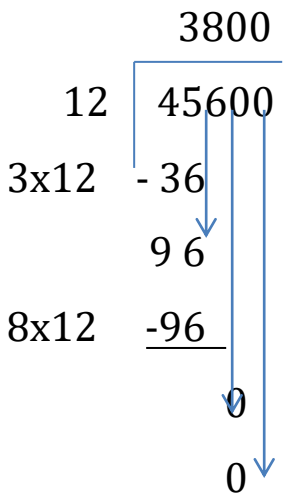
```
              240
        30 | 7200
2x30    -  | 60
             120
4x30    -    120
             ---
               0
0x30           0
```

Each egg costs sh. 240

Example 2:

A dozen of pairs of slippers costs sh. 45,600

Find the cost of each pair.



Each pair costs sh. 3800

Suggested activities

1. A set of 4 plates costs sh. 9600. What is the cost of each plate?
2. A packet of 9 pens costs sh. 12600. What is the cost of each pen?
3. There are 24 tablets of toilet soap in a box.
   A box costs sh.48,000.
   What is the cost of each tablet of soap?
4. A carpenter sold a set of 8 chairs at sh. 560,000. What was the cost of each chair?

LESSON : 63

TOPIC : MONEY

SUB-TOPIC : PROFIT AND LOSS

READ AND WRITE: Profit, Loss, Selling price, Cost price, Realized, Subtract.

CONTENT: Finding profit

Examples:

Abdul bought a shirt at sh. 13000. He sold it at sh. 15200. What was his profit?

To get profit, subtract the cost price from selling price.

The cost price is sh. 13,000

The selling price is sh. 15,200

Profit is equal to sh. 15,200 – sh. 13,000

Profit	sh. 15,200
	- Sh. 13,000
	Sh. 2,200

Example 2.

A furniture shop has a sofa set market sh. 999,999. Its cost price is sh. 750,650.

What will be the profit after selling the sofa set?

The cost of the sofa set is sh. 750,650.

The selling price of the sofa set is sh. 999,999

Profit = Selling price - cost price

Profit = sh.999, 999 – sh. 750650

Profit = Sh. 999,999

- Sh. 750,650

Sh. 249,349

Profit = sh. 249,349

Suggested activities

1. Agaba bought a pen at sh. 1,850 and sold it at sh. 3400. What was his profit?
2. Mr. Okwenyu bought a coat at sh. 81,000 and sold it at sh. 90,000. What was his profit?
3. Zake bought a dress at sh. 15,200 and sold it at sh.26,000. What was his profit?
4. A pair of shoes which was sold at sh. 50,000 had been bought at sh. 45,000. What was the profit?

LESSON : 64

TOPIC : MONEY

SUB-TOPIC : PROFIT AND LOSS

READ AND WRITE: Loss, Selling price, Lower, Cost price, Subtract.

CONTENT: Finding loss.

Examples

-A man bought a goat at shs. 120,000. We sold it at shs. 105,000. What was his loss?

Buying price sh 120,000

Selling price - sh 105,000

Sh 15,000

His loss was sh 15,000

-Jamila bought a roll of baric at shs. 350,500.

She later sold it at shs. 342,800. What lodd did she realize?

Cost price sh 350,500

Selling price - sh 342800

7,700

Suggested activities:

1. Martha bought an umbrella at sh. 12,000 and sold it at shs. 9,000. What was the loss?

2. A pair of shoes cost sh. 25,000. It was later sold at shs. 16,500. What was the loss?

3. Calculate the loss on crates of soda which were bought at sh.720,000 and sold for sh. 615,250.

4. A trader bought soap worth sh. 760,820. He later sold it sh. 675,500. What loss was made?

LESSON : 65

TOPIC : MONEY

SUB-TOPIC : PROFIT AND LOSS

READ AND WRITE: Buying price, Cost price, Loss, Finding, Profit.

CONTENT: Finding selling price when loss or profit is given.

Example 1:

Kato bought a ball at sh. 15,000, he sold it and made a loss of shs. 3000. What was the selling price of the ball?

Buying price = sh. 15,000

Loss = sh. 3,000

Selling price = sh. Buying price - Loss

Selling price = sh. 15,000 – sh. 3000.

sh. 15,000

_ Sh. 3,000

Selling price = sh. 12,000

Example 2.

Bugingo bought a tin of oranges at sh. 14,000.

He sold the oranges and made a profit of sh. 4,000.

At what price did he sell the oranges?

Buying price = sh. 14,000

Profit = sh. 4,000

Selling price = buying price + Profit

Selling price = sh. 14,000 + sh. 4,000

Sh. 14,000

\+ Sh. 4,000

Selling price = sh. 18,000

Suggested activities:

1. A bunch of matooke was bought at sh.9000.
   It was sold at a loss of sh.1,000
   What was the selling price?

2. A sheep was bought at sh.25,000. It was sold at a loss of sh. 9,000. What was selling price?

3 Asuku bought 5 sacks of maize flour at sh.175,000. She sold them and made a profit of sh. 55,650. Find the selling price of the flour.

4. A cow was bought at sh. 255,000. It was sold at a profit of sh. 89,500. Find its selling price.

LESSON : 66

TOPIC : MONEY

SUB-TOPIC : PROFIT AND LOSS

READ AND WRITE: Buying, selling, price, loss, cost

CONTENT: Finding buying price when loss is given.

Examples:

Okech sold a goat at shs. 350,000. He made a loss of shs.30,000. How much did he buy it?

Selling price = shs. 350,000

Loss = shs. 30,000

Buying price = selling price + Loss

= sh. 350,000 + sh. 30,000

= sh. 380,000

Naikoba sold 4 sacks of simsim at sh. 220,500 and made a loss of sh.13,500. What was the cost price of the simsim?

Selling price = sh. 220,500

Loss = sh. 13.500

Cost price = selling price + Loss

sh. 220,500 + sh. 13,500

= sh. 234,000.

Suggested activities

1. Mary sold a pair of shoes at sh. 26,000 and made a loss of sh. 5,000. What was the buying price?
2. A trader sold a box of soap at sh. 17,500 making a loss of sh. 1,800. What was the buying price of soap?
3. Ayiko sold 4 goats at sh. 600,000 and made a loss of sh. 65,000.
   Find the buying price of the 4 goats.
4. A piece of land is sold at sh. 850,000 making a loss of sh.115,500.
   What was the buying price of the piece of land?

LESSON : 67

TOPIC : MONEY

SUB-TOPIC : PROFIT AND LOSS

READ AND WRITE: Discount, Price, Marked price, Customer.

CONTENT: Discount

Example 1:

The marked price of a shirt was sh. 15000 after a discount, the customer paid sh. 12,000 cash.

How much was the discount?

The discount = Marked price - Cash price

= 15000 - 12000

Discount = sh. 3,000

Example 2:

The marked price of a bicycle is sh. 360,000.

A customer is offered a discount of 15% for cash

How much money does the customer pay?

The discount 15% of the marked price

Discount $=\frac{15}{100} x$ 360,000

$= 15$x3600

$= (10$x3600$) + (5$x3600$)$

$= 36000 + 18000$

The discount $= 54000$shs

The customer pays (sh. 360,000 – sh. 54000)

Sh. 306,000

Suggested activities

1. The marked price of a book is sh. 4,000. If a customer is offered a 10% discount.

(a) How much is the discount?

(b) How much money does the customer pay?

2. A set of chair is marked sh. 250,000. If a customer is offered a 20% discount,

(a) How much does the customer pay?

(b) How much is the discount

LESSON : 68

TOPIC : MONEY

SUB-TOPIC : PROFIT AND LOSS

READ AND WRITE. Buying, Selling, Expenditure, Balance, Change bills.

CONTENT: Buying and selling (revision)

Examples.

Susan has sh. 6000 and bought the following items.

3kg of sugar at sh. 1000 per kg

$1\frac{1}{2}$ of salt at shs 600 per kg

2 loaves of bread at sh. 700 each

Find her total expenditure and the balance (change)

Sugar cost her	3x sh. 1000 =	sh. 3000
Salt cost her	3x sh. 600 =	sh. 900
Loaves of bread	2 x sh. 700 =	+ sh. 1400
Total expenditure	+	Sh. 5300
Balance (change)		6000- 5300
		Sh. 7000

Nafula had sh. 100,000 and bought the following items.

2kg of meat at sh. 13,000 per kg

500 of rice at sh. 4,000 per kg

30 oranges at sh. 2,00

Find Nafula's total expenditure and the change.

meat cost her at	2 x 13000	= sh. 26000
rice cost her	$\frac{1}{2}$ x4000	= sh. 2000
oranges cost her		+ sh. 2000
Total expenditure		Sh. 30,000
Change / balance	100,000 – 30,000 = 70,000	

Suggested activities

A mother had a 10,000 shillings note and bought the following items.

$1\frac{1}{2}$kg of beans at sh. 1000 per kg

500g of salt at sh. 1000 per kg

2 boxes of soap all at sh.4000

(a) How much did she spend?

(b) What was her change?

2. A parent bought the following school requirements for his children at the beginning of a school term.

(i) A dress at sh. 5,500

(ii) A shirt at sh. 3,000

(iii) 2 pairs of short at sh. 8000 each

(iv) 2 pairs of shoes at sh. 8000 each

If the parent had sh. 50,000, calculate his total expenditure and change.

LESSON : 69

TOPIC : MONEY

SUB-TOPIC : SHOPPING BILL

READ AND WRITE: Bills, Quantity, Unit cost, Total cost, Expenditure

CONTENT: Completing bills

Example

Study Mary's bill and fill in the missing information.

Item	Quantity	Unit cost	Total cost
Sugar	4kg	Sh. 1,200	Sh. ……..
Soap	2 bars	Sh. ---------	Sh. 1400
Oil	---------- litres	Sh.1,500	Sh. 4500

Sugar 4 X sh. 1,200 = sh.4800

Soap sh. 1400 ÷ 2 = sh. 700

Oil sh. 4500 ÷ sh. 1500 = 3litres

Suggested activities

1. The table below shows Mandad's shopping bill.
   Study it carefully and fill in the missing information

Item	Quantity	Unit cost	Total cost
Loaves of bread	3 loaves	Sh. 800	Sh._____
Sugar	_____kg	Sh. 1200	Sh. 7200
Exercise books	8 dozens	Sh._____	Sh. 14,400
Total expenditure			Sh. _____

2. Study and complete the bill.

Item	Quantity	Unit cost	Total
Salt	500g	Sh. 600	Sh. _____
Curry powder	250g	Sh.3000	Sh. _____
Sugar	750g	Sh. 1200	Sh. _____
Total expenditure			Sh. _____

LESSON :70

TOPIC : MONEY

SUB-TOPIC : EXCHANGE RATES

READ AND WRITE: Exchange, Rates, Currency, Pounds, Franc notes, Coins, Foreign, Notes.

CONTENT: Recognizing Uganda currency and other currencies.

Example

Uganda shilling notes and coins

Features: Cow, fish, head of crested crane, map of Uganda and Coat of Arms.

Foreign currency:

Features: Picture of queen, picture of king lion etc.

How many 500 shs. Coins make a Ten thousand Note.

$$= \frac{10000}{500} \quad \frac{100}{5} = 20\ coins$$

Suggested activities:

Write any two features you have recognized on each set of the currency.

How many 20 Euro notes does one need to pay for an item of 500 Euros?

LESSON : 71

TOPIC : MONEY

SUB-TOPIC : CONVERSION OF CURRENCY

READ AND WRITE

Exchange, Conversion, Currency, Rates, Buying, Selling, Foreign, Bureau.

CONTENT: Exchanging Uganda currency for other currencies.

Examples

Study the exchange rates below as per 17th May 2017.

CURRENCY	BUYING	SELLING
1us dollar (USD) $	3100	3200
1pound sterling (GBP) £	5000	5200
1Euro (EURO)	3600	3700
1kenya shillings (KSH)	32	35
1Tanzania shillings (TZSH)	1.4	1.5
1Rwanda shillings (RWF)	4.3	4.5

Convert 186,000 Uganda shillings to united states Dollars (USD).

$$\text{USD } 1 = \text{UGX } 3100$$

Cross multiply

$$1 \quad 3100$$

$$? \quad 186000$$

$$\text{Then divide} = \frac{186000}{31000}$$

UGX 186000 = USD 60

Peter has to send his son's tuition to Britain. He has UGX 2,303,600 to exchange.

Find the amount of pound sterling he will get

Exchange rate: £ = UGX 5200

UGX 2303600 = $\frac{2,303,600}{5200}$

= GBP = 433

Suggested activities:

Use the exchange rates in the example or on page 112 to convert the following.

1. Change Uganda shillings below to Us dollar.

(a) UGX 367,500

(b) UGX 6,125,000

2. Okoti has UGX 784,550. Find out how much he has in pound sterling.

3. An air ticket to Nairobi costs UGX 735,000. How much is this money in Us dollars?

4. A tourist exchanged Uganda shillings 4508000 for Us dollars on her return journey. What amount in Us dollars did she receive?

LESSON : 72

TOPIC : MONEY

SUB-TOPIC : CONVERSION OF CURRENCY

READ AND WRITE: Pound sterling, dollars, shillings, exchange rate

CONTENT: Exchanging other currencies to Uganda currency.

Example :

CURRENCY	BUYING	SELLING
1us dollar (USD) $	3100	3200
1pound sterling (GBP) £	5000	5200
1Euro (EURO)	3600	3700
1kenya shillings (KSH)	32	35
1Tanzania shillings (TZSH)	1.4	1.5
1Rwanda shillings (RWF)	4.3	4.5

Use the exchange rates above and convert the following.

(a) £ 40 to Uganda shillings (use rates for buying because forex bureau buys foreign currency)

£= UGX = 5000

£ = 5000 x 40

£= UGX 200,000

(b) Moses arrived in Uganda with Ksh.93,300.

He converted it to Uganda shillings.

How much UGX did he get?

(Use buying rates because Moses has Kenya shs. So the bureau will buy from him.)

Ksh.1 = UGX 32

Ksh. = 32x 93200

Ksh.93200 = UGX 2,982,400

Suggested activity

1. Use the above exchange rates change the following to Uganda currency.

(a) USD 55

(b) USD 150

(c) USD 1460

(d) USD 13690

2. Owomugisha used £ 4200 to buy a car. How much in Uganda shillings did she pay?

(a) Ksh.23,500 (b) Euro.970

(c) RWF.75,000 (d) TZ sh.354,000

LESSON 73:

TOPIC: MONEY

SUB-TOPIC: END OF UNIT TEST

READ AND WRITE: Words in end of unit test or in the topic of money.

CONTENT: Attempt all the questions.

1. A television set costs £ 150. How much is this in Uganda shillings. If £ I is equivalent to UGX 5200?
2. Alfred paid UGX 60,000 to travel to Nairobi. How much is this in Kenya shillings?
   (Use KSH I = UGX 32).
3. LJC airways charges USD 650 to Dubai.
   How much is this in Uganda shillings if USD is equivalent to UGX 3200?
4. K.K printers Ltd ordered for a printing machine for £ 1.724. If £ is equivalent to UGX 5200.
   How much did they spend in Uganda shillings?
5. Jane bought a ticket to Kigali worth RWF 12,000. How much money is this in Uganda shillings?
   (Use IRWF = UGX 3.5).
6. Which is cheaper, a shirt at 25 Euros or a shirt at Ksh.250?

LESSON : 74

TOPIC : TIME

SUB-TOPIC : TIME ON THE 12-HOUR CLOCK

READ AND WRITE Clock face, Rising, Setting, Ante meridiem, Post meridiem

CONTENT: Telling time on the 12-hour clock face

Example:

Study the diagram below and answer the questions.

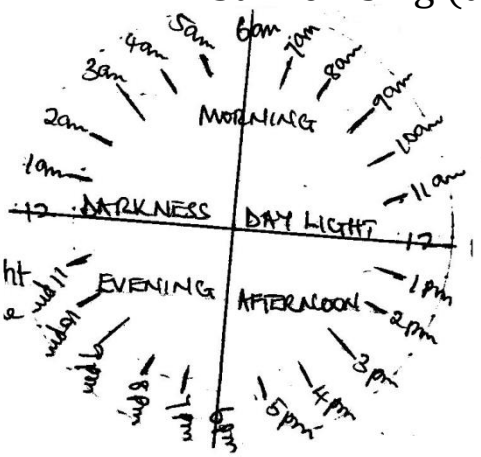
Sun ie rising (down)

New day starts

At mid day — mid day

End of the day — Noon

Half day



Sun is setting (dusk)

1. When does the day start?

   A day start at midnight

2. When do we use a.m. when telling time?

   We use a.m. for the period from mid night to midday.

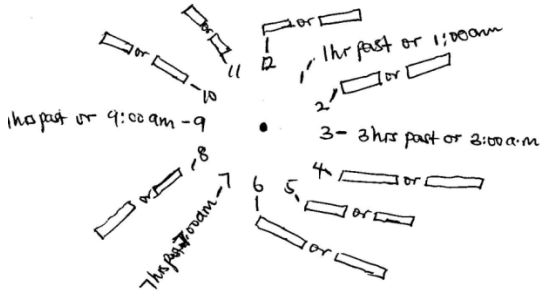
3. When do we use p.m. when telling time?

   We use p.m. for the period from noon to midnight.

Suggested activity

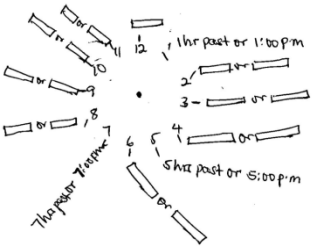
1. Copy and complete the clock face below.

   Time after midnight.



2. Copy and complete the clock face below.

   Time after midday.



LESSON : 75:

TOPIC : TIME

SUB-TOPIC : TIME ON THE 12 – HOUR CLOCK

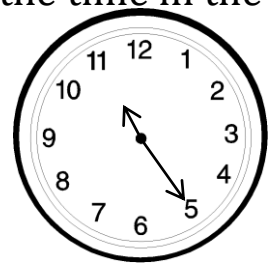
READ AND WRITE

Clock face, Ante meridiem, Post meridiem, Evening, After noon, Midnight.

CONTENT : Telling time on the clock face using a.m. or p.m.

Example 1:

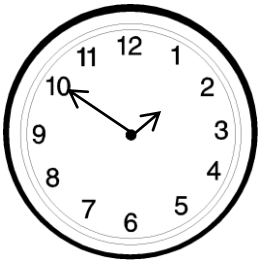
Write the time in the morning.



It is 25 minutes pass 11 am or 11:25 a.m.

Example 2:

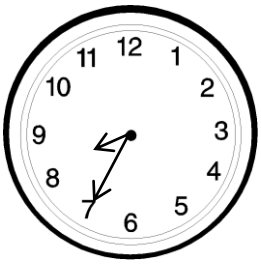
What time is it in the afternoon?



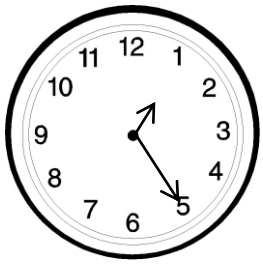
It is 10 minutes to 2pm or 1:50p.m.

Suggested activities

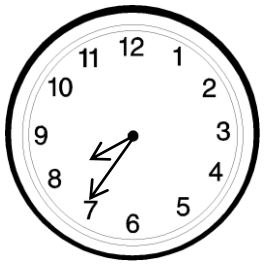
Write the time words and in figures.



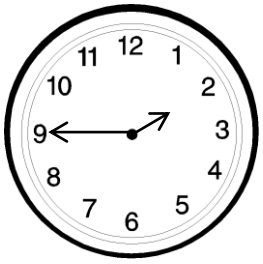
Morning



after mid-day



Evening



afternoon

LESSON : 76

TOPIC : TIME

SUB-TOPIC : EXCHANGE RATES

READ AND WRITE: Period, Midnight, Noon, Ante meridiem, Post meridiem.

CONTENT: Writing time using a.m. or p.m.

Example 1:

Atim went to bed at a half past 8 in the evening.

Write the time Atim went to bed using am or p.m.

Solution

A half past 8 in the evening is 8:30 p.m.

Example 2:

The time when the first lesson begins at 8 O'clock

Solution

The time is 8:00a.m.

Suggested activities

Write the time using a.m. or p.m.

1. The time when the last lesson ends at 4 O'clock.
2. The time when you have lunch at 1 O'clock
3. The time when your father came back home from work at a half past 6 O'clock.
4. Kato arrived on a trip at a quarter past 5 in the morning.

LESSON : 77

TOPIC : TIME

SUB-TOPIC : DURATION

READ AND WRITE:

Duration, subtract, started, ended, crosses add, remaining, time.

CONTENT: Finding duration

Examples:

A youth counseling session started at 09:15a.m. and ended at 11:45a.m.

For how long did it last?

The session ended at 11:45a.m.

It started at - 09:15 a.m.

It lasted 2 : 30 hours

It lasted for 2 hours and 30 minutes or 2 ½ hrs.

Mayo left Kampala for Busia at 3:10p.m.

If he arrived at Busia at 8:45 p.m. how long did the journey take?

He arrived at Busia at 8:45p.m.

He left Kampala at - 3:10p.m.

The journey took 5:35 hours

Therefore, the journey took 5hours and 35 minutes.

Suggested activities:

Attempt all questions.

1. A football match started at 5:00p.m. and ended at 6:50p.m.
   For how long did it last?
2. A party started at 2:30 a.m. and ended at 7:00p.m.
   For how long did the party take?
3. The HIV/AIDs conference started at 8:45a.m. and ended at 12:00 noon.
   Find the time the conference lasted.
4. Ankunda left Kampala for Mbarara at 5:40a.m. and arrived at 11:00p.m. how long did she take?

LESSON 78:

TOPIC: TIME

SUB-TOPIC: CONVERSION OF TIME

Read and write: Changing, Hours, Minutes

CONTENT: Changing hours to minutes

Example 1.

Change 4 hours to minutes

Since 1 hour = 60 minutes

4 hours = (4 x 60) minutes

4hours = 240 minutes.

Example 2

How many minutes are there in 8 ½ hours?

Since 1 hour = 60 minutes

$8\frac{1}{2}$ hours = $(8\frac{1}{2}$ x 60) minutes

$= \frac{17}{2}x60$

$= 17x30$

So $8\frac{1}{2}$ hours = 510 minutes

Suggested activities

Change the following hours to minutes

1. 2 hours
2. 3 hours
3. 11 hours
4. $6\frac{1}{3}$ hours
5. $10\frac{1}{2}$ hours
6. $9\frac{3}{4}$ hours

LESSON :79

TOPIC : TIME

SUB-TOPIC : CONVERSION OF TIME

READ AND WRITE: Minutes, Seconds, Changing, Converting

CONTENT: Changing minutes to seconds

Example 1:

Change 5 minutes to second

Since 1 minute = 60 seconds

5 minutes = 5 X 60 seconds

5 minutes = 300 seconds

Example 2:

How many seconds are there in 35 minutes?

Since 1 minute = 60 seconds

35 minutes = 35 x 60

35 minutes = 2100 seconds

Suggested activity.

Change the following minutes to seconds

1. 10 minutes 2. 15 minutes

3. 30 minutes 4. 42 minutes

5. 52 minutes 1 6. 60 minutes

7. 72 minutes

LESSON : 80

TOPIC : TIME

SUB-TOPIC : CONVERSION OF TIME

READ AND WRITE: Hours, seconds.

CONTENT: Changing hours to seconds

Examples:

How many seconds are there in 1 hour?

Since 1 hour = 60 minutes

1 minute = 60 seconds

Therefore 1 hour = 60 x 60

= 3600 seconds.

How many seconds are there in $2\frac{1}{2}$ hours?

Since 1 hour = 60 minutes

1 minute = 60 seconds

1 hour = (60 x 60)

= 3600 seconds

Suggested activities

1) $\frac{1}{2}$ hours 2) 4 hours

3) 5 hours 4) $6\frac{1}{2}$ hours

5) 7 hours 6) 9 hours

7) $6\frac{1}{4}$ hours 8) $8\frac{3}{4}$ hours

LESSON : 81

TOPIC : TIME

SUB-TOPIC : CONVERSION OF TIME

READ AND WRITE: Change, Minutes, Hours, Convert

CONTENT: Changing minutes to hours

Since 60 minutes = 1 hour

360 minutes = (360 ÷ 60) hrs.

= $\frac{360}{60} = 6$

= 6.

Therefore 360 minutes = 6 hours

Example 2:

Change 420 minutes to hours

Since 60 min = 1 hour

420min =420 ÷ 60

$= \frac{420}{60} = 7$

= 7 hours

Suggested activity

Change the following time to hours.

1. 180 minutes 2. 390 minutes

3. 540 minutes 4. 420 minutes

5. 390 minutes 6. 480 minutes

LESSON : 82

TOPIC : TIME

SUB-TOPIC : CONVERSION OF TIME

READ AND WRITE: Change, Second, Hours, Conversion

Example 1:

Change 18,000 seconds to hours

Since 3600 seconds = 1 hour

1800 seconds = 18000 ÷ 3600

$=\frac{18000}{3600}=5$

∴ 18000 seconds = 5 hours

Example 2:

Change 21600 seconds to hours

Since 3600 seconds = 1 hour

21600 seconds = 21600 ÷ 3600

$= \frac{21600}{3600} = 6$

∴ 216000 seconds = 6 hours

Suggested activity

Change the following time to hours.

1. 14400 seconds
2. 1800 seconds
3. 7200 seconds
4. 19800 seconds
5. 10800 seconds
6. 28800 seconds

LESSON : 83

TOPIC : TIME

SUB-TOPIC : DISTANCE

READ AND WRITE: Distance, Time, Speed, Hours, Kilometers.

CONTENT: Calculating distance when speed and time are given

Example 1

John took 4 hours to cover a distance at a speed of 30km/hr. what distance did he cover?

Time taken = 4 hours

Speed = 30km/hr.

Distance = speed X Time

= 30km X hr. X 4 hr.

= 120km.

Example II.

Halima travelled from town A to town B at a speed of 120 km/hr. and used 45 minutes. How far is tow B from A?

Distance = speed x time

1 hour = 60 minutes

Change 45 minutes to hours $=\frac{45}{60}\ hrs$

Distance = 120km/hr. x $\frac{3}{4} hours$

= 90km

Suggested activities

Calculate distance

1. A car travelling at 80km/hr. takes 3 hours to cover the journey. How long is the journey?
2. Musisi took 40 minutes to drive from home to school as a speed of 90km/hr. how far is his home from school?
3. Calculate the distance covered by Felicita at 30km/hr for 6 hours.
4. A rider took 15 minutes to cover a journey while moving at a speed of 24km/hr. how long was the journey?

LESSON : 84

TOPIC : TIME

SUB-TOPIC : TIME

READ AND WRITE: Time, distance, speed, hours

Examples 1:

How long will a car take to cover a distance of 120km at a speed of 40km/hr

Distance $= 120\text{km}$

Speed $= 40\ \text{km/hr}$

Time $= \dfrac{\text{distance}}{\text{Speed}}$

$= \frac{120km}{40km}\text{x}1\ \text{hr}$

$= 3\ \text{hours}$

Example II

If a bus moves at 30km/hr. and covers a distance of 240km, how long does it take to cover the journey?

Distance $= 120\text{km}$

Speed $= 30\ \text{km/h.}$

Time $= \dfrac{\text{distance}}{\text{Speed}}$

$= \frac{120km}{30km}\text{x}1\ \text{hr}$

$= 8\ \text{hours}$

Suggested activity

1. The speed of a cyclist is 70km/hr. how long will he take to cover a distance of 350km?
2. How long will a train take to cover a distance of 140km at a speed of 70km/hr.

3. How many hours will a cyclist take to cover 144km at a speed of 48km/hr.?
4. Akello covered a distance of 40km at a speed of 10km/hr. For how long did she travel?

LESSON : 85

TOPIC : TIME

SUB-TOPIC : SPEED

READ AND WRITE: Speed, kilometers per hour, time, distance.

CONTENT: Calculating speed when distance and time are given.

Example 1:

Nakato took 2 hours to cover a distance of 36 km on his bicycle. At what speed was she riding?

Time taken = 2 hours

Distance covered = 36km

$$\text{Speed} = \frac{\text{Distance}}{\text{Speed}}$$

$$= \frac{36\text{km}}{2\text{ hrs}}$$

$$= 18\text{km/hr}$$

Example II:

A car travelled a distance of 150km. it took the car 3 hours to complete the journey? At what speed was it travelling?

Time taken = 3hours

Distance covered = 150km

$$\text{Speed} = \frac{\text{Distance}}{\text{Speed}}$$

$$= \frac{150\text{km}}{3\text{ hrs}}$$

$$= 50\text{km/hr}$$

Suggested activity

1. Anita took 6 hours to cover a journey of 180km. calculate her average speed.
2. A car covered a distance of 210 km in 1 ½ hours.
   Calculate its speed in km / hr
3. Peter started a journey at 120km at 8:30am and ended it at 10:00am. Find his speed in km/hr

4. Calculate speed when distance is 420km and time is 8 hours.

LESSON : 86

TOPIC : TIME

SUB-TOPIC : SPEED

READ AND WRITE: Metres, per second, kilometer per hour

CONTENT: Converting speed from M/s to km/her

Example 1:

Change 5m/s to km/hr.

$100\text{m} = 1\text{km}$

$3600\text{s} = 1\text{hr}$

$5\text{m} = \frac{5}{100}\,km$

$1 \text{ second} = \frac{1hour}{3600}$

$\text{Speed} = \frac{5}{100} \div \frac{1}{3600}$

$= \frac{5}{100}\,x\,\frac{3600}{1}$

$= 18\text{km /hr.}$

Example 2

A cyclist covered a distance of 30m in 2 seconds.

Find his speed in km /hr.

$30\text{m} \ \frac{30}{1000}$

$2 \text{ second} = \frac{2}{3600}$

$\text{speed} = \frac{30}{1000} \div \frac{2}{3600}$

$= \frac{\cancel{30}}{\cancel{1000}}\,x\,\frac{\cancel{3600}}{21}$

$= 3\text{x}18\text{km} = 54\text{km/hr}$

Suggested activity

Express the speed below in km/hr.

1. 10m/s
2. 60m/s
3. In a rally, a car covered 200m in 4s. Calculate its speed in km/hr.
4. A man covered 180m in 3 seconds. Find his speed in km/hr.
5. The distance from town A to town B is 400m. a cyclist takes 8 seconds to cover the distance. Find his speed in km/hr.

LESSON : 87

TOPIC : TIME

SUB-TOPIC : SPEED

READ AND WRITE: Meters, Per second, Kilometers, Hours

CONTENT: Changing speed from km/hr. to m/s

Example 1:

Express 180km covered in 2 hours as metres per second.

$180\text{km} = (180\text{x } 1000)\text{m}$

2 hours = (2x3600) seconds

$$\text{Speed} = \frac{(180 \times 1000)\ \text{m}}{(2 \times 3600)\ \text{m}}$$

$$= \frac{30 \times 10}{12}$$

$$= \frac{5 \times 5}{1}$$

$$= 25\text{m/s}$$

Example II

Express 90km/hr. to m/s

1km = 1000m

90km $= (90 \times 1000)\ \text{m}$

$$1\text{ hour} = \frac{(90 \times 1000)\ \text{m}}{(3600)\ \text{s}}$$

$$= \frac{10 \times 10}{4}$$

$$= \frac{5 \times 5}{1}$$

$$= 25\text{m/s}$$

Suggested activity

Express the speed below in m/s

1. 36km/hr.
2. 54km/hr.
3. Kasadi covers a distance of 72 km in 2 hours. Calculate his speed in m/s
4. The distance from town A to town B is 540km. calculate its speed in m/s
5. An aeroplane covered 180km in 1 hour. Find the speed of the aeroplane in m/s.

LESSON : 88

TOPIC : TIME

SUB-TOPIC : SPEED

READ AND WRITE: Average, Speed, Hour, Kilometer

CONTENT: Calculating average speed

Example

A car takes 3 hours to cover a certain journey at 60km/hr. but it takes only 2 hours to returns through the same distance. Calculate the average speed for the whole journey.

1, Going	ii returning	iii average speed
Distance = S x T	(same route)	To and from
Speed = 60km/hr.	distance = 180km	A.S=$total\frac{distance}{total\ time}$
Time = 3hours	speed = D÷ T	$=\frac{(180+180)km}{3+2\ hours}$
Distance = 60kmx 3	Time = 2 hours	$=\frac{360km}{5hrs}$
= 180km	while returning	= 72km/hr.
	Speed = $\frac{180km}{2hr}$	
	= 90km/hr.	

Suggested activity.

1. A car takes 2 hours to cover a certain distance at 60km/hours but it returns in 3hours. Calculate the average speed of the car for the whole journey?
2. Kampala is 140km from Masaka. A car takes 3hrs from Kampala to Masaka and 2 hours coming back. Calculate the average speed for the whole journey?
3. Lira is 124km from Kitgum. A bus takes 1 ½ hours from Kitgum to Lira and 2 $\frac{1}{2}$ hrs going back. Find its average speed.

LESSON : 89

TOPIC : TIME

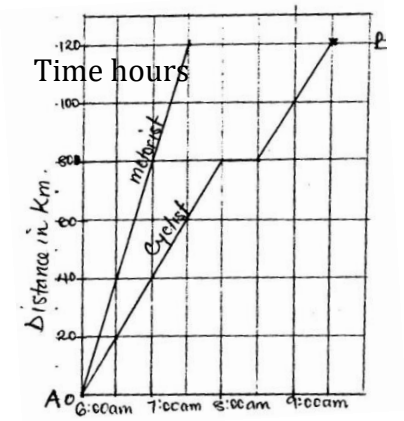
SUB-TOPIC : TIME GRAPH

READ AND WRITE: Travel graph, vertical axis, horizontal axis

CONTENT: Interpreting distance and time on a travel graph.

Example:

The graph below shows how two people travelled from town A to town B using different means. Study it and use it to answer the questions that follow.



1. At what time did the two people start their journey?

- They started their journey at 6:00a.m

2. At what speed was the cyclist moving?

- The cyclist was moving at a speed of 40km/hr

3. At what time did the motorist arrive at town B.

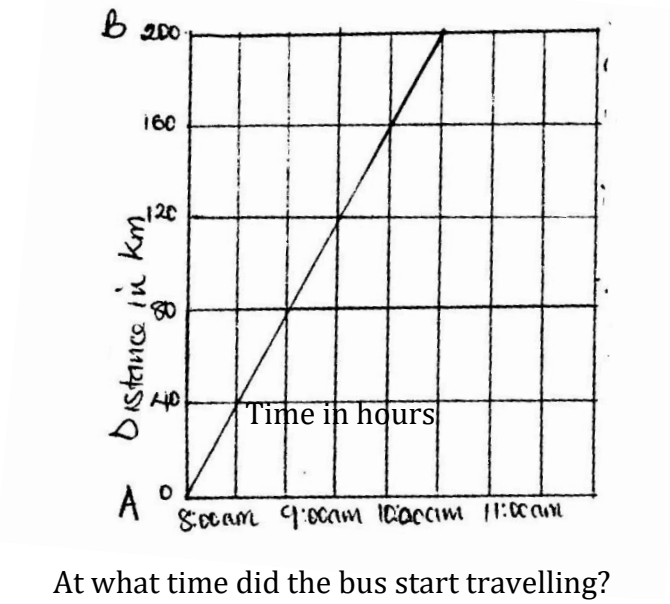
- The motorist arrived at town B at 7:30 a.m

4. How long did the cyclist rest?

- He rested for 30 minutes.

Suggested activities

1. A bus travelled from town A to town B a distance of 200km.
   Study it and answer the questions that follow.



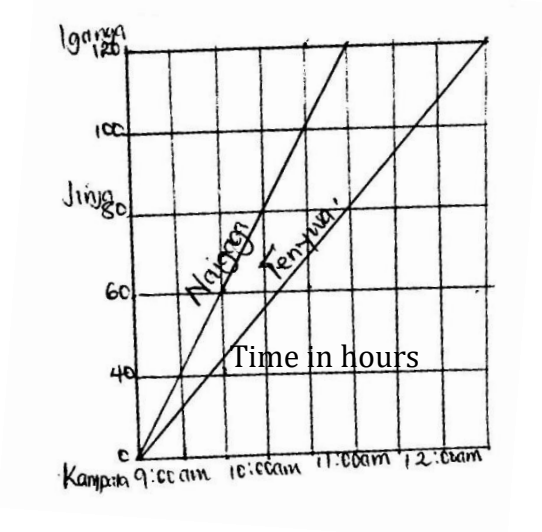
i. At what time did the bus start travelling?

ii. At what speed was the bus travelling?

iii. How long did the journey take?

iv. At what time did the bus arrive at town B.

A graph below shows the journey covered by two people using different means. Use to answer the questions that follow.



i. How far is Iganga from Kampala?

ii. At what speed was Naigaga moving?

iii. How long did Tenywa take to travel from Kampala to Iganga.

iv. At what time did Naigaga arrive at Iganga.

v. At what time did Tenywa arrive at Iganga

vi. How long did Naigaga take to travel from Kampala to Iganga.

LESSON : 90

TOPIC : TIME

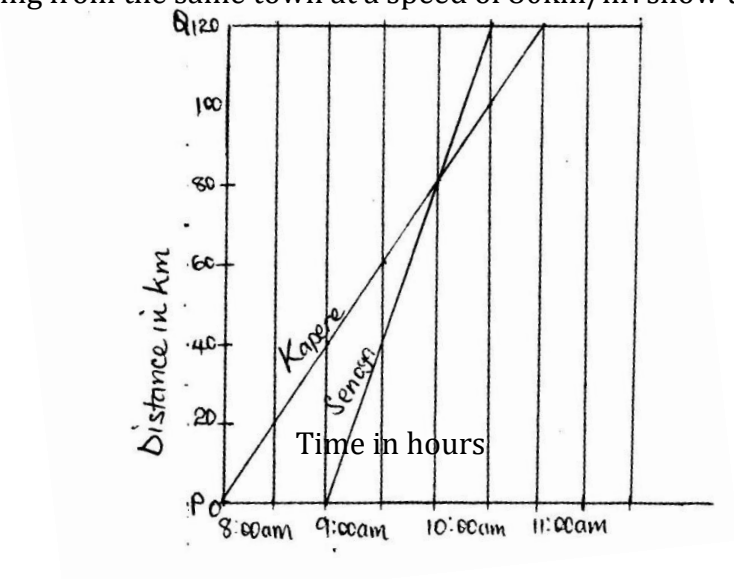
SUB-TOPIC : TIME GRAPH

READ AND WRITE : Plot, horizontal axis, vertical axis, scale.

CONTENT: Plotting distance covered and time taken on a graph.

Example

Kapere started travelling from P at 8:00a.m moving at a speed of 40 km/hr. after 1 hour, Senoga started travelling from the same town at a speed of 80km/hr. show their movement on a graph.



(a) At what time will they meet?

- They will meet at 10:00a.m

(b) When did Senoga start travelling?

- He started at 9:00am

(c) At what time did Kapere reach town Q

- He reached town Q at 10:30a.m

Suggested activity

Plot the following on graphs of a 10 by 10 square grid.

1. A cyclist set off at 7:00a.m travelling at 20km/hr. after 1 hour another cyclist followed at 30km/hr. when and where did they meet?

2. A bus moved at 40km/hr and a car followed an hour later moving at 80km/hr. if the bus set off at 2:00pm. When and where did they meet?
3. Nakintu started travelling at 3:00pm moving at a speed of 60km/hr. after 30 minutes her brother started travelling moving at 90km/hr. how long had each one of them travelled after 2 ½ hours?

LESSON : 91

TOPIC : TIME

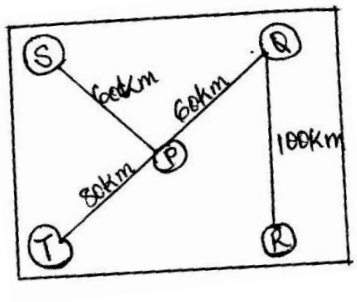
SUB-TOPIC : END OF UNIT TEST

READ AND WRITE: Words used in end of unit test related to the topic of TIME.

CONTENT

Attempt all the questions.

1. A man began walking at 8:30 a.m. and took 4 hours to reach his destination. When did he reach?
2. A car travelling at a speed of 60km/hr. takes 4 hours to complete a journey. How long was the journey?
3. Calculate the time a car takes travelling a distance of 120km at 40km/hr.
4. If a journey is 80km and the speed is 40km/hr. what time does it take to complete the journey?
5. Change 90km/hr. to m/s
6. Change 120m/s to km/hr.
7. A bus covered 180km in 8 minutes. Calculate its speed in km/hr.
8. Express 180km/hr. as m/s
9. Draw a graph to represent a car taking 3 hours to complete a distance of 120km at a uniform speed.
10. Study the map below and answer the questions that follow.



(a) Kasule left tow T going to town Q at a speed of 70km/hr. How long will he take?

(b) Waibi travelled from R to S via Q in 2 ¾ hours. At what speed was he moving.