DREAM AFRICA SCHOOL - SEETA

P.6 MATHEMATICS

LESSON NOTES

TERM II

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P.6 MATHEMATICS LESSON NOTES FOR TERM II 2020

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Multiplication of simple fractions by whole numbers.

COMPETENCES

- Tell the meaning of multiplication (product)
- Multiply numbers
- Reducing products to their Lowest terms

CONTENT

Simplify $\frac{1}{3}$ x 12

$\frac{1}{3}$ x 12

1 x 4

= 4

Multiply: $\frac{2}{3}$ x $\frac{1}{5}$

$\frac{2}{3}$ x $\frac{1}{5}$ = $\frac{2x1}{3x5}$

$\frac{2}{15}$

Activity

1. $\frac{1}{2}$ x12
2. $\frac{3}{6}$ x 48
3. $\frac{2}{3}$ of 12
4. $\frac{1}{2}$ x $\frac{1}{3}$
5. $\frac{2}{9}$ x $\frac{4}{10}$
6. $6\frac{2}{3}$ x $1\frac{1}{8}$
7. 12 x $\frac{2}{3}$
8. $2\frac{1}{2}$ x $\frac{1}{4}$

Application of fractions (Product of fractions)

1. Calculate the product of $2\frac{1}{2}$ and $\frac{1}{4}$.
2. What is the product of $\frac{3}{4}$ and $\frac{1}{3}$?
3. What is a quarter of 60kgs?
4. What is $\frac{3}{5}$ of 1200 birds
5. Calculate $\frac{1}{4}$ of $\frac{4}{7}$

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Reciprocals

COMPETENCES

- Tell the meaning of reciprocal
- Find reciprocals

CONTENT

What number do we multiply by **4** to give **1** as a product? Let the number be **m**.

4 x m = 1

4m = 1

$\frac{4m}{4} = \frac{1}{4}$

M = $\frac{1}{4}$

The number is $\frac{1}{4}$

What number must be multiplied by 0.7 to give 1?

0.7 x d = 1

$\frac{7d}{10} = 1$

10 x $\frac{7d}{10}$ = 1 x 10

$\frac{7d}{7} = \frac{10}{7}$

d = $\frac{10}{7}$

d = $1\frac{3}{7}$

Application

1. What number do we multiply by 6 to give 1 as a product?
2. What number must be multiplied by 0.2 to give 1?
3. What is the reciprocal of $2\frac{1}{4}$?

4. What is the reciprocal of $\frac{3}{4}$?
5. Calculate the reciprocal of 8.

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Division of fractions

COMPETENCES

- Identify fractions of whole numbers
- Divide fractions by whole numbers
- Divide fractions by fractions

CONTENT

Divide $\frac{2}{3} \div 2$

$\frac{2}{3} \div \frac{2}{1}$

$\frac{2}{3} \times \frac{1}{2}$

$\frac{1x1}{3x1}$

$\frac{1}{3}$

Work out: $\frac{3}{4} \div \frac{1}{2}$

$\frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times \frac{2}{1}$

$\frac{3x2}{4x1}$

$\frac{3}{2}$

$1\frac{1}{2}$

Divide $5 \div \frac{2}{3}$

$\frac{5}{1} \div \frac{2}{3}$

$\frac{5}{1} \times \frac{2}{3}$

$\frac{15}{2}$

$7\frac{1}{2}$

Activity

Divide the following fraction s

1. $\frac{3}{4} \div \frac{1}{2}$
2. $2\frac{1}{2} \div 1\frac{1}{4}$
3. $\frac{7}{12} \div \frac{3}{4}$
4. $\frac{1}{2} \div \frac{3}{4}$

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

6. $12 \div \frac{3}{4}$

7. $18 \div \frac{1}{6}$

Application

8. A boy contains $5\frac{1}{2}$ kg of maize four. Find the number of $\frac{1}{2}$ kg packets that will be obtained from the bag?
9. 12 litres of milk were given to children. If each child got $\frac{3}{4}$ of a litre, how many children got milk?
10. By what fraction must $6\frac{1}{2}$ be divided to get $2\frac{1}{2}$?
11. How many half litre bottles can be got from a 10 litre jerrycan?

Date	**Time**	**No. of pupils**

TOPIC : Fractions

SUB TOPIC : Mixed operations on fractions

COMPETENCES

1. **Identify fractions**
2. **Simplifying fractions**
3. **Working out fractions following BODMAS**

Content

Simplify: $\frac{2}{3}$ of $(\frac{3}{4} - \frac{1}{3})$ The order is BODMAS

$\frac{2}{3}$ of $\frac{9-4}{12}$ B = Brackets

$\frac{2}{3} \times \frac{5}{12}$ O = Of

$\frac{2x5}{3x6}$ D = Division

$\frac{10}{18} = \frac{5}{9}$

M = Multiplication

A = Addition

S = Subtraction

Activity

Simplify

1. $\frac{1}{3} \times \frac{1}{4} + \frac{1}{2}$
2. $\frac{5}{6} \div (\frac{3}{4} \text{ of } 3)$
3. $\frac{2}{3} \times (\frac{1}{4} - \frac{1}{12}) \div \frac{1}{5}$
4. $\frac{1}{2} + \frac{1}{2} \text{ of } \frac{1}{7} \times \frac{1}{5}$
5. $\frac{1}{2} \text{ of } \frac{2}{4} - \frac{1}{3}$
6. $\frac{1}{2} - \frac{1}{4} + \frac{1}{3}$
7. $\frac{4}{5} \times (\frac{1}{2} \text{ of } \frac{5}{6}) - \frac{1}{2}$

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Application of fractions

COMPETENCES

1. **Interprets the statements correctly**
2. **Reads, spells and pronounces the key words**
3. **Solves the given problem correctly**

Content

Loy spent $\frac{2}{3}$ of her pocket money on books $\frac{1}{4}$ of what remained on buying clothes. She was left with sh. 600. How much pocket money did she have at first?

Books = $\frac{2}{3}$

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

Clothes = $\frac{1}{4}$ of $\frac{1}{3} = \frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$

Books and Clothes $\frac{2}{3} + \frac{1}{12} = \frac{8+1}{12} = \frac{\cancel{9}^{3}}{\cancel{12}_{4}}$

Fraction left = $\frac{4}{4} - \frac{3}{4} = \frac{1}{4}$

$\frac{1}{3} - \frac{1}{12}$

$\frac{4-1}{12}$

$\frac{3}{12} = \frac{1}{4}$

Let the amount be y

$\frac{1}{4}$ of y = 600

$\frac{1}{4}$ x y = 600

$\frac{y}{4} = 600$

$\cancel{4} \times \frac{y}{\cancel{4}} = 600 \times 4$

<u>y = 2400/=</u>

Or**Fraction used**

$\frac{2}{3} + \frac{1}{12} = \frac{8+1}{12} = \frac{9}{12}$

Left

$\frac{12}{12} - \frac{9}{12} = \frac{12-9}{12} = \frac{3}{12}$

$\frac{3}{12}$ of n = sh. 600.

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

$\frac{3n}{3}$ = sh. $\frac{7200}{3}$

n= sh. 2400

Activity

1. If $\frac{3}{10}$ of a number is 21. What is $\frac{1}{10}$ of the number?
2. If $\frac{1}{3}$ of Nattu's age is 4 years, how old is Nattu?
3. If $\frac{1}{4}$ of the teachers' salary is shs. 180,000. What is $\frac{1}{3}$ of his salary.
4. At school concert $\frac{1}{3}$ of the audience were parents, $\frac{2}{5}$ were guest and the remaining and the remaining 40 were teachers and pupils. How many people were there in hall?
5. The difference of $\frac{1}{6}$ and $\frac{1}{8}$ of a number is 10. What is the number?
6. John spent $\frac{1}{3}$ of his money on books and $\frac{1}{6}$ of the remainder on transport. If he was left with shs. 15000, how much did he have at first?

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Addition and subtraction of decimals to 3d.p.

COMPETENCES

1. Identify decimal fractions
2. Arrange decimal numbers (digits) following their p.ys.
3. Add and subtract decimals.

Content

Addition of decimals to three places

1. Add: 3.4 + 9.7

$$\begin{array}{r} 3\ .\ 4 \\ +\ 9\ .\ 7 \\ \hline 13\ .\ 1 \end{array}$$

2. Add: 6. 54 + 12.893

$$\begin{array}{r} 0\,6\ .\ 5\,4\ 0 \\ +\,1\,2\ .\ 8\,9\ 3 \\ \hline 1\,9\ .\ 4\ 3\,3 \end{array}$$

3. Simplify 5.4 – 2.8

$$\begin{array}{r} 5\ .\ 4 \\ -\ 2\ .\ 8 \\ \hline 2\ .\ 6 \end{array}$$

Activity

Simplify the following

1. 0. 8 + 0.04
2. 56 + 5. 94
3. 7 . 1 – 0 .8
4. 6. 91 + 0.8 + 15 . 846
5. 34. 4 – 17 . 09

6. 10. 63 – 6. 908
7. 3.5 -2
8. 9.5 + 3.5

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Addition and subtraction of decimals to 3 Dps

COMPETENCES

1. **Identify decimal fractions**
2. **Arrange decimal fractions**
3. **Applying BODMAS**

CONTENT

Work out 5.8 – 2 . 44 + 1 .6

$$\begin{array}{rrr} & {\scriptstyle 6\ 13\ 10} & \\ 5.\ 8 & \cancel{7}.\ \cancel{4}\cancel{0} & \\ +1\ .\ 6 & -\ 2\ .\ 4\ 4 & \\ \hline 7\ .\ 4 & 4\ .\ 9\ 6 & \end{array}$$

$\therefore 5.8 - 2.44 + 1.6 = 4.96$

Work out 4 – 5. 17 + 3. 07

$$\begin{array}{rr} 4.\ 0\ 0 & 7\ .\ 0\ 7 \\ +3\ .\ 0\ 7 & 5\ .\ 1\ 7 \\ \hline 7\ .\ 0\ 7 & 1\ .\ 9\ 0 \end{array}$$

$\therefore 4 - 5\ .\ 17 + 3.07 = 1.9$

Alex lost 1.8 points out of 9.6. How many points did he remain with?

$$\begin{array}{rr} & 9\ .\ 1\ 6 \\ - & 1\ .\ 8\ 0 \\ \hline & 7\ .3\ 6 \text{ points} \end{array}$$

Activity

Simplify the following

1. 1. 64 – 5
2. 48 . 6 – 52 . 5 + 6. 06
3. 10. 63 – 6. 908 + 3. 45
4. 7 . 35 – 4. 636 + 2 . 345
5. Madinals weight was 60.5kg in January, 59kg in May and 68.2kg in December. What was her total weight for the three months?
6. Jane ate $\frac{2}{5}$ of a pancake and Joan ate $\frac{1}{3}$ of the pancake. The rest was eaten by Peter. What fraction did Peter eat?
   If he ate 20 gms, what was the total weight of the pancake?

A and C contributed to start a business A paid $\frac{3}{10}$ of the cost and B contributed $\frac{5}{10}$ of the cost.

a) What fraction did C contribute?
b) If C contributed shs. 30,000, what was their total contribution?

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Multiplication of decimal by 10, 100 and 1,000

COMPETENCES

1. **Identify the number of decimal places**
2. **Change decimal fractions into Common fractions**
3. **Multiply decimal fractions.**

Content

0.23 x 10	0.761 x 100	3.75 x 18
$\frac{23}{100}$ x 10	$\frac{761}{1000}$ x 100	$\frac{375}{100}$ x 18
$\frac{23}{10}$	$\frac{76}{10}$	$\frac{6750}{100}$
=2.3	**=76.1**	**= 67.5**

Simplify 0.7 x 0.5

$\frac{7}{10} \times \frac{5}{10} = \frac{35}{100}$

= 0.35

Activity

Work out the following

1. 0.16 x 10
2. 2.004 x 1000
3. 0.39 x 72
4. 5.45 x 21
5. 0.17 x 0.8
6. 9.6 x 7.42
7. 63.9 x 0.32
8. 7.5 x 0.16

9. A piece of cloth 16m long is cut into small pieces of 0.4m. How many pieces will a tailor make?

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Division of whole numbers by decimals

COMPETENCES

1. **Identify the number of decimal places**
2. **Change decimal fractions into common fractions**
3. **Divide decimals by whole numbers and vice versa**

Content

Divide : $8 \div 0.2$

$\frac{8}{1} \div \frac{2}{10} = \frac{8}{1} \times \frac{10}{2}$

= 40

Divide : $0.08 \div 4$

$\frac{8}{100} \div \frac{4}{1} = \frac{8}{100} \times \frac{1}{4} = \frac{1}{50}$

$= \frac{2x1}{100x1}$

$= \frac{\overset{1}{\cancel{2}}}{\cancel{100}_{50}}$

= 50

Division by decimals by whole numbers.

Divide $0.4 \div 2$

$\frac{4}{10} \div \frac{2}{1}$

$\frac{4}{10} \times \frac{1}{2}$

$\frac{2x1}{10x1}$

$\frac{2}{10}$

0.2

Divide $0.08 \div 0.4$

$\frac{8}{100} \div \frac{4}{10} = \frac{2}{10}$

$\frac{8}{100} \times \frac{10}{4} = 0.2$

$\frac{2x1}{10x1}$

Activity

Workout the following

1. $10 \div 0.2$
2. $144 \div 1.2$
3. $3 \div 0.015$
4. $0.3 \div 12$
5. $0.32 \div 8$
6. $0.002 \div 5$

Application

1. Milk in a Jerrycan of 20 litres is poured into bottles of 0.5litres. How many bottles will be needed?
2. A car uses 18 litres of petrol. If it uses 0.9 litres each kilometer, how many kilometers will it cover with 18 litres?

Date	**Time**	**No. of pupils**

TOPIC : Fractions

SUB TOPIC : Multiplication and division of decimals by decimals

COMPETENCES

1. **Identify the number of decimal places**
2. **Change decimal fractions to common fractions**

3. **Work out (simplify) the given fractions**

Content

Divide 20.4 ÷ 0. 2

$\frac{204}{10} \div \frac{2}{10}$

$\frac{204}{10} \times \frac{10}{2}$

= 102 x 1

= 102

0.2

Divide $\frac{0.24x0.3}{0.8}$

$(\frac{24}{100} \times \frac{3}{10}) \div \frac{8}{10}$

$\frac{24}{100} \times \frac{3}{\cancel{10}} \times \frac{10}{8}$

$\frac{3x3x1}{100x1}$

$\frac{9}{100}$

0.09

$\frac{0.9}{\cancel{100}}$

~~=0.09~~

Activity

Workout the following

1. 1.2 ÷ 0.6
2. 3.9 ÷ 0.03
3. 9.6 ÷ 0.08
4. $\frac{0.7x0.6}{0.3}$
5. $\frac{0.30x0.4}{0.9}$
6. $\frac{2.4x0.54}{0.36}$
7. $\frac{0.2+0.4}{0.6}$
8. $\frac{0.8+0.6}{0.14-0.7}$

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Recurring decimals

COMPETENCES

1. **Define circulating decimals**
2. **Identify fractions**
3. **Change simple fractions into recurring decimals.**

CONTENT

Change $\frac{5}{9}$ to a decimal fraction

$$9\overline{)\,5\,0\,0}\quad 0.55\ldots$$

$0\text{x } 5 = \frac{0}{50}$

$5 \text{ x } 9 = \frac{45}{50}$

$5 \text{ x } 9 = \frac{45}{5}$

$\therefore \frac{5}{9} = 0.55\ldots$

Change $\frac{3}{11}$ to a decimal fraction

$$11\overline{)30}\quad 0.27$$

$11\text{x}10 = \frac{0}{30}$

$11 \text{ x } 2 = \frac{22}{80}$

$11\text{x}7 = \frac{77}{3}$

$\frac{3}{11} = 0.27.$

0.2727…

0x11= 11 3.0 0 0 0 0

0

3 0

2x11= -2 2

80

77

7x11= 30

22

2x11= 80

77

7x11= 3

Activity

Express each of the following fractions as a decimal

1. $\frac{1}{2}$
2. $\frac{5}{7}$
3. $\frac{3}{11}$
4. $\frac{2}{9}$
5. $\frac{1}{7}$
6. $\frac{4}{7}$
7. $\frac{3}{8}$
9. $2\frac{2}{3}$

Date	Time	No. of pupils

TOPIC : Fractions

SUB TOPIC : Changing recurring decimals to simple fractions.

COMPETENCES

0. **Identify the digits being repeated**
1. **Form equations**
2. **Solve the equations formed correctly.**

CONTENT

Change 0.44 … to a common fraction

Let the fraction be x.

x = 0.44 …

10xx = 0.44 … x 10

Change 0.3636… as a common fraction .

Let the fraction be y.

y = 0.3636…

100xy = 0.3636… x 100

$10x = 4.4\ldots$ $100y = 36.36$

$-x = -0.4\ldots$ $y = 0.36$

$9x = 4$ $99y = 36$

$\frac{\cancel{9}^{1}x}{\cancel{9}^{1}} = \frac{4}{9}$ $\frac{\cancel{99}^{1}y}{\cancel{99}^{11}} = \frac{\cancel{36}^{4}}{\cancel{99}^{11}}$

$x = \frac{4}{9}$ $y = \frac{4}{11}$

Activity

Change the following to common fractions.

1. 0.888… 2. 0.333… 3. 0.2121 4. 0.2727

5. 0.273 6. $0.\overline{261}$ 7.0.1212... 8. 0.242424...

Date	Time	No. of pupils

TOPIC : Ratios and proportions

SUB TOPIC : Expressing ratios as fractions

COMPETENCES

1. **Identify ratios and fractions**
2. **Change ratios as fractions**
3. **Express fractions as ratios**

CONTENT

1. Express the ratio 2:3 as a fraction

   $2:3 = \frac{2}{3}$

2. The ratio of boys to girls in a class is 3:4. Express this as a fraction.

   $3:4 = \frac{3}{4}$

Activity

1. Express the following ratios as fractions
   a) 1:2 b) 3:11 c) 4:5

   d) 7:9 e) 8:13 f) 13: 17

Expressing fractions as Ratios

Express $\frac{1}{3}$ as a ratio

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

Nankinga served $\frac{3}{4}$ of her birthday cake. Express the part served as a ration $\frac{3}{4}$ = 3:4.

Activity

a) $\frac{1}{2}$ b) $\frac{2}{3}$ c) $\frac{1}{4}$ d) $\frac{9}{5}$ e) $\frac{4}{13}$ f) $\frac{17}{23}$

Date	Time	No. of pupils

TOPIC : Ratios and proportions

SUB TOPIC : Expressing quantities as ratios

COMPETENCES

1. **Identify the quantities**
2. **Reduce the quantities to their lowest terms**
3. **Change quantities as ratios**

CONTENT

1. Henry has 12 books and John has 20 books. What is the ratio of Henry's books to John's?

   12:20

   $\frac{12}{20} = \frac{3}{5}$

   = 3:5

2. Express 20 minutes as a ratio of 1 hour

   1 hour = 6o minutes

   20 : 60

   $\frac{20}{60} = \frac{2}{6\emptyset}$

   $= \frac{1}{3}$

   = 1:3

Activity

1. There are 18 boys and 24 girls in a class.
   a) What is the ratio of girls to boys?
   b) What is the ratio of boys to girls in the class?

2. There are 20 women and 30 men.
   a) What is the ratio of women to men?
   b) What is the ratio of men to women?
3. In a class of 50 pupils 26 are boys and the rest are girls.
   a) What is the ratio of girls to boys?

4. In a school of 600 students, 150 are boys. What is the ratio of boys to girls?

5. A car travels at 100km/hr on a tarmac road and at 50km/hr on a murram road find the ratio of the car's speed on a murram road to the speed on a tarmac road.

Date	Time	No. of pupils

TOPIC : Ratios and proportions

SUB TOPIC : Solving problems involving ratios

COMPETENCES

1. **Identify the quantities given**
2. **Divide the quantities with ratios**

CONTENT

Mary and John have oranges in the ratio of 2:3 respectively. If Mary has 10 oranges. How many oranges does John have?

2 parts = 10 oranges

1 part = ($\frac{10}{2}$) oranges

3 parts = (3 x 5) oranges

= 15 oranges

Months of 2.

Let one part be y

Mary	John
2y	3y
10	_

2y = 10

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

Y = 5

John

= 3x5

= 15 oranges

Activity

1. The cost of a book and a rubber is in the ratio of 3:1. What is the cost of the book if the rubber costs shs. 200/=?

2. The ratio of text books to pupils in a class is 2:3. If there are 39 pupils. How many text books are there?

3. The ratio of adults to children in congregation is 3:5. If there are 60 children. How many adults are there?

4. The ratio of boys mass to girls mass is 1:3. If the boys weight is 60kg. find the mass of the girls.

5. A certain money was shared among Mary, Juma and Joanita in the ratio of 2:3:5 respectively. If Mary got sh. 96,000. How much money was shared altogether?

Date	Time	No. of pupils

TOPIC : Ratios and proportions

SUB TOPIC : Increasing quantities and finding the ratio of increase

COMPETENCES

Increase sh. 200 in the ratio of 5:4.

Fraction of increase increase

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

= 5 x 50 = 250/=

A man's salary was sh. 10,000. It has been increased to sh. 12,000 . In what ratio has it increased

Ratio of decrease $= \frac{New}{Old}$

$= \frac{12000}{10000}$

$= \frac{\cancel{12}\ 6}{\cancel{10}\ 5}$

=6:5

ACTIVITY

1. Decrease 200 mangoes in the ratio of 3:5.
2. Reduce 180 oranges in the ratio of 1:2
3. Decrease 450kg in the ratio of 2:3
4. Reduce 900 cows in the ratio of 5:9
5. Reduce 20kg in the ratio of 3:4

Remarks

Date	Time	No. of pupils

TOPIC : Ratios and Proportions

SUB TOPIC : Sharing in ratios

COMPETENCES

1. **Identify quantities and ratios**
2. **Share quantities in ratios**

Ref: MK. Book 6 page 133 – 134

1. Divide sh. 120 in a ratio of 1:4

Total ratio	2nd share
1+4 = 5	$(\frac{4}{5}$ x 120)/=
1st share	$\frac{4}{1}$ x 24/=
$(\frac{1}{5}$ x 120/=)	**96/=**
=1 x 24	
= 24/=	

2. Share sh. 200 in a ratio of 2:3

Total number of parts	2nd parts	3 parts
2+3 = 5	2 x 40/=	3 x 40/=
1 part = $\frac{200}{5}$	**80/=**	**=120/=**
= 40/=		

ACTIVITY

1. Divide 72 in a ratio of 5:3
2. Mary had 60 sheets and shared them with a friend in the ratio of 7:5. How many sweets did each get?
3. Share 108, 000/= in the ratio of 2:3.
4. Divide 4,200kg of sugar in the ratio of 2:5.
5. Share 200/- in the ratio of 2:3.
6. In a village the ratio of farmer who grow cabbage, soya beans and millet are in the ratio 2:5:3 respectively. If there are 150 farmers. Find the number of farmers who grow

a) cabbage
b) millet

Date	Time	No. of pupils

TOPIC : Ratios and proportions

SUB TOPIC : Find the number shared in a given ratio

COMPETENCES

1. **Find total ratio**
2. **Form equations**

3. **Find the number shared**

Ref: Understanding book 6 page 111 – 112

MK book 6 page 135

CONTENT

1. The ratio of males to females in a club is 2;3. If there are 20 males, how many people are in the club?

M	F	**Total**
2x	3x	5x

$2x = 20$

$\frac{2x}{2} = \frac{20}{2}$

$x = 10$

Total

5x (but x = 10)

5x10

=50 people

The ratio of green to yellow fruit in basket is 3:4. If 8 are yellow, how many fruits are in the basket?

Total ratio

3+4 = 7

2 + 4 = 7

$\frac{4y}{4} = \frac{8x7}{4}$

Let total number of fruits be y

$\frac{4}{7}$ of y = 8

$\frac{4}{7}$ x y = 8

7 x $\frac{4y}{7}$ = 8 x 7

y = 2 x 7

y = 14

∴ **There are 14 fruits in the basket.**

Activity

1. The ratio of cows to goats in a farm is 4:5. If there are 20 cows, how many animals are in the farm?
2. The ratio of boys to girls in a class is 2:3. If there are 15 boys, how many pupils are in the class?
3. The ratio of men to women in a village is 5:7. If there are 120 men. How many people are in the village?
4. The ratio of girls to boys is 3:4. If there are 90 girls in a school, find the total number of pupils in the school.

Date	Time	No. of pupils

TOPIC : Ratios and proportions

SUB TOPIC : Direct proportion (Ratios)

COMPETENCES

1. **Form ratios from given data**
2. **Compare ratios to quantities**
3. **Apply ratios in proportions**
4. **Form equations**
5. **Find the number shared**

Ref: MK book 6 page 136

CONTENT

One book costs sh. 600. What is the cost of 5 similar books?

New Old

5 : 1

? = 600/=

1 book - sh. 600

5 books - sh. 600 x 5

- Sh. 3,000

∴ **5 similar books cost sh. 3,000/=**

The cost of 3kg of sugar is sh. 3600 . What is the cost of 5kg of sugar?

New Old

5 : 3

? = 600/=

3kgs cost sh. 3,600

1kg costs sh. $\frac{3600}{3}$

= sh. 1200

= 5kg cost sh. 1200 x 5

= Sh. 6,000

∴ **5kg of sugar cost sh. 6,000/=**

Activity

1. The cost of 5 metres of cloth is sh. 4,000. How much will you pay for 2 metres?

2. Two kilograms of maize flour costs sh. 1600. What will be the cost of 10kg of flour?
3. The cost of 10 books is sh. 550. Find the cost of 7 books
4. The cost of a pencil is sh. 250. Find the cost of 7 similar pencils.

Date	Time	No. of pupils

TOPIC : Ratios and proportions

SUB TOPIC : Direct proportion (Rates)

COMPETENCES

1. **Compare quantities and amount**
2. **Find required amount**

Ref: MK book 6 page 137

CONTENT

The cost of a pen is sh. 1500

Find the cost of 5 similar pens?

1 pen – sh. 1500

5 pens – sh. 1500 x 5

= 7,500

4 pens cost sh. 2,000

What is the cost of 7 pens

4 pens – sh. 2,000

1 pen – sh. $\frac{2000}{4}$

7 pens – sh. 500 x 7

= sh. 3500

Note:

We should always start by finding the equivalence of one item.

Activity

1. One book costs sh. 800. What is the cost of 5 similar books?
2. 2 bags weigh 70kg. What is the weight of 5 bags?
3. 6 pens costs sh. 5,400. What is the cost of 9 pens?
4. 5 jerrycans of paraffin costs one boy with sh. 105,000?

Date	Time	No. of pupils

TOPIC : Ratios and proportions

SUB TOPIC : Inverse proportions

COMPETENCES

1. **Find the cost for one item (unit cost)**
2. **Put what is needed on the right hand side**
3. **Calculate numbers about inverse proportions**

Ref: MK book 6 page 138 – 139

CONTENT

1. 3 men can do a piece of work in 6 days. How long will 9 men take to do the same piece of work?

Men		**Days**
3men	take	6
1 man	takes	(6 x 3) Days
9 men	take	$(\frac{\cancel{6}^{2}\times\cancel{3}^{1}}{\cancel{9}_{1}})$ days

= 2 days

2. 2 children can dig the school garden in 8 days. How many children can dig the same garden in 4 days?

Days		**Children**
8	-	2
1	-	(2x8)
4	-	$(\frac{2x8}{4})$ children

= 2 x 2

<u>4 children</u>

Activity

1. 4 men can do a piece of work in 5 days. How many days will 10 men take to do the same piece of work?
2. 12 men can paint a school building in 10 days. How long will 15 men take?
3. 5 children take 4 days to slash the compound. How many days will 10 children take?
4. 8 girls can paint 24 square metres. How many square metres can 6 girls paint in the same time?

Date	**Time**	**No. of pupils**

TOPIC : Percentages

SUB TOPIC : Expressing percentages as fractions

COMPETENCES

1. **Identify the symbol for percentages**
2. **Define percentages**
3. **Express percentages to fractions**

Ref: MK book 6 page 142

CONTENT

Write 25% as a fraction in its lowest form / Write $33\frac{1}{3}$ % as a fraction in its lowest term

$25\% = \frac{25}{100}$

$= \frac{1}{4}$

$33\frac{1}{3}\% = \frac{100}{3}\%$ = $\frac{1x1}{3x1}$

$(\frac{100}{3} \div \frac{100}{1})$ = $\frac{1}{3}$

$(\frac{100}{3} \text{ x } \frac{1}{100})$

Give the meaning of each of the follow

$6\% = \frac{6}{100}$ $100\% = \frac{100}{100}$ $72\% = \frac{72}{100}$

Activity

Give the meaning of the following

1. 20% 2. 8% 3. 35% 4. 30%
5. 0.45 6. 3.0 7. 0.003 8. 2.5

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Changing percentage to decimals

COMPETENCES

4. **Identify percentages**
5. **Express percentages as decimals**

Ref: MK book 6 page 144

CONTENT

Express 20% as a decimal

$20\% = \frac{20}{100}$

$= \frac{2}{10}$

$= \frac{1}{5}$ $= 0.2$

Express 1.5% as a decimal

$15\% = \frac{15}{10}\%$ =

$= \frac{15}{10} \div \frac{100}{1})$

$\frac{15}{10} \text{ x } \frac{1}{100})$

$\frac{15}{1000}$

$= 0.015$

Activity

Change these percentages to decimals

1. 20% 2. 75% 3. $12 = \frac{1}{4}\%$ 4. 2.5% 5. 3.9%

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Expressing ratios as percentages

COMPETENCES

1. **Identify ratios**
2. **Change ratios as percentages**
3. **Changes percentages to ratios**

Ref: MK book 6 page 145

CONTENT

Express 2.5 as a percentage

2:5 $= (\frac{2}{5} \text{ x } 100)\%$

$= 2 \text{ x } 20\ \%$

$= 40\%$

Express 7.8 as a percentage

7.8 $= (\frac{7}{8} \text{ x } 100)\%$

$= \frac{7x25}{2}$

$= \frac{175}{2}$

$= 87\ \frac{1}{2}\ \%$

Express the following ratios as percentages

1. 1:4 2. 3:4 3. 3:8 4. 3:10 5. 2:3

Express 60% as a ratio

$60\% = \frac{60}{100}$

$= \frac{6}{10} \quad \frac{3}{5}$

$= \frac{3}{5}$

= 3:5

Express $37\frac{1}{2}\%$ as a ratio

$37\frac{1}{2}\% = \frac{75}{2}\%$

$= \frac{75}{2} \div \frac{100}{1}$

$= \frac{\overset{3}{\cancel{75}}}{2} \text{ x } \frac{1}{\cancel{100}\ 4}$

$\frac{3x1}{2x4}$

$= \frac{3}{8}$

= 3:8

Activity

Express the following percentages as ratios

a) 50% b) 75% c) $12\frac{1}{2}\%$ d) $62\frac{1}{2}\%$

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Finding parts of percentages

COMPETENCES

1. **Identify percentages**
2. **Find parts of percentages**

METHODS : Problem solving, Guided discussion/ Explanation

Ref: MK book 6 page 146

CONTENT

If 80% of a class are boys. What percentage are girls?

% of boys = 80%

Whole % = 100%

% of girls = (100% - 80%)

= 20%

Musisi covered 30% of his journey by car and 50% by bus . What percentage of the journey was left?

Covered journey

50% + 30% = 80%

Left journey

100% - 80% = 20%

Activity

1. A child ate 45% of the cake. What percentage of the cake remained?
2. On a Shamba 20% of the crops are coffee trees 25% are banana trees and 35% are cotton trees. What percentage is left for other crops?
3. In a class 40% are boys. What fraction is for girls?
4. The percentage of children is 20%, men 40%. Find the percentage of women.

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Comparing quantities using percentages

COMPETENCES

1. **Form equations**
2. **Compare quantities using percentages**

METHODS : Guided discussion , Explanation

Ref: MK book 6 page 147

CONTENT

There are 20% more boys than girls in the class. Find the percentage of girls.

a) Boys b) girls

Total percentage = 100%

Let the girls be = y%

Boys = (y + 20)%

$y + y + 20 = 100\%$

$2y + 20 = 100\%$

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

$2y + 0 = 80\%$

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

$y = 40\%$

Activity

1. There are 10% more men than women in a meeting
    a. What is the percentage of women in the meeting?
    b. What is the percentage of men in the meeting?
2. There are 30%, more old students than new students in a class.
    a. What is the percentage of new students?
    b. Find the percentage of old students.

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Expressing one quantity as a percentage of another

OBJECTIVES

1. **Identify quantities**
2. **Change quantities as percentages**
3. **Changing quantities from one unit to another**

METHODS : Guided discovery , problem solving

T/L AIDS : Chalk board illustration

Ref: MK book 6 page 149

CONTENT

Express 500g as a percentage of 1kg

1kg = 1000g

$\frac{500g}{1000g}$ x 100%

= 50 x 1%

= 50%

Note

1 dozen	= 12 articles
1 gross	= 144 articles
1kg	= 1000g
1 tonne	= 1000kg
1hr	= 60 minutes
1m	= 100cm
1l	= 100ml
1 year	= 12 months
1 week	= 7 days

Activity

1. Express 20 as a percentage of 60
2. What percentage of sh. 240 is sh. 60?
3. What percentage of a litre is 250cm^3?
4. Express 750ml as a percentage of 1 litre.

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Finding quantities equivalent to a percentage.

COMPETENCES : By the end of the lesson, learners should be able:-

i) Identify the percentage and quantity

ii) Convert quantities into uniform units

iii) Find quantities equivalent to a percentage

METHODS : Guided discussion , problem solving

T/L AIDS : Chalk board illustration

Ref: MK book 6 page 150

CONTENT

What is 20% of sh. 2500?

20% of 2500/= $= \frac{20}{100} \times 2500/=$

$= 2 \times 250/=$

$=$ sh.500

What is $12\frac{1}{2}$ % of 800 people?

$12\frac{1}{2}$ % of 800 = ($\frac{25}{2}$ % of 800) people

$= \frac{25}{2} \div \frac{100}{1} \times 800$

$= \frac{25}{2} \times \frac{1}{100} \times 800^{4}$

$= 25 \times 1 \times 4$

$= 100$ people

Percentages of quantities involving conversion

What is 50% of 1kg?

1kg = 1000g

50% of 1kg $= (\frac{50}{100} \times 1000)$g

$= 50 \times 10$g

= 500g

What is 25% of 3 dozens of books?

1 dozen = 12 books

3 dozens = (12 x 3) books

25% of 3 dozens= $(\frac{25}{100} \times 36)$ books

= 9 books

Activity

What is ;

1. 10% of 2500?
2. 30% of 200?
3. 11% of 800?
4. 25% of 1 metre
5. 15% of 1kg
6. 70% of 7kg
7. 90% of 3 hours
8. 12 $\frac{1}{2}$ of 3200
9. 16 $\frac{2}{3}$ % of 2100

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Sharing quantities using percentages

COMPETENCES : By the end of the lesson, learners should be able to:-

i) **Identify quantities and percentages**
ii) **Share quantities using percentages**
iii) **Form and solve equations involving percentages**

METHODS : Explanation, Guided discovery, Question and answer

T/L AIDS : Chalk board illustration

Ref: MK book 6 page 151 – 152

CONTENT

In a school of 400 pupils, 30% are boys

a) How many boys are there in the school?
30% of 400

$= \frac{30}{100} \times 400$

= 3x 40

= 120 boys

b) How many girls are there?

(100% - 30%) = 70%	Method II
$\frac{70}{100}$ x 400	(400 – 120) girls
70 x 4	280 girls
= 280 girls	

Activity

1. In a class, 10% of the pupils are absent. How many pupils are absent? How many pupils are absent if there are 60 pupils?
2. On a farm there are 200 heads of cattle. 45% of them are heifers.
    a. How many heifers does the farm have?
    b. How many bulls does the farm have?

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Forming and solving equations involving percentages

COMPETENCES : By the end of the lesson, learners should be able to:-

i) **Form equations**
ii) **Solve equations involving percentages**

METHODS : Explanation, Guided discussion

Ref: MK book 6 page 151 – 152

CONTENT

If 10% of a number is 40, what is the number

10% of x = 40

$= \frac{10}{100} x$ **x** = 40

$\frac{10}{100}$ x **x** = 40

$10 x \frac{x}{10}$ = 40 x 10

x = 400

∴ **The number is 400.**

20% of the pupils in a school are girls

There are 35 girls in the school.

How many pupils are there in the school?

Let the number of pupils be x.

20% of x = 35

$5x \frac{20}{100}$ x **X =35x5**

X = 35 x 5

X = 175

∴ **The school has 175 pupils**

Activity

1. 20% of a number is 15. What is the number?
2. 5% of a number is 30. What is the number?
3. 18% of a number is 54. What is the number?
4. 25% of a number is 80. What is the number?
5. 20% of the pupils in a class are boys. There are 8 boys. How many pupils are in the class?

Remarks

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Increase quantities by percentages

COMPETENCES : By the end of the lesson, learners should be able to:-

i) Increase quantities by percentages
ii) More increasing of quantities by percentages

METHODS : Guided discussion , Guided discovery

Ref: MK book 6 page 153 - 154

CONTENT

1. Increase 200 by 20%

(100% + 20%) of 200 = $\frac{120}{1\cancel{00}}$ x 2$\cancel{00}$

120% of 200 = 120 x 2

= 240

2. The number of pupils in a school last year was 400. This year the number increased by 15%. What is the number of pupils in the school this year?
   New number of pupils = (100% + 15%)

   = (115%

   = $\frac{115}{1\cancel{00}}$ x $\cancel{400}$

   = 115 x 4

   = 460 pupils

Activity

1. Add 600 heads of cattle by 10%.
2. Increase sh. 400 by 25%.
3. A school had 500 books in the library last year. This year the number has increased by 20%. How many books are in the library this year?

Remarks

Date	**Time**	**No. of pupils**

TOPIC : Percentages

SUB TOPIC : Decreasing quantities by percentages

COMPETENCES : By the end of the lesson, learners should be able to:-

i) Decrease quantities by percentages
ii) Answer questions correctly.

METHODS : Guided discovery, Guided discussion

T/L/ AIDS : A chart showing decrease of quantities

Ref: MK book 6 page 155 – 156

CONTENT

Decrease 300 by 10%

100% - 10% = 90%

A man's salary is 800/=

How much will his salary be if it is cut by 12 $\frac{1}{2}$ %

$\frac{\cancel{90}}{\cancel{100}} \times \cancel{300}$

90 x 3

270

$\frac{25}{2} \times \frac{1}{100}$

$\frac{25}{200} = \frac{1}{8}$

$\frac{1}{8} \times 800$

= 100

= (800 – 100) = 700

Activity

1. Decrease 400 by 10%
2. Decrease 16,000 by 50%
3. Decrease 400kg of flour by 5%
4. Decrease 240 litres of milk by 30%

Remarks

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Finding percentages profit or Loss

COMPETENCES : By the end of the lesson, learners should be able to:-

i) Find percentage profit
ii) Find percentage loss

METHODS : Guided discovery, Explanation, Guided discussion

Ref: MK book 6 page 157

CONTENT

A trader bought a dress at sh. 1600 and sold it at sh. 2,000.

a) Find her profit - Profit = SP – CP

= 2000/= - 1600/=

= **400/=**

b) Find the percentage profit - % profit = $\frac{P}{CP}$ x 1000

= $(\frac{400}{16\cancel{00}} \times 1\cancel{00})\%$

= $\frac{400}{16}\%$

= $\frac{\cancel{100}^{25}}{\cancel{4}_{1}}$

= **25%**

Mulema bought a goat at sh. 35,000 and sold it at sh. 32,000.

a) Find Percentage Loss - Loss = CP – SP

= 35000 – 32000

= **3000/=**

% Loss = $\frac{Loss}{CP}$ x 100

= $\frac{3\cancel{000}}{35\cancel{000}} \times 1\cancel{00}\%$

= $\frac{60}{7}$

= **$8\frac{4}{7}$ %**

Date	Time	No. of pupils

TOPIC : Percentages

SUB TOPIC : Finding simple interest

COMPETENCES : By the end of the lesson, learners should be able to:-

i) Tell the formula of simple interest
ii) Calculate simple interest
iii) Calculate the amount

METHODS : Problem solving, Guided discussion, Explanation

Ref: MK book 6 page 156 – 159

CONTENT

SL = P x R x T
P = Principal
I = Interest
T = Time
R = Rate

a) A farmer deposited sh. 120,000 in a bank, that offers an interest rate of 10% per year.
How much interest will the farmer get in 2 years?

$$I = P \times R \times T$$

$$= 120000/= \times 10\% \times 2$$

$$= 120000 \times \frac{10}{100} \times 2$$

$$= 12000/= \times 2$$

$$= \mathbf{24,000/=}$$

$$= 120,000/=$$

$$+ \ 24,000/=$$

b) Calculate the amount

Amount = P + 1

144,000/=

Activity

1. Mwebe borrowed sh. 50,000 at a rate of 15% for 2 years. How much did he pay as interest?
2. What interest is paid on a loan of sh. 70,000 at a rate of 20% for 2 years?
3. A lady borrowed shs. 80,000 for 6 months at 5% per year. What simple interest did she pay?
4. Calculate the simple interest paid on a loan of shs. 18,000 at 4% for 5 years.
5. Kwagala has shs. 45,000 in the bank
    a. How much interest will she het after 2 years at 4% rate?
    b. What will her amount be after 2 years?

Date	Time	No. of pupils

TOPIC : Interpretation of graphs and Data handling

SUB TOPIC : Picto graphs and Bar graphs

COMPETENCES : By the end of the lesson, learners should be able to:-

i) Draw the data table

ii) Draw a bar graph

iii) Answer questions properly

METHODS : Guided discussion, Explanation, Guided discovery

Ref: MK book 6 page 165 - 166

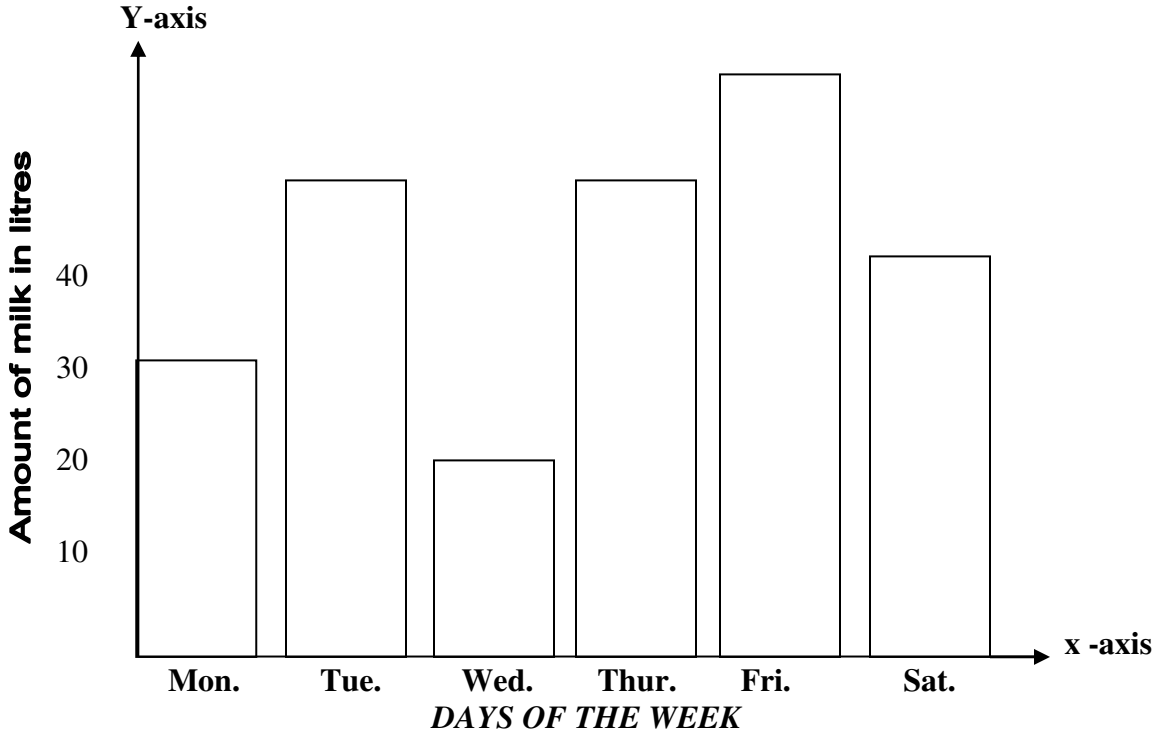
CONTENT

Mbabazi sold;

- 30 litres of milk on Monday
- 40 litres on Tuesday
- 25 litres on Wednesday
- 45 litres on Thursday
- 50 litres on Friday

- 35 litres on Saturday.

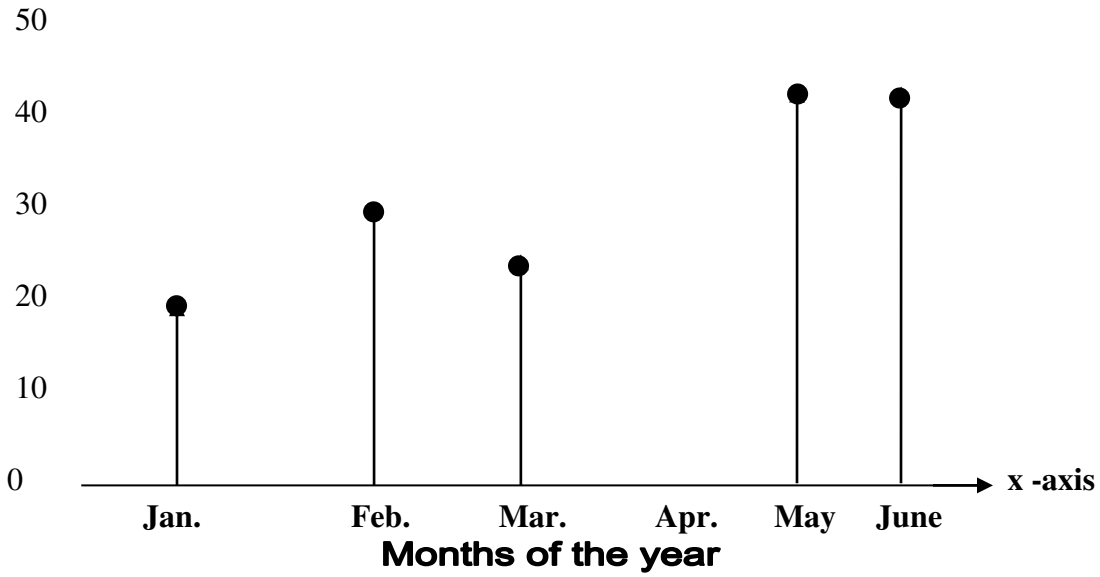
Use the information and draw a bar graph



Activity
A girl obtained the following marks in 5 subjects:-
Maths – 70%, English – 60%, Science – 80%, Social studies 50% and Art and Craft – 60%.
Use the information and draw a bar graph(Vertical scale – Isa : 20%)

The graph below represents the bag of coffee sold in the first six months of the year. Study the graph and answer the questions





a) Which months of the year had the same number of bags?
b) Which month recorded the highest number of bags?
c) Calculate the total number of bags recorded for the 6 months.

Date	Time	No. of pupils

TOPIC : Interpretation of graphs and Data handling

SUB TOPIC : Line graphs

COMPETENCES : By the end of the lesson, learners should be able to:-

i) Draw accurate graphs

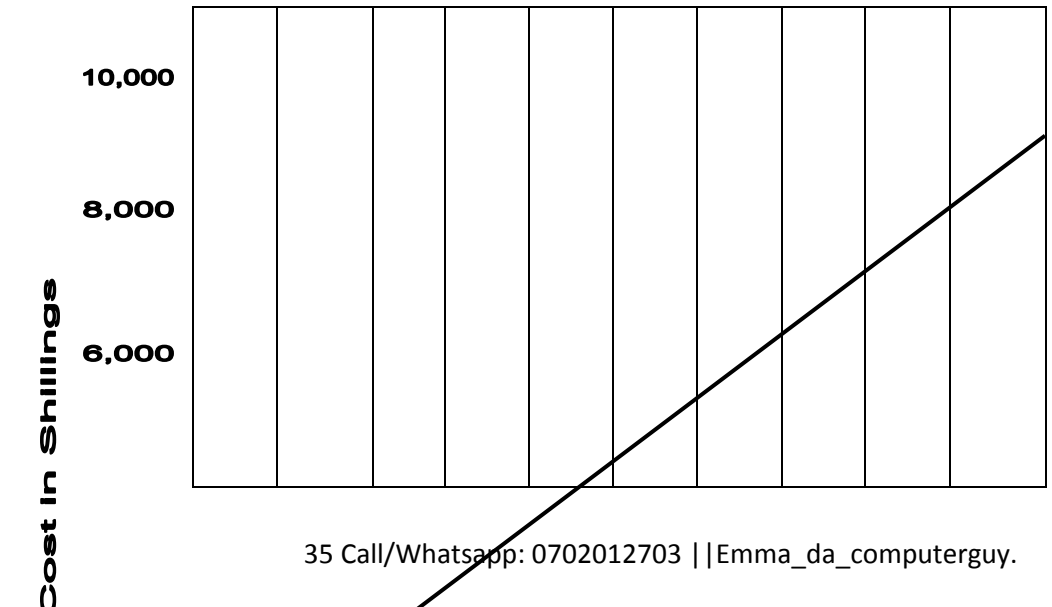
ii) Read and interpret graphs

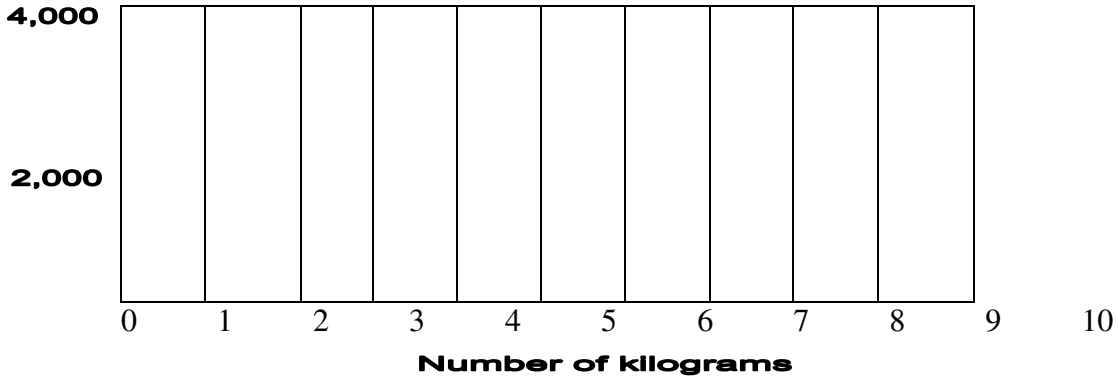
iii) Answer questions about graphs

METHODS : Explanation, Discussion, Question and answer

Ref: MK book 6 page 167 - 168

CONTENT





Activity

a) What is the cost of 1kg of ground nuts?
b) What is the cost of 1kgs of ground nuts?
c) How many kgs can 1 buy with shs. 6,000/=?
d) How many 1 pay, if 1 bought 3kg?

Travel graph (distance and time)

Co-ordinate graph

- Travel graph (distance and time)
- Co-ordinate graph

Remarks

Date	**Time**	**No. of pupils**

TOPIC : Interpretation of graphs and Data handling

SUB TOPIC : Mode, Median, Range, Mean

COMPETENCES : By the end of the lesson, learners should be able to:-

i) Define mode, median, range and mean

ii) Find mode, median, range and mean

METHODS : Problem solving, Discussion, explanation

Ref: MK book 6 page 169 - 170

CONTENT

Paddy got the following aggregates in nine tests

8, 2, 6, 4, 5, 9, 6, 2, 6 . Which aggregate is repeated more than others.

Number	8	2	6	9	4
Frequency	1	2	3	1	1

i) Mode = 6
ii) Modal frequency = 3 times

iii) Median 2 ,2 , 4 , 5 , 6, 6, 6, 8, 9



Median - 6

Range = Highest – Lowest

= 9 – 2

= **7**

Average = $\frac{\text{Sum of Data}}{\text{Number of Data}}$

= $\frac{8 + 2 + 6 + 4 + 5 + 6 + 9 + 6 + 2}{9}$

= $\frac{48}{9}$

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

Activity

1. Find the mode of the following
   a. 1, 0 ,3 ,4, 3, 4, 1.
   b. 60kg, 20kg, 15kg, 60kg

2. Find the median and Range
   9, 3, 4, 9, 4, 2, 9, 1

3. Find the mean of the following numbers
   a. 3, 6, 7, 4, 5
   b. 40%, 20%, 60%, 80%

4. The average of 5 numbers is 6. What is the sum of the 5 numbers?

5. The average of 5 numbers is 6 and the average of 3 numbers is 16. Find the average of all the 8 numbers.

Application of average

APPLICATION OF AVERAGE

Inverse on problem on average Examples :

The mean of 2, 4, 5, 6 and q is 5. Find q.

Mean = $\frac{\text{total of items}}{\text{number of items}}$

$5 = \frac{q + 2 + 4 + 5 + 6}{5}$

$\frac{5}{T} = (\frac{q+17}{5})$

$5 \times 5 = \frac{q+17}{5} \times 5$

$25 = q + 17$

$25 - 17 = q + 17 - 17$

$8 = q$

Therefore: q = 8 Answer

Activity
Teacher's collection and MK book 6 page ----------
More above inverse problem on average

Example
The average of 3 numbers is 12. What is the sum of the 3 numbers?

Average = $\frac{\text{Sum of all items}}{\text{number of items}}$

3V 12 = $\frac{sum}{3} \times 3$

36 = sum

Sum = 36 Answer

Example II

The average mark of 4 pupils is 6 and the average mark of 4 other pupils is 8. What is the average mark of all the 8 pupils?

The total mark of 4 pupils = 4 x 6 = 24

The total mark of 4 other pupils = 4 x 8 = 32

The total mark of 8 pupils = 24 + 32 = 56

The average mark of 8 pupils = $\frac{56}{8}$

= 7 answer

Remarks

Date	Time	No. of pupils

TOPIC : Interpretation of graphs and data handling

SUB TOPIC : Interpreting data and drawing graphs

COMPETENCES : By the end of the lesson, learners should be able to:-

i) Interpret graphs
ii) Draw graphs

METHODS : Guided discussion, Explanation

Ref: MK book 6 page 174 - 175

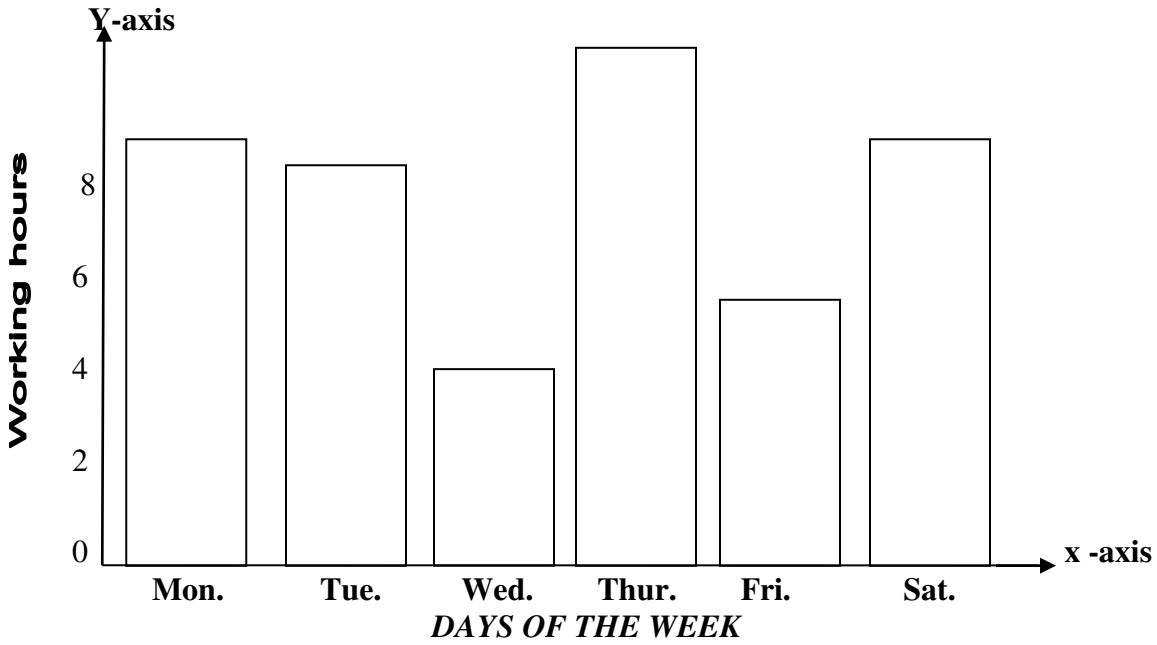
CONTENT

The table below shows the number of hours.

Solution works in a week. Study it and answer the questions that follow.

Days	Mon.	Tue.	Wed.	Thur.	Fri.	Sat.
Hours worked	9	8	4	10	6	9

i) What is the mode?
ii) What is the median?
iii) What is the range?
iv) Calculate the mean.
v) Draw a bar graph to show the above information



Inverse on problem on average
Example
The mean of 2, 4 5, 6 and q is 5. Find q.

Mean = Total of items
Number of items

$5 = \frac{q+2+3+5+6}{5}$

$\frac{5}{1} = \frac{(q+17)}{5}$

$5 \times 5 = \frac{(q+17)}{\cancel{5}} \times \cancel{5}$

25 = q + 17
25 – 17 = q + 17 – 17

8 = q
Therefore q = 8

Activity
Teachers collection and MK. Book 6 page --- more about inverse problem on average

Example
The average of 3 numbers is 12. What is the sum of the 3 numbers?

Average = Sum of all items
Number of items

$3 \text{ V } 12 = \frac{sumx3}{3}$

36 = sum

Sum = 36.

Example II
The average mark of 4 pupils is 6 and the average mark of 4 other pupils is 8. What is the average mark of all the 8 pupils?

The total mark of 4 pupils = 4 x 6 = 24
The total mark of 4 other pupils = 7 x 8 = 32
The total mark of 8 pupils = 24 + 32 = 56
The average mark of 8 pupils = $\frac{56}{8}$
= 7

Date	Time	No. of pupils

TOPIC : Interpretation of graphs and data handling

SUB TOPIC : Collecting and organizing data

COMPETENCES : By the end of the lesson, learners should be able to:-

i. **Collect data**

ii. **Organize data**

METHODS : Guided discussion, problem solving

Ref: MK book 6 page 176 - 177

CONTENT

Collect and record age of 40 classmates as shown below.

10 11 12 11 12 12 11 10 12 11

12 11 12 13 12 13 12 11 14 11

12 14 14 11 12 11 13 11 13 11

12 11 12 11 15 12 11 14 11 12

Grouping information

- Make a column of different age groups
- Mark each age as shown in the first column above as you tally it with the corresponding age.

Age in years	**Tally**	**No. of pupils (Frequency)**
10	//	2
11	𝍸 𝍸 𝍸	15
12	𝍸 𝍸 ////	14
13	////	04
14	////	04
15	/	01

Organizing information in a table

Age in years	10	11	12	13	14	15	
Number of pupils (Frequency)	9	8	4	10	6	9	

Study and interpret the above information.

1. What is the modal age?
2. Find the median age?
3. Find the range?
4. Find the highest frequency (modal frequency)
5. Find the mean.
6. Represent the above information on a bar graph

Date	**Time**	**No. of pupils**

TOPIC : Interpretation of graphs and data handling

SUB TOPIC : Using pie charts

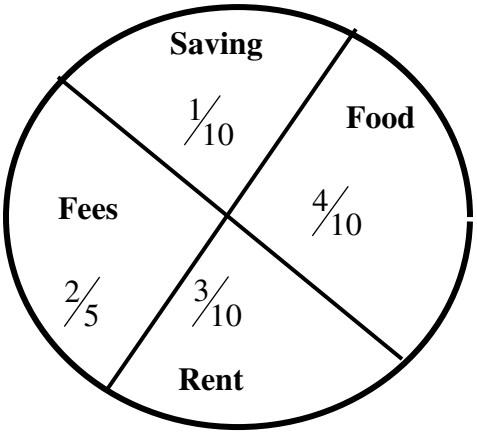
COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Change fractions to degrees**
2. **Measure and construct pie charts**

METHODS : Guided discovery, Explanation, discussion

Ref: MK book 6 page 179 - 181

CONTENT



Food	**Rent**	**Fees**
$\frac{4}{1\emptyset} \times 36\emptyset^0$	$\frac{3}{1\emptyset} \times 36\emptyset^0$	$\frac{2}{1\emptyset} \times 36\emptyset^0$
$4 \times 36^0 = \mathbf{144^0}$	$3 \times 36^0 = \mathbf{108^0}$	$2 \times 36^0 = \mathbf{72^0}$

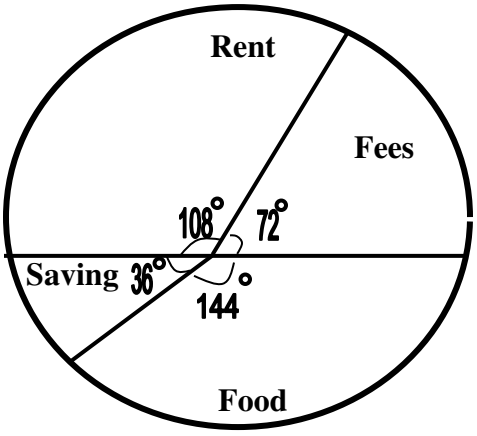
Savings

$= \frac{1}{10} \times 360^0$

$= 1 \times 36^0$

$= \mathbf{36^0}$

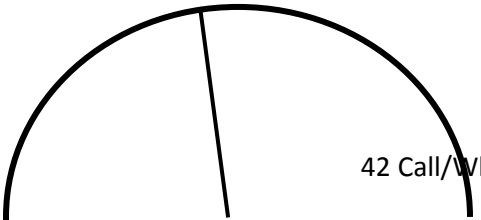
The pie chart above will appear as the one below in degrees.



The portion of each item is determined by the angle at the centre of the pie chart.

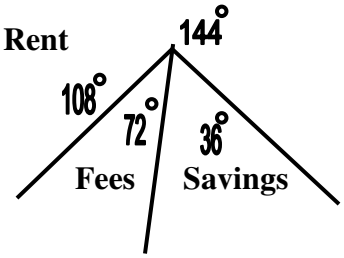
The pie chart represents how a man spends shs. 12,000 in a month

How much does he spend on rent?



Food $= \frac{108}{360} \times 12{,}000/=$

Rent



$= 108 \times 1200/=$

=Sh. 3600/=

ii) How much does he leave.

$= \frac{36}{360} \times 12{,}000/=$

$= 1 \times 1200/=$

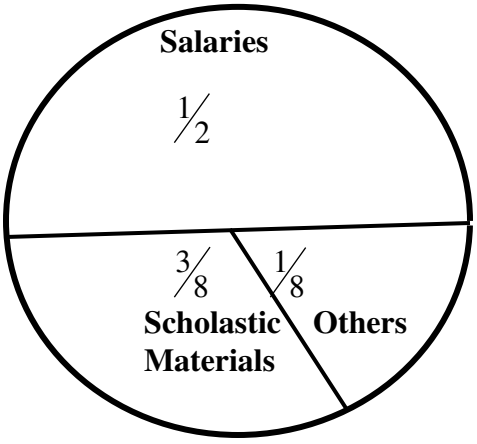
= 1200/=

What fraction represents fees?

$\frac{72}{360} = \frac{1}{5}$

Activity

The pie chart shows the major expenditure of a school in a term. The school collects 32 million shillings.



i) How much does the school spend on scholastic materials?

ii) How much more is spent on salaries than other items?

iii) Express the fraction of scholastic materials in degrees.

Remarks

Date	Time	No. of pupils

TOPIC : Interpretation of graphs and data handling

SUB TOPIC : Pie charts involving percentages

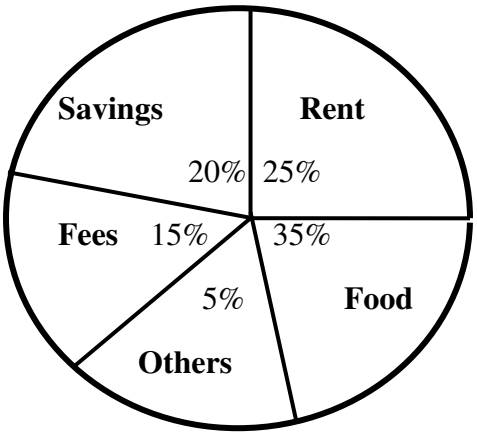
COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Represent percentages on pie chart**
2. **Calculate the amount using percentages**

METHODS : Guided discussion, Explanation, Problem solving

Ref: MK book 6 page 182 - 183

CONTENT



A teacher who earns sh. 300,000 spends it as shown on the pie chart

i) How much is spent on rent?

$= \frac{25}{100} \times 300{,}000$

$= 25 \times 3000$

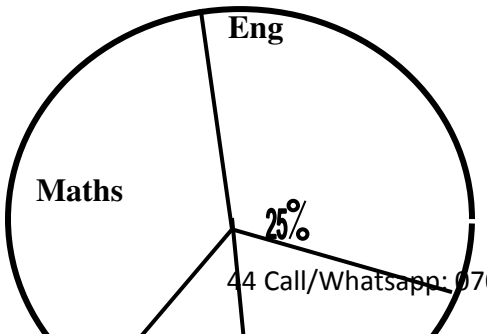
$= 75000$

ii) How much more is spent on food than fees?

Food	**Fees**	**Difference**
$\frac{35}{100} \times 300{,}000$	$\frac{15}{100} \times 300{,}000$	105, 000/=
35 x 3000/ =	15 x 3000/=	45,000/=
105,000/=	**45,000/=**	**60,000/=**

Activity

The pie chart shows 240 pupils who passed 4 papers.



i) How many pupils passed English?

ii) What fraction of the total passed Science

40%

15% 20%

SST Science

iii) How many pupils passed social studies?

iv) How many more pupils passed maths than Sci.?

Date	Time	No. of pupils

TOPIC : Interpretation of graphs and data handling

SUB TOPIC : Constructing pie chart

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Change fractions to degrees**
2. **Construct pie charts**

METHODS : Guided discussion, problem solving

Ref: MK book 6 page 184 – 186

Chang fractions to degrees

The farmer distributed his land as follows

Bananas	Beans	Maize	Cotton	coffee
25%	15%	20%	10%	30%

Changing percentages to degrees

Bananas

$\frac{25}{100} \times 360^0$

5×18^0

$\mathbf{90}^0$

Beans

$\frac{15}{100} \times 360^0$

3×18^0

$\mathbf{54}^0$

Maize

$\frac{20}{100} \times 360^0$

2×36^0

$\mathbf{72}^0$

Cotton

$\frac{10}{100} \times 360^0$

1×36^0

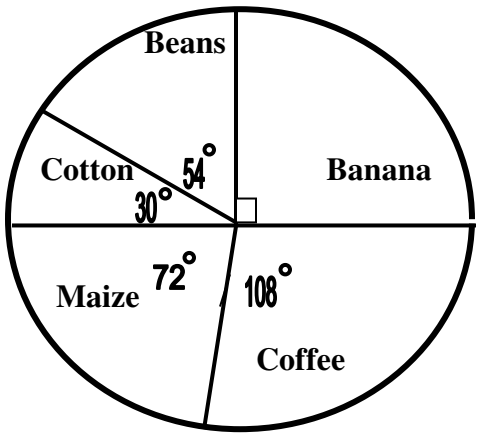
$\mathbf{36}^0$

Coffee

$\frac{30}{100} \times 360^0$

3×36^0

$\mathbf{108}^0$



1. Oketcho divided his piece of land among his 4 children as follows:-
   Andrew got $\frac{1}{9}$ of the land, James got $\frac{1}{9}$, Patricia got $\frac{4}{9}$ and Mike got $\frac{2}{9}$. Use the above information to construct a pie chart.

2. 45% of the pupils in a school passed in grade I, 30% of the pupils passed Grade II, 15% passed in grade III and 10% of the pupils passed in IV. Represent the information on a venn diagram.

Remarks

Date	Time	No. of pupils

TOPIC : Interpretation of graphs and data handling

SUB TOPIC : Construction of pie charts for the given data

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Construct pie chart**
2. **Change percentages into degrees**

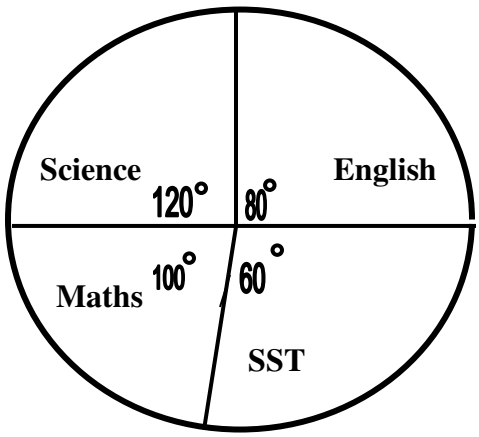
METHODS : Guided discussion, problem solving, explanation

Ref: MK book 6 page 186 – 187

CONTENT

There are 4 English books, 3 SST books, 5 Mathematics books and 6 Science books in a pupil's bag. Use the information and draw a pie chart.

Total	**English**	**SST**	**MTC**	**Science**
6+5+5+4=18 books	$\frac{4}{18} \times \cancel{360}^0$	$\frac{3}{\cancel{18}} \times \cancel{360}^0$	$\frac{5}{18} \times 360^0$	$\frac{6}{18} \times 360^0$
	$=4 \times 20^0$	3×20^0	5×20^0	6×20^0
	$\mathbf{= 80^0}$	$\mathbf{60^0}$	$\mathbf{100^0}$	$\mathbf{120^0}$



1. A farmer earned sh. 4,000 from the sales of beans, sh. 7000 from peas, she. 3,000 from tomatoes and sh. 6000 from others. Use the information to draw a pie chart.

2. In a class of 50 pupils, 10 pupils scored above 80% , 15 pupils scored between 60% and 80%, 20 pupils scored between 30% and 60%. Use the information to draw a pie chart.

3. There are 5 bulls, 9 calves, 10 cows and 6 heifers on a farm. Represent the above data on a pie chart.

Remarks

Date	Time	No. of pupils

TOPIC : Interpretation of graphs and data handling

SUB TOPIC : Constructing pie charts from tables

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Interpret data**
2. **Construct pie charts from tables**

METHODS : Problem solving, Observation

T/L AIDS : Set Instruments

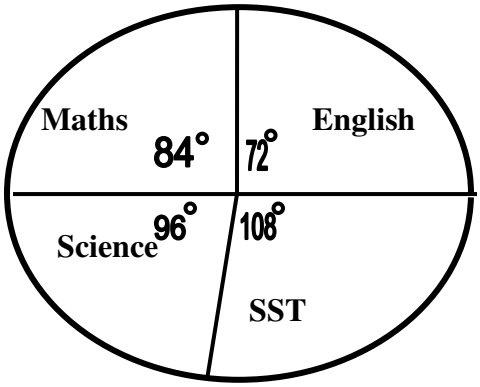
Ref: MK book 6 page 188

CONTENT

The table shows the marks scored by Peter in 4 subjects, represent Peter's performance on a pie chart.

Subject	English	Maths	Science	SST
Marks	60	70	80	90

Total	English	Maths	Science	SST
60+70+80+90=300	$\frac{60}{300} \times 360^0$	$\frac{70}{300} \times 360^0$	$\frac{80}{300} \times 360^0$	$\frac{90}{300} \times 360^0$
	$=2 \times 36^0$	7×12^0	8×12^0	3×36^0
	$\mathbf{= 72^0}$	$\mathbf{84^0}$	$\mathbf{96^0}$	$\mathbf{108^0}$



Date	Time	No. of pupils

TOPIC : Money

SUB TOPIC : Uganda Currency (finding No. of notes)

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Identify various bank notes**
2. **Tell identification numbers of the notes**
3. **Find number of notes**

METHODS : Discussion, question and answer

T/L AIDS : Real money

Ref: MK book 6 page 217 - 218

CONTENT

1. If bank notes are numbered consecutively from $\frac{A}{P}$ 003782 to $\frac{A}{P}$ 003881. How many notes are there?

   $\frac{A}{P}$ 003881

   - $\frac{A}{P}$ 003782

   99 + 1

   100 notes

2. Amos has bank notes numbered from AP004300 to0 AP 004399
   i) How many bank notes does Amos have?

   AP 00 4399

   - AP 00 4300

   99+1

   100 notes

   ii) If each note is worth 1,000 shillings in value. How much money does he have ?

   100 x 1000/=

   = sh. 100,000

Remarks

Date	Time	No. of pupils

TOPIC : Money

SUB TOPIC : Uganda Currency and other currencies

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Tell exchange rates of different currencies**
2. **Change other currencies to Uganda currency**
3. **Change Uganda currency to other currencies**

METHODS : Discussion, guided discovery, explanation

T/L AIDS : Real money

Ref: MK book 6 page 219 - 221

CONTENT

Currency	**Buying**	**Selling**
1 pound sterling (€)	Ug. Sh. 2500	Ug. Sh. 2, 550
1 Us dollar (US $)	Ug. Sh. 1700	Ug. Sh. 1,720
1 Kenya shilling (K Sh.)	Ug. Sh. 19	Ug. Sh. 20
1 Rwanda Franc (R.F)	Ug. Sh. 1.9	Ug. Sh. 2.2
1 Euro (Euro)	Ug. Sh. 1,520	Ug. Sh. 1,560
1 Tanzania shilling (Tz. Sh.)	Ug. Sh. 1.6	Ug. Sh. 2

A tourist arrived in Uganda with € 7,650. He had to convert it to Uganda shillings.

€ 1 - 2,500/=

€ 7650 - $\frac{2500/=}{1}$ x 7650)/=

= Sh. 19,125,000

The tourist will get sh. 19,125,000

Activity

1. Convert Ush. 860,000. Find how much money I have in Us. Dollars.
2. Convert Ush. 34,000 to Kenya shillings.

Remarks

Date	**Time**	**No. of pupils**

TOPIC : Time

SUB TOPIC : Changing hours to minutes, minutes to seconds

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Tell how many minutes are in one hour.**
2. **Tell how many seconds are in 1 minute, hour**
3. **Change minutes to seconds, hours to minutes**

METHODS : Discussion, guided discovery

T/L AIDS : Clock face

Ref: MK book 6 page 222

CONTENT

1 hr = 60 minutes
1 min = 60 seconds

1 hour = 3600 seconds

How many minutes are there in 8 ½ hours?
1 hour = 60 minutes

8 ½ hours = ($\frac{17}{2}$ x 60) minutes

Change 4 hours to minutes

1hr = 60 minutes

4 hours= (4 x 60) minutes
= 240 minutes

17 x 30

510 minutes

Change the following hours to minutes

1. 2hrs
2. 7 ¼ hrs
3. 3 hours
4. 6 ½ hours
5. 5 hours
6. 10 ½ hours

Changing minutes to seconds

Change 5 minutes to seconds

1 min = 60 seconds

5 min = (5 x 60) seconds
= 300 seconds

How many seconds are there in 35 minutes?

1 minute = 60 seconds

35 minutes = 35 x 60
= 2100 seconds

Change the following minutes to seconds

1. 10 minutes
2. 42 minutes
3. 15 minutes
4. 47 minutes
5. 20 minutes
6. 52 minutes

Date	Time	No. of pupils

TOPIC : Time

SUB TOPIC : Change hours to seconds, change minutes or seconds to hours

COMPETENCES : The lesson, learners.

1. **Change hours to seconds**

2. **Change minutes to hours**
3. **Change seconds to hours**

METHODS : Guided discovery, Discussion.

T/L AIDS : Clock face

Ref: MK book 6 page 223

CONTENT

How many seconds are there in 1 hour

1 hour = 60 minutes

1 min = 60 seconds

1 hour = (60 x 60) seconds

= 3600 seconds

How many seconds are there in 2 ½ hours?

1hr = 3600 seconds

2 ½ hours ($\frac{5}{2}$ x 3600) seconds

=5 x 188 seconds

= 9000 Seconds

Change 360 minutes to hours

60min. = 1 hr

360 min = 360 ÷ 60

$\frac{360}{60}$ hrs

= 6 hours

Activity

1. Change the following hours to seconds
- 2 hours - 6 ½ hrs - 11 hour - 9 ¾ hours - 4 ½ hours

2. Change the following minutes or seconds to hours
- 10min - 42 min - 52 min - 60 min
- 19,800 sec - 14,400 sec - 7200 sec - 216 sec

Remarks

Date	Time	No. of pupils

TOPIC : Duration (Time)

SUB TOPIC : Duration (Time span)

COMPETENCES : The lesson, learners;

1. **Identify time given**
2. **Tell the meaning of time span or time interval**

3. **Change the given time to 24 hour clock**
4. **Find duration**

METHODS : Explanation, Discussion.

T/L AIDS : A chart showing 12 of 24 hour clock

Ref: MK book 6 page 224 - 225

CONTENT

How many hours are there between 2:30am and 9:00am

Hrs	**Min.**	**Hrs**	**Min.**	**Hrs**	**Min.**	**S/W**
2	30	9	00	09	00	1hr =60min
+ 00	00	+ 00	00	- 02	30	60 – 30 = 30
02	30	09	00	06	30	
=02	**30hrs**	**= 09**	**00hrs**			

∴ **There are 6 hours and 30 minutes**

2. What duration is there between 4:00am to 3:00 pm?

Hrs	**Min.**	**Hrs**	**Min.**	**Hrs**	**Min.**
3	00	4	00	15	00
+ 12	00	+ 00	00	- 04	00
15	00	04	00	11	00
= 1500hrs		**= 0400hrs**			

∴ **11 hours**

Activity

How many hours are there between;

1. 7:00am and 11:00am?
2. 4:15am and 11:30 am?
3. 11:00am and 2:40 pm?
4. 8:50am and 4:20pm?

Remarks

Date	**Time**	**No. of pupils**

TOPIC : Distance, speed and time

SUB TOPIC : Distance covered

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Tell the formula of distance**
2. **State the units for distance**
3. **Find distance covered**

METHODS : Explanation, Discussion, question and answer

T/L AIDS : A chart showing 12 of 24 hour clock

Ref: MK book 6 page 228 - 229

CONTENT

Find the distance covered at 60km for 3hrs

Distance = Speed x Time

$= \frac{60km}{1hr}$ x 3 hrs

= 60km x 3

= 180km

or D = S x T

A bus travelled at 120K.P.H for 45 minutes. Find distance covered

Distance = Speed x Time

$= \frac{120km}{1}$ x $\frac{45}{60}$

$= \frac{120km}{1hr}$ x $\frac{45}{60}$ hrs

= (2 x 45) km

= 90km

ACTIVITY

Calculate distance covered

a) A speed of 30km/hr for 4 hours
b) A speed of 55km/hr for 3 hours
c) A speed of 200km/sec for 3 hours
d) The speed of 144km/hr for 6 hours

Remarks

Date	**Time**	**No. of pupils**

TOPIC : Distance, speed and time

SUB TOPIC : More practice on distance covered

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Identify time given**
2. **Find time interval**
3. **Calculate distance covered**

METHODS : Explanation, Guided discussion, Guided discovery

T/L AIDS : A chart showing 12 of 24 hour clock

Ref: MK book 6 page 230

CONTENTA bus which travels at 50km/hr leaves Wanseko at 7:30 am and arrives at Kampala at 1:30 pm. What is the distance between Kampala and Wanseko?

Hrs	Min.	Hrs	Min.	Hrs	Min.
7	30	1	30	13	30
+ 00	00	+ 12	00	- 07	30
07	30	13	30	6	00
= 0730hrs		**= 1330hrs**		**= 6 hours**	

D = S X T

$= \frac{50km}{1hr}$

= 50km x 6

= 300km

Activity

1. A car moves at a speed of 70km/hr from 8:15am to 11:15am. What distance does it cover?
2. At a speed of 54km/hr a cyclist left Katonga at 9:00am and arrived at Kampala at 10:30am. How far is Kampala for Katonga?
3. Moving at 60 km/hr a bus complete the journey from 10:30am to 1:20pm. How long was the journey?

Remarks

Date	Time	No. of pupils

TOPIC : Distance, speed and time

SUB TOPIC : Time taken

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **State the formula for finding time**
2. **Tell units for time**
3. **Calculate time taken**

METHODS : Explanation, Guided discussion, Guided discovery

T/L AIDS : A chart showing 12 of 24 hour clock

Ref: MK book 6 page 231 - 232

CONTENT

Time = $\frac{Dis\tan ce}{Speed}$ Or T = $\frac{D}{S}$

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

T = $\frac{D}{S}$

= $(\frac{120km}{40km})$ hours

= 3 hours

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

T = $\frac{D}{S}$

= $(\frac{120km}{30km})$ hours

= 8 hours

Activity

1. How long will it take a cyclist to cover a distance of 80km at a speed of 20km / hr?
2. If a car moves at 60k.p.h and covers a distance of 240km, for how long does it stay on the way?
3. How long will it take a bus to cover a distance of 120km at 40km/hr?

Remarks

Date	**Time**	**No. of pupils**

TOPIC : Distance, speed and time

SUB TOPIC : Time taken

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Identify speed given**
2. **Find T_1 and T_2**
3. **Find difference**

METHODS : Explanation, Guided discussion

Ref: MK book 6 page 233

CONTENT

A car covered a distance of 120km at an average speed of 60km/hr. How much longer does it take if it moves at 40km / hr?

$T = \frac{D}{S}$	T_2	
$= (\frac{120km}{60km})$ hours	$T = \frac{D}{S}$	= 3hrs – 2hrs
= 2 hours	$= (\frac{120km}{40km})$ hours	**= 1 hr longer**
	= 3 hours	

Activity

1. At 30km/ hr a car can cover a distance of 750km. In how many hours can the same car cover the same journey at 50km /hr?
2. A distance of 360km can be covered at a speed of 90km/hr. How much longer will the same distance be covered at 40km/hr?

Remarks

Date	Time	No. of pupils

TOPIC : Distance, speed and time

SUB TOPIC : Finding speed

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **State the formula for speed**
2. **Tell the speed**
3. **Find speed**

METHODS : Explanation, Guided discussion, Guided discovery

Ref: MK book 6 page 234 - 235

CONTENT

$S = \frac{D}{T}$

A car travels for 3 hours to cover a distamce of 210km. At what speed does the car travel?

$S = \frac{D}{T}$

$= (\frac{210km}{3hrs})$ hours

= 70km/hours

A train travelld for 6hrs and covered 192km. At what speed was it travelling?

$S = \frac{D}{T}$

$= (\frac{192km}{6hrs})$ hours

= 32 km/hr

Activity

A driver tool 2 ½ hrs to cover a journey of 240km. At what speed does it travel?

Remarks

Date	Time	No. of pupils

TOPIC : Distance, speed and time

SUB TOPIC : Expressing km/hr to m/sec.

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **State how many metres are in 1km**
2. **Tell how many seconds are in 1hr.**
3. **Change kph to m/s**

METHODS : Explanation, Guided discussion

Ref: MK book 6 page 236 - 237

CONTENT

Express 72km/hr as m/seconds

1km = 1000m

1hr = 3600 sec

$72km/hr = \frac{72x1000m}{1x3600\sec}$

=2 x 10m/sec

A bus covered a distance of 180km in 2hours. Express its speed in m/sec.

1km = 1000m

1hr = 3600sec

$S = \frac{D}{T} = \frac{90x1000m}{1x3600\sec}$

$\frac{900}{36}$

= 25m/sec

=20m/sec

$$\frac{180km}{2hrs}$$

= 90km/hr

Activity

1. Epress the speed below in m/sec.

- 36km/hr - 252km/hr - 684km/hr - 162km/hr

2. A motorist covered 144km in 2 hrs. Calculate his speed in m/sec.

3. A car takes 2 hours to cover the distance. At what speed in metres per second does it travel?

Remarks

Date	Time	No. of pupils

TOPIC : Distance, speed and time

SUB TOPIC : Changing speed from m/sec to km/hr

COMPETENCES : By the end of the lesson, learners should be able to:-

1. **Read and interpret questions properly**
2. **Change speed from m/sec to km/hr**
3. **Calculate (find) average speed.**

METHODS : Problem solving, Explanation, Guided discussion

Ref: MK book 6 page 237 -238

CONTENT

Change 20 m/sec to km/hr

Distance in km

$\frac{20m}{1000m}$ = 1km

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

=20m =($\frac{1}{1000}$ x 20)km

=

= $\frac{2}{100}$ **km**

Time in hours

3600sec = 1hr

1 sec = $\frac{1}{3600}$ hrs

$\frac{2}{100}$ **km** ÷ $\frac{1}{3600}$ **hr**

=($\frac{2}{100}$ x $\frac{360}{1}$)km/hr

= 2 x 36 km/hr

= **72km/hr**

Finding Average Speed

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

Going

D = S xT

$= \frac{60km}{1hr}$ x 3 hrs

= 60km x 3

= 180km

D_1 = 100km

T_1 = 3hrs

Returning

D_2= 180km

T_2 = 2km

Average speed = Total distance covered

Total Time taken

$= \frac{D_1 + D_2}{T_1 + D_2}$

$= \frac{180km + 180km}{3hrs + 2hrs}$

$= \frac{360km}{5hrs}$

= 72km/hr

Activity

1. A car takes 2hrs to cover a certain distance at 60km/hr but it returns in 3hrs. Calculate the average speed of the car for the whole journey.

2. Kampala is 140km from Masaka. A car takes 3 hrs from Kampala to Masaka and 2 hrs coming back. Calculate the average speed for the whole journey.

3. A lorry takes 4hrs to travel from Kampala to Lyantonde at 45km/hr, but it returns in 6hrs. Calculate the average speed for the whole journey

OUTLINE OF GRAPHS

- Travelling graphs
- Temperature graphs
- Co-ordinate graphs

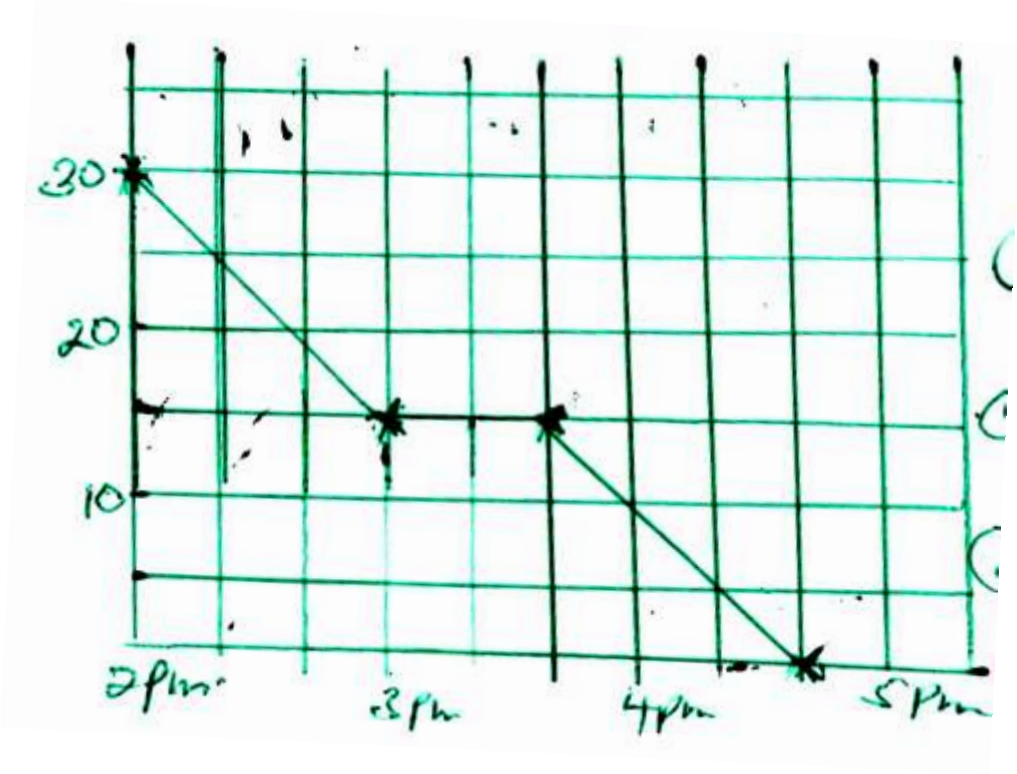
- In reference to graph on page 239 MK book 6
- Travel graph (Distance an time graph)
- Travel graph



_da_computerguy.

a) What is the scale on the vertical axis?
b) What happened at B?
c) What is the distance from B to C?
d) At what time did he take from A to B?
e) Calculate the motorist average speed for the whole journey.

Interpreting return journey on travel graph. Ojeke left his mother's house 30km away, use the graph to answer questions that follow.



a) What is the scale on the vertical axis?
b) What is the scale on the Horizontal axis?
c) Calculate Ojeke's average speed before he rested.
d) How far from home was Ojeke at 4:20pm

Activity

Pupils will do exercise 108 on page 176

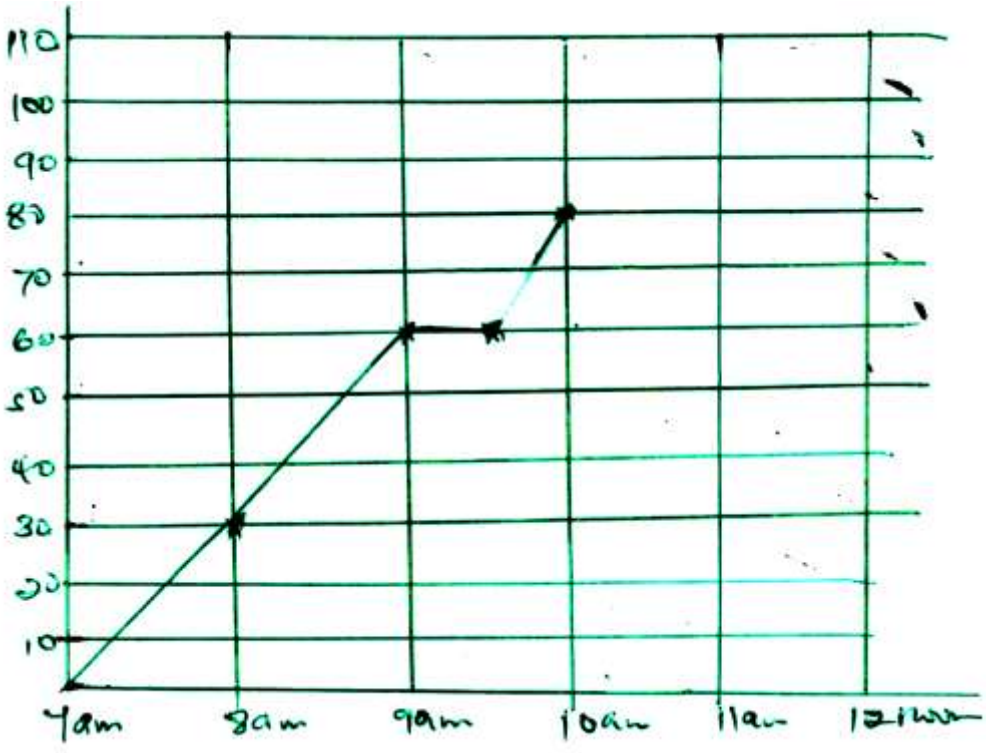
Travel graph

Drawing travel graphs

Examples

Nduga started from p at 7:00am and covered 60km in 2 hours then he rested for 30 minutes. Then covered the remaining 30km to town R in 30 minutes.

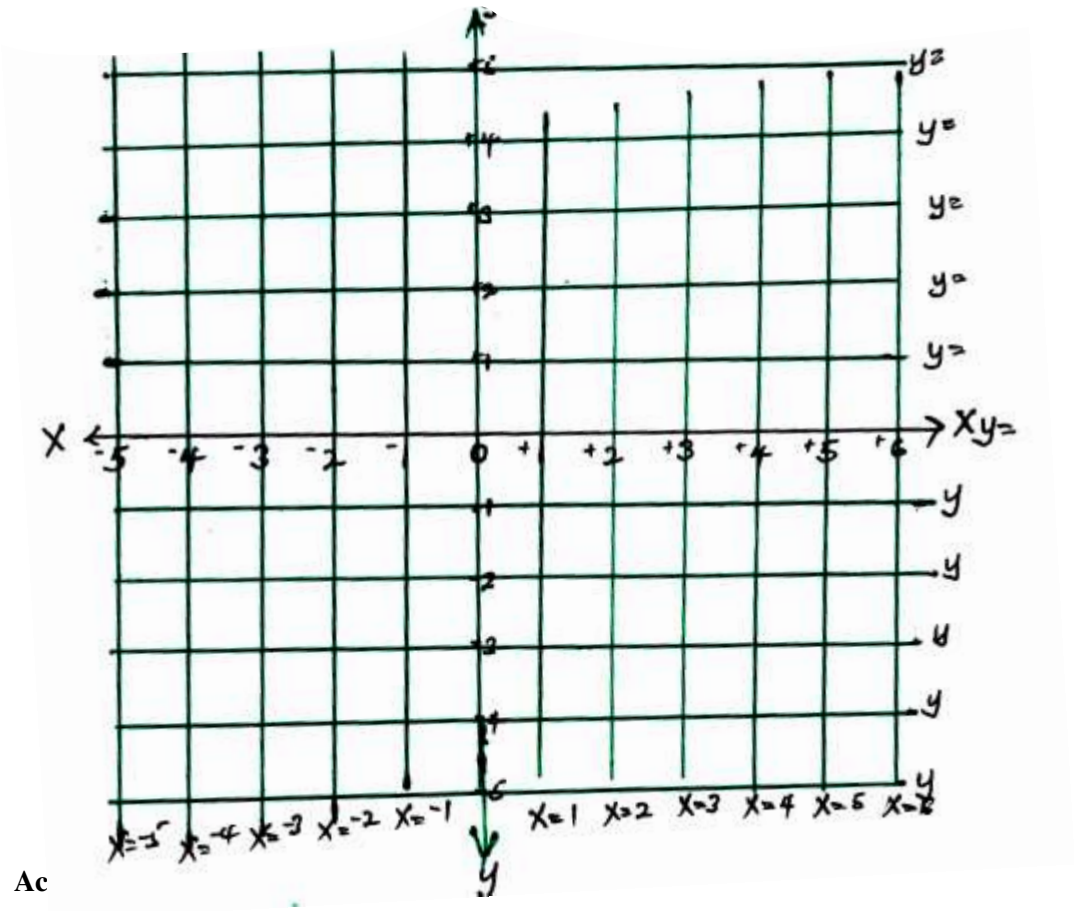
a) Show Nduga's journey on a travel graph
b) At what time did he start his rest?
c) Where was Nduga after the first hour?
d) Calculate Nduga's average speed for the whole journey.



Activity
Pupils will do exercise MK page 239 – 243.

Co-ordinate graph

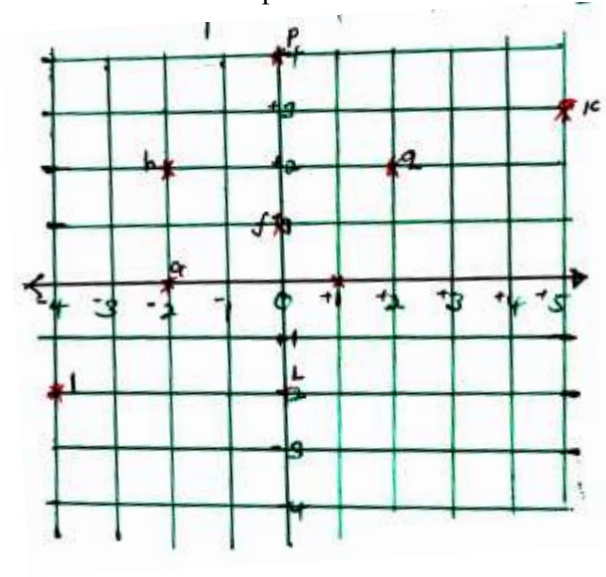
Naming parallel lines on the x and y axis



Ac

Teacher's collection

Presents and interprets information on co-ordinate grid



a) Name the plots given in the graph
b) Copy the graph and plot the following points of the co-ordinates given below

Point A = (1, 1)
B = (2, ¯1)

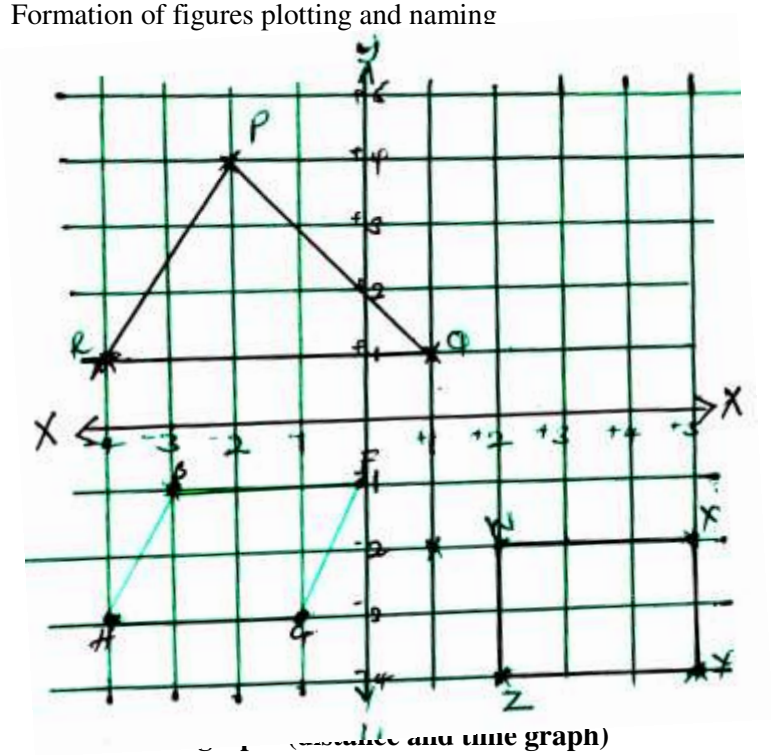
C = (-3, 2)

D = (-5 , 3)

E = (2, -6)

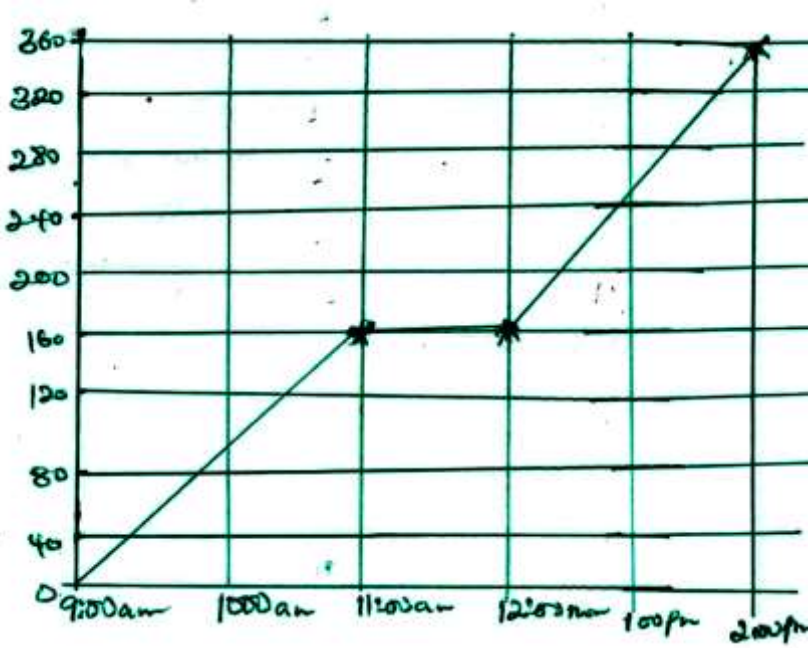
F = (1 , -3)

Formation of figures plotting and naming



(distance and time graph)

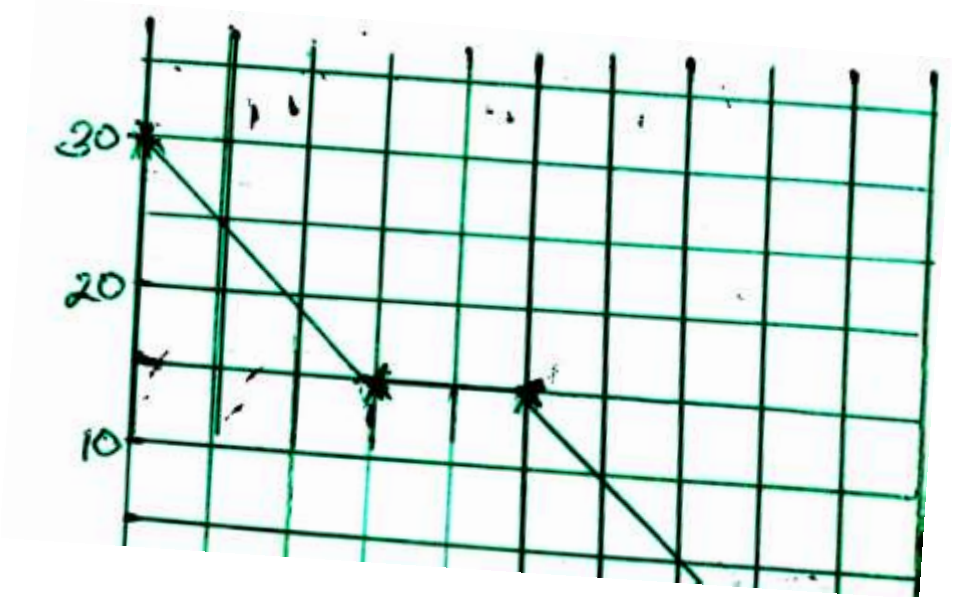
- **Travel graph**
- **In reference to graph on page 239 mk book 6**



a) What is the scale on the vertical axis?
b) What happened at B?
c) What is the distance from B to C?
d) At what time did he take from A to B?

e) Calculate the motorist average speed for the whole journey.

Interpreting return journey on travel / graph Ojeke left his mother's house 30km away, use the graph to answer questions that follow



a) What is the scale on the vertical axis?
b) What is the scale on the Horizontal axis?
c) Calculate Ojeke's average speed before he rested?
d) How far from home was Ojeke at 4:20pm?

Activity

Pupils well do exercise 108 on page 176

Travel graph

Drawing travel graphs

Examples

Nduga started from town P at 7:00am each covered 60km in 2 hours then he rested for 30 minutes. Then covered the remaining 30km to town R in 30 minutes.

a) Show Nduga's journey on a travel graph
b) At what time did he start his rest?
c) Where was Nduga after the first hour?
d) Calculate Nduga's average speed for the whole journey.

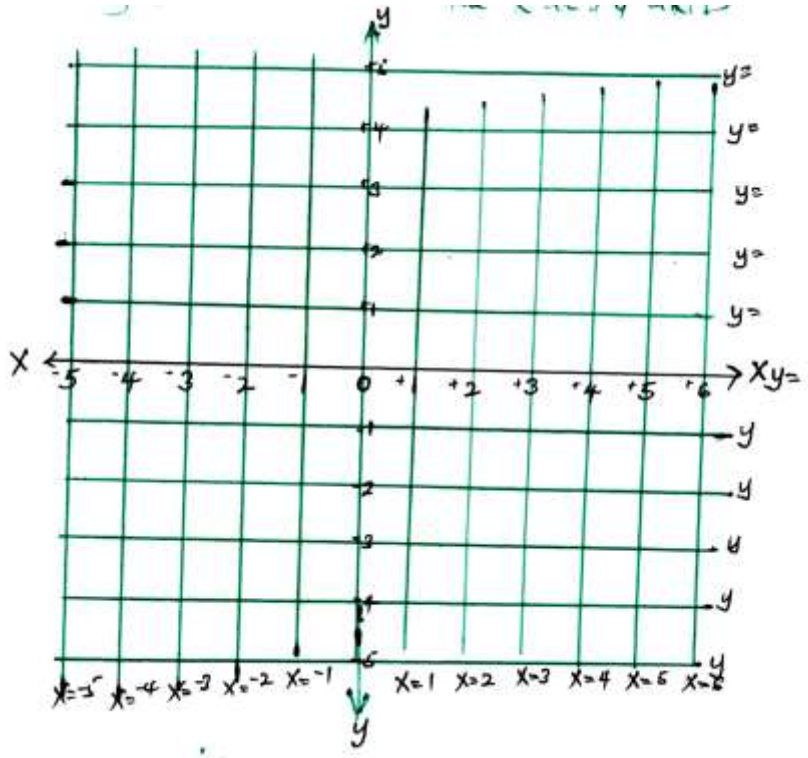


ıy.

Activity

Pupils will do exercise MK page 239 – 243

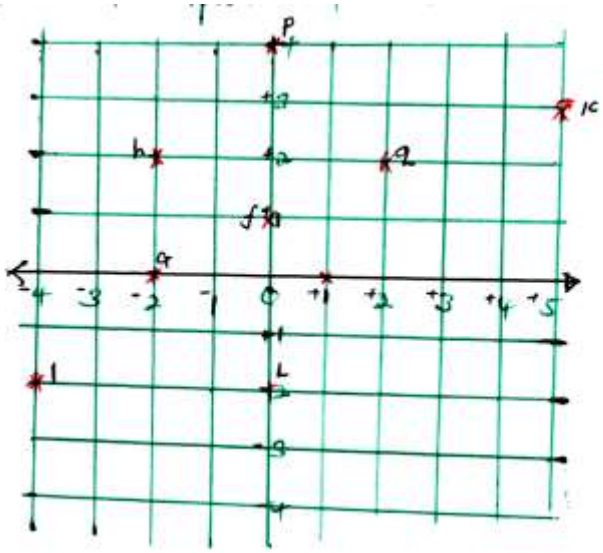
Coordinate graph



Activity

Teacher's collection

Presents and interprets information on co-ordinate grid

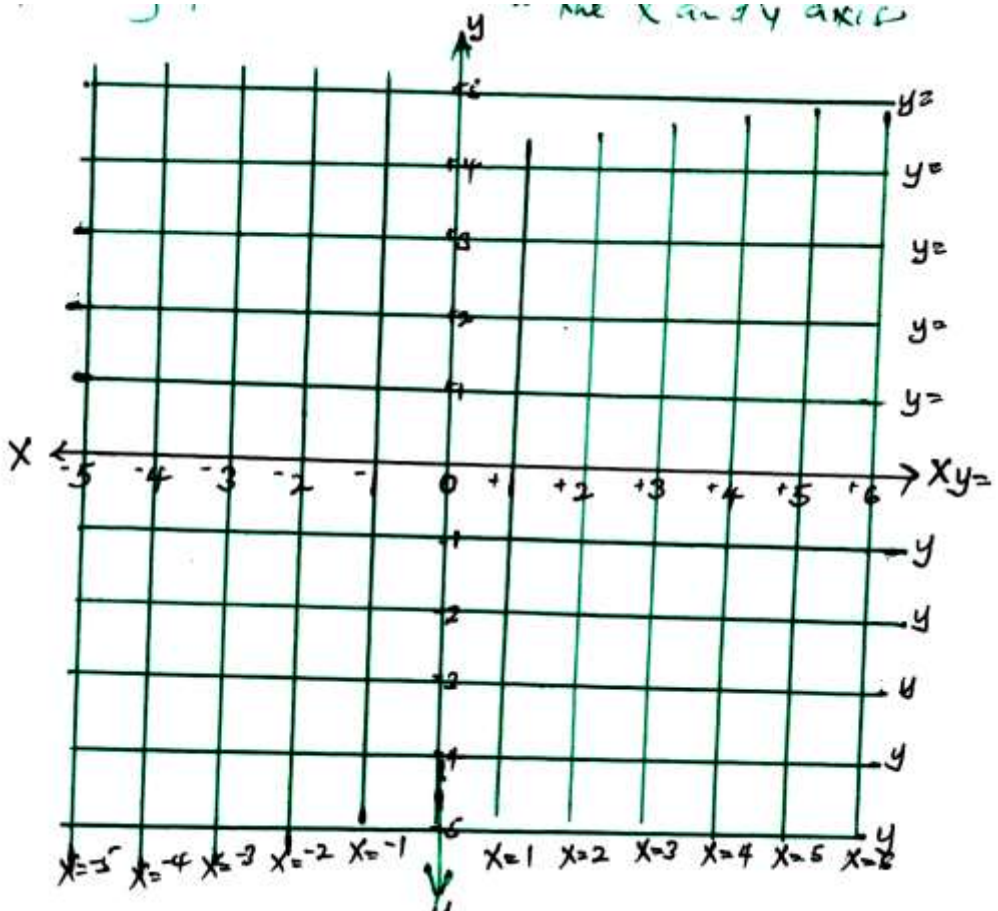


a) Name the plots given in the graph
b) Copy the graph and plot the following points of the co-ordinates given below

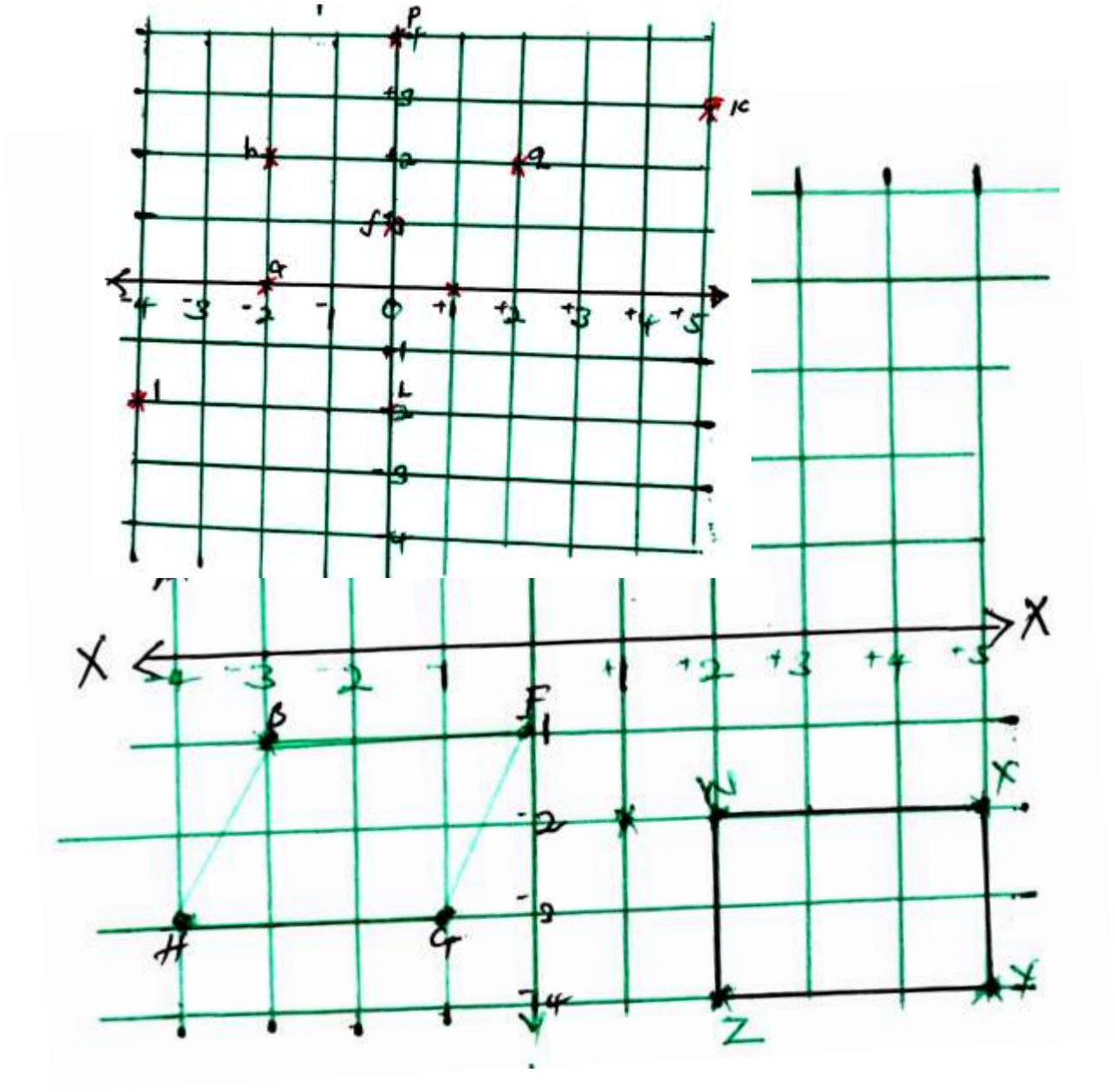
Point A = (1,1) B = (2, -1) C = (-3, 2)

D = (-5, 3) E =(2, -6) F = (1, -3)

Formation of figures plotting and naming

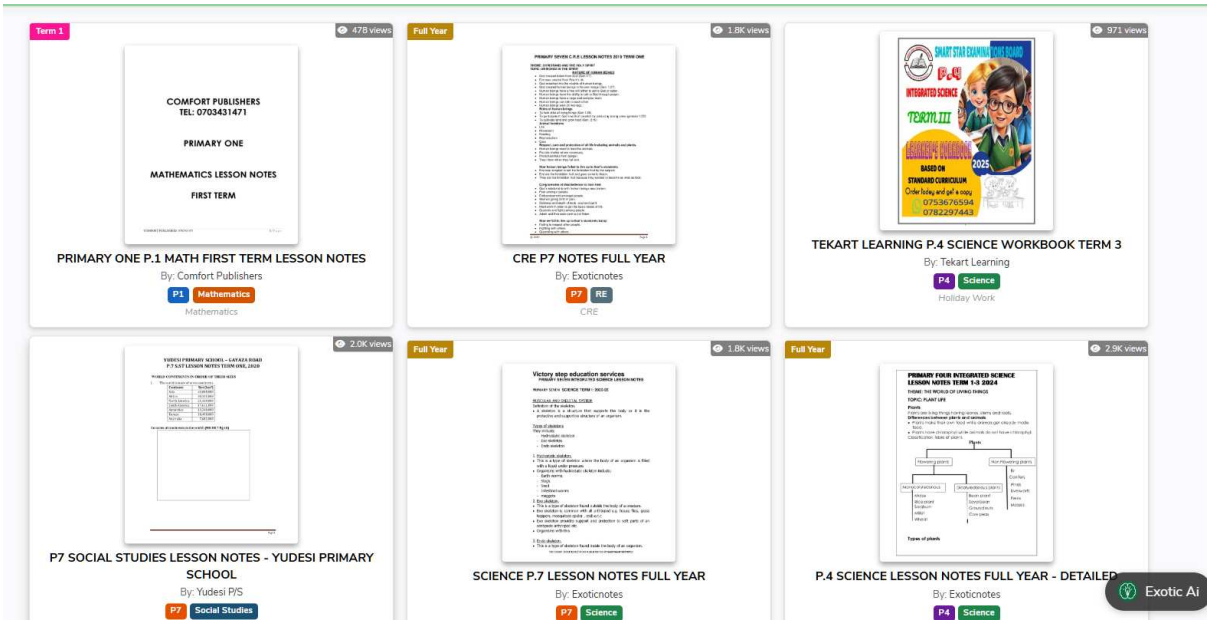


a) Name the plot co-ordinate of points of the figures
b) Draw a 10 by 10 grid co-ordinate graph and plot the following points. A(4,4) B(0,0) C(4,0)
c) Join the points and name the figures formed.



a) Name the plot co-ordinate of points of the figures
b) Draw a 10 by 10 grid co-ordinate graph and plot the following points. A(4,4), B(0,0) C (4,0)
c) Join the points and name the figures formed.

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