Name: …….. Stream: …….

NUMERACY

RATIOS AND PROPORTIONS.

Expressing ratios as fractions and fractions as ratios.

NOTE: To express ratios as fractions the first term is the numerator and the second term is the denominator.

E.g. 2: $1 = \frac{2}{1}$, $3 : 4 = \frac{3}{4}$, $1 : 8 = \frac{1}{8}$

- To express a fraction as a ratio, the numerator is the first term and the denominator is the second term e.g. $^{3}/_{5} = 3 : 5$, $^{4}/_{9} = 4 : 9$, $^{7}/_{8} = 7 : 8$

Exercise:

1. Express $^{1}/_{3}$ as a ratio.

2. $^{5}/_{6}$ of the pupils in class are present. Express this in ratio form.

3. Write $\frac{2}{4}$ as a simplified ratio.

4. Express 1 : 2 as a fraction.

5. The ratio of boys to girls is 2 : 3. Express this in fraction form.

6. Express 7 : 8 as a fraction.

SIMPLE FRACTIONS / RATIOS AND PROPORTIONS.

COMPARING QUANTITIES USING RATIOS.

- A ratio is the comparison of two or more quantities of the same kind.
- Ratios are compared using division.
- **NOTE:** If the given qualities are in different units, change them to a common unit then divide / reduce.

Examples:

1. Express 20 cm as a ratio to 100 cm in their simplest form.

- 20 cm : 100 cm $= \frac{20\text{ cm}}{100\text{ cm}}$

$= \frac{20\text{ cm}}{100\text{ cm}}$

$= \frac{2}{10}$

$= 1 : 5$

∴ 20 cm : 100 cm = 1 : 5

---

2. Express 250 g as a ratio to 1 kg in its simplest form.
   Change the quantities to a common unit.

250 g : 1 kg

Since 1 kg = 1000 g

250 g : 1000 g

250 g : 100 g $= \frac{250\text{ g}}{1000\text{ g}}$

$= \frac{1}{4}$

∴ 250 g : 1000 g = 1 : 4

---

3. In a class of 40 pupils, 15 are boys and 25 are girls. What is the ratio of girls to boys?

Girls : Boys

25 : 15 $= \frac{25}{15}$ $= \frac{5}{3}$

$= \frac{25}{15}$ $= 5 : 3$

∴ The ratio of girls to boys is 5 : 3

<u>Activity</u>:

1. Martha has 12 mangoes and Patricia has 20 mangoes. What is the ratio of Martha's mangoes to Patricia's mangoes?

2. Express 24 minutes as a ratio of one hour.

3. 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?

   (c) What is the ratio of girls to the whole class?

4. Express 250 g as a ratio of 2 kgs.

5. There are 90 goats on a farm of 360 animals. Express the goats as a ratio of the total number of animals.

SOLVING PROBLEMS INVOLVING RATIOS.

Examples:

1. Paul and Mary had oranges in the ratio of 2 : 3 respectively. If Mary had 15 oranges. How many did Paul have?

Paul : Mary
2 : 3

? : 15
3 parts rep. 15 oranges
1 part rep. $\frac{15}{3}$ oranges

2 parts rep ($\frac{15 \times 2}{3}$) orange

$= (\frac{\overset{5}{\cancel{15}} \times 2}{\underset{1}{\cancel{3}}})$ oranges

= 10 oranges

∴ Paul had 10 oranges.

2. How many oranges did they have altogether?

Paul : Mary total ratio
2 : 3 2 + 3 = 5
? : 15
Since 3 parts rep 15 oranges
1 part rep. $\frac{15}{3}$ oranges

5 parts rep (15 x 5) oranges

$= (\frac{\overset{5}{\cancel{15}} \times 5}{\underset{1}{\cancel{3}}})$ oranges

= (5 x 5) oranges
= 25 oranges
∴ They had 25 oranges.

Exercise:

1. The cost of a pen and a book are in the ratio of 5 : 3 respectively. If a pen costs sh.2000. What is the cost of a book?

2. The cost of a book and a ruler is in the ratio of 3 : 1. What is the cost of a book if a ruler costs sh.250?

3. Farmers loaded bunches of matooke on a lorry in the ratio of 2 : 5. If the first farmer loaded 18 bunches, how many bunches did the second farmer load?

4. The ratio of Adults to children in a congregation is 3 : 5. If there are 60 children, how many Adults are there?

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

SIMPLE FRACTIONS (RATIOS)

INCREASING QUANTITIES IN A GIVEN RATIO.

Examples:

1. Increase 200 books in the ratio of 5 : 4.

New : Old

5 : 4

? : 200 books

Since 4 parts rep. 200 books

1 part rep. $\frac{200}{4}$ books

5 parts rep ($\frac{200}{4}$ x 5) books

$= (\frac{\cancel{200}^{50}}{\cancel{4}_{1}} \times 5)$ books

= 250 books

2. A man's salary was increased from sh.560,000 in a ratio of 8 : 7. What is his new salary?

New : Old

8 : 7

Since 7 parts rep. sh.560,000

1 part rep sh. $\frac{560,000}{7}$

8 parts rep sh.($\frac{560,000}{7}$ x 8)

$= \frac{\text{sh.}\cancel{560,000} \times 8}{\cancel{7}_{1}}$

= sh.80,000 x 8

= sh.640,000

ACTIVITY:

1. Increase sh.3000 in the ratio of 2 : 1.

2. In Gayaza Junior School the fees structure was sh.1,000,000. This structure was increased in the ratio 5 : 4. What is the new fees structure?

3. The number of cars in Wakiso district were 18,000 vehicles last year. This year it has increased in the ratio of 7 : 5. How many vehicles are in Wakiso this year?

4. If sh.150,000 is increased in the ratio of 5 : 3. What will be the new amount?

5. Increase sh.120,000 in the ratio of 3 : 2.

SIMPLE FRACTIONS (RATIOS)

DECREASING QUANTITIES IN A GIVEN RATIO.

Example:

1. Decrease sh.1000 in the ratio of 3 : 5.

New : Old	3 parts rep. sh (1000 x 3)
3 : 5	$= sh(\frac{\cancel{1000}^{200} \times 3}{\cancel{5}_{1}})$
? : sh.1000	$= sh.200 \times 3$
Since 5 parts rep sh.1000	$= sh.600$
1 part rep. sh. $\frac{1000}{5}$	

2. Decrease sh.2000 in the ratio of 4 : 5.

New : Old	4 parts rep sh.$(\frac{2000}{4} \times 4)$
4 : 5	$= sh(\frac{\cancel{2000}^{400} \times 4}{\cancel{5}_{1}})$
? : sh.2000	$= sh.(400 \times 4)$
Since 5 parts rep sh.2000	$= sh.1600$
1 part rep. sh. $\frac{2000}{5}$	

Activity:

1. Decrease 400 cows in the ratio of 3 : 4.

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

3. An article used to cost sh.4000. The price decreased in the ratio of 2 : 5. What is the new cost of the article?

4. The marked price of a radio is sh.90,000. A man bought it at a reduced price in ratio of 7 : 9. How much did he pay for the radio?

5. A cook's salary of sh. 180,000 was decreased in the ratio of 9 : 10. What is his new salary?

6. Decrease 400 kg in the ratio of 2 : 5.

SIMPLE FRACTIONS.

FINDING THE RATIO OF INCREASE / DECREASE.

Examples:

1. A man's salary was decreased from sh.10,000 to sh.8000. In what ratio was it decreased?

   New : Old

   Sh.8000 : sh.10000

   $$\text{Sh.8000 : sh. 10000} = \frac{\cancel{sh.8000}^{4}}{\cancel{sh.10000}_{5}}$$

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

   $$= 4 : 5$$

∴ It was decreased in the ratio of 4 : 5.

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2. The number of pupils in primary six class was 180 last year. This year it has increased to 240 pupils. In what ratio has it increased?

   New : Old = 4 : 3

   240 : 180 ∴ It has increased in the ratio of 4 : 3.

   $$240 : 180 = \frac{\cancel{240}^{4}}{\cancel{180}_{3}}$$

$= \frac{4}{3}$

Exercise:

1. A school had 1,200 pupils last year. This year the number decreased to 1000 pupils. In what ratio has the number decreased?

2. Hannah's salary of sh.50,000 was decreased by sh.10000. In what ratio was her salary decreased?

3. A man's salary was sh.100,000. If it was increased to sh.120,000. What is the ratio of increase?

4. A class had 35 pupils last year. This year the number increased by 5 pupils. In what ratio has the number increased?

5. The price of an article was sh.1600 last month. It was increased to sh.2000. In what ratio was the price increased?

6. The price of a bicycle was sh.70000. It was decreased by sh.7000. In what ratio was the price decreased?

SIMPLE FRACTIONS.

SHARING QUANTITIES IN A GIVEN RATIO.

Examples:

1. A mother shared 35 mangoes to her daughters Betty and Joan in the ratio of 2 : 5 respectively. How many did each get?

Betty : Joan

2 : 5

Since 7 parts rep. (35) sweets

1 part rep. $(\frac{35}{7})$ sweets

Betty's share

1 part = $\frac{35}{7}$ sweets

2 part = $(\frac{\overset{5}{\cancel{35}}}{\underset{1}{\cancel{7}}} \times 2)$

= (5 x 2) sweets

= 10 sweets

∴ Betty got 10 sweets

Total share

= 2 + 5

= 7 parts

Joan's share

1 part = $\frac{35}{7}$ sweets

5 parts = $(\frac{\overset{5}{\cancel{35}}}{\underset{1}{\cancel{7}}} \times 5)$ sweet

= (5 x 5) sweets

= 25 sweets

∴ Joan got 25 sweets

In a village council meeting, there were 280 people. The ratio of children to women to men was 2 : 3 : 5 respectively.

How many people of each category were there?

Total share = 2 + 3 + 5

= 10

Since 10 parts rep. 280 people

1 part rep. $\frac{280}{10}$ people

$= \frac{280}{10}$

= 28 people

Children = 2	women = 3	men = 5
2 8 x 2 5 6 children	28 x 3 84 women	28 x 5 140 men

Exercise

1. Share sh.120 between Jane and Lydia in the ratio of 1 : 4.

2. A mother shared sh.36,000 between Betty and Jacky in the ratio of 4 : 5 respectively. How much did each get?

3. Sh.84,000 was shared by Emma and Patience in the ratio of 3 : 4 respectively. How much did each get?

4. Divide 4200 kg of sugar between Martin and Steven in the ratio of 2 : 5 respectively. How much did each get?

5. A sum of sh.24,000 was shared by Amos, Andrew and Allan in the ratio of 1 : 2 : 3 respectively. How much did each get?

FINDING THE QUANTITY SHARED IN A GIVEN RATIO.

Examples:

1. Daddy shared sweets between Fred and Samuel in the ratio of 2 : 3 respectively. If Samuel got 21 sweets. How many sweets did they share?

Fred	:	Samuel	Total share
2	:	3	= 2 + 3
?	:	21 sweets	= 5

3 parts rep. 21 sweets

1part rep. $\frac{21}{3}$ sweets

5 parts rep. ($\frac{21 \times 5}{3}$) sweets

$= \frac{\cancel{27}^{7}}{\cancel{3}_{1}} \times 5 \text{ sweets}$

$= 7 \times 5 \text{ sweets}$

$= 35 \text{ sweets}$

∴ They shared 35 sweets.

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2. Patricia and Patience contributed a certain amount of money to buy a text book in the ratio of 3 : 5 respectively. If Patience contributed sh.7000 more than Patricia. How much was their total contribution?

NB → Difference of ratios

Patricia : Patience	difference
3 : 5	5 - 3
? : ?	= 2 parts
2 parts rep. sh. 7000	7000
1 part rep. sh. $\frac{7000}{2}$	Total share
8 parts rep. sh. $\frac{7000 \times \cancel{8}^{4}}{\cancel{2}_{1}}$	$\frac{3 + 5}{8}$
= sh.7000 x 4	sh.7000
= sh. 28000	x 4
	Sh.28,000

∴ Their total contribution was sh.28,000.

EXERCISE

1. The ratio of green to Yellow fruits in a basket is 3 : 4. If 8 are yellow. How many fruits are in the basket?

2. The ratio of males to females in a club is 2 : 3 respectively. If there are 20 males. How many people are in the club?

3. The ratio of Buses to Lorries in a park is 3 : 5 respectively. If there are 6 more Lorries in the park. How many vehicles are in the park?

4. The ratio of males to female teachers in a school is 2 : 3. If there are 9 female teachers. What is the total number of teachers in the school?

5. The ratio of boys to girls in a class is 2 : 3 respectively. If there are 18 boys. How many pupils are in this class?

DIRECT PROPORTIONS.

- Proportion refers to the relationship between two variables / items.
- The variables / items increase at the same rate.

Examples:

1. The cost of a book is sh.200. What is the cost of 5 similar books.

   1 book costs sh.200
   5 books cost sh.200 x 5
   5 books cost sh.1000
   ∴ 5 books cost sh.1000.

   sh. 200
   x 5
   sh. 1000

2. 5 plates cost sh.7500. Find the cost of 3 similar plates.

   Since 5 plates cost sh.7500
   1 plate costs sh. $\frac{7500}{5}$
   3 plates cost sh. ($\frac{7500}{5}$ x 3)

   $= sh.\frac{1500}{\cancel{7500}} \times 3$
   $= sh.4500$

   ∴ 3 plates cost sh.4500.

   sh.1500
   x 3
   sh.4500

EXERCISE:

1. The cost of 5 books is sh.4000. What is the cost of 2 similar books?

2. If 8 pens cost sh.2400. Find the cost of 6 similar pens.

3. The cost of 3 kgs of sugar is sh.9600. What is the cost of 5 kgs of sugar?

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

5. A trader bought 4 bags of beans at sh.200,000. How much will he pay for 6 bags?

INDIRECT PROPORTIONS.

In indirect proportion, one quantity increases while another decreases.

Examples:

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 working at the same rate?

   3 men take 6 days

1 man takes (6 x 3) days

9 men take ($\frac{6 \times 3}{9}$) days

= $\frac{^{2}\cancel{6} \times \cancel{3}^{1}}{\cancel{9}_{\cancel{3}}}$ days

$_{1}$

= 2 days

∴ 9 men will take 2 days.

---

2. 5 men can do a piece of work in 20 days. How many men can do the same piece of work in 4 days?

20 days require 5 men

1 day requires (20 x 5) men

4 days require ($\frac{20 \times 5}{4}$) men

^{5}

= $\frac{\cancel{20} \times 5}{\cancel{4}_{1}}$ men

= (5 x 5) men

= 25 men

∴ 25 men can take 4 days.

ACTIVITY:

1. 2 children can dig the school garden in 8 days. How many children can do the same garden in 4 days?

2. 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?

3. 12 technicians can paint a building in 10 days. How long will 15 technicians take?

4. 16 people can mow a school compound in 5 days. How many people can do the same work in 20 days?

PERCENTAGES

Percentage:- Is a fraction whose denominator is 100. E.g. 25 out of 100 = $\frac{25}{100}$

OR: Percentage:- Is a special kind of ratio, a ratio of any given number to 100.
e.g 25 out of 100 = 25 : 100

Percent means for every one hundred.
The symbol for percentage is %.

ie (a) 43 out 100 = $\frac{43}{100}$

= 43% (Forty three percent)

(b) 16 out of 100 = $\frac{16}{100}$

= 16% (Sixteen percent)

EXPRESSING PERCENTAGE AS FRACTIONS.

Examples:

(a) Convert 21% to a fraction.

$21\% = \frac{21}{100}$

(b) Change 72% to a fraction in its simplest form.

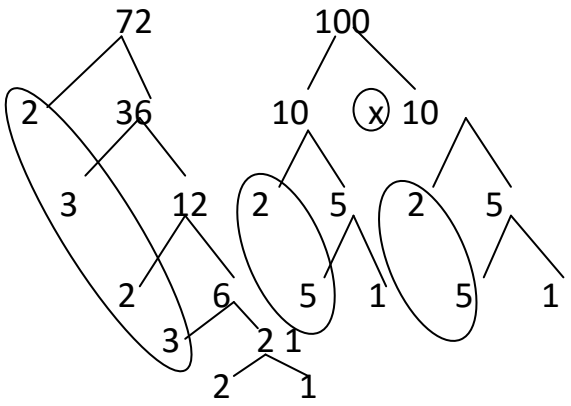
$72\% = \frac{72}{100}$

$\frac{72}{100} = \frac{\cancel{2} \times 3 \times \cancel{2} \times 2 \times 3}{\cancel{2} \times 5 \times \cancel{2} \times 5}$

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

$\frac{72}{100} = \frac{18}{25}$

Prime factorise



(c) Express 80% as a fraction in its lowest term.

$80\% = \frac{80}{100}$

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

$\frac{80}{100} = \frac{4}{5}$

Activity:

1. Write the following as fractions.
   (a) 24 out of 100 (c) 215 out of 100

   (b) 40 out of 100 (d) 7 out of 100

2. Use % to express the following as percentages.
   (a) 42 out of 100 (c) 58 out of 100

   (b) 23 out of 100 (d) 12 out of 100

3. Write the following in words.
   (a) 38% (c) 100%

   (b) 46% (d) 96%

4. Express the following percentages as fractions in their lowest terms.
   (a) 20%

   (b) 170%

   (c) 75%

   (d) 135%

   (e) 95%

EXPRESSING MIXED PERCENTAGES AS FRACTIONS.

Examples:

1. Write 12 ½ % as a fraction.

$12\frac{1}{2}\% = \frac{(2 \times 12) + 1}{2}$

$= \frac{24 + 1}{2}$

$= {}^{1}\cancel{25}/_{2}\% \times {}^{1}/_{\cancel{100}_{4}}$

$= \frac{25}{2}\% = \frac{25/2}{100}$

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

$= \frac{1}{8}$

$= {}^{25}/_{2} (\div {}^{100}/_{1})$

M25
25
50
75
100
125

2. Express 62½% as a fraction in its lowest term.

$62\frac{1}{2}\% = \frac{(2 \times 62) + 1}{2}$

$= \frac{124 + 1}{2}$

$= {}^{125}/_{2}\%$

$= \frac{125}{2}\% = \frac{125/2}{100}$

$= {}^{125}/_{2} (\div {}^{100}/_{1})$

$= {}^{5}\cancel{125}/_{2} \times {}^{1}/_{\cancel{100}_{4}}$

$= \frac{5 \times 1}{2 \times 4}$

$= \frac{5}{8}$

M25
25
50
75
100
125
150

Activity:

1. Write 33⅓% as a fraction.

2. Express 37½% as a fraction.

3. Write 16⅔% as a fraction.

4. Express 22½% as a fraction in its simplest form.

5. Express 6¼% as a fraction in its lowest term.

6. Write 170% as a fraction in its simplest form.

Expressing fractions as percentages.

Note: To change a fraction to percentage multiply by 100(%) symbol.

Example:

Change ⅘ to a percentage.

⅘ x 100%

$\frac{4}{\cancel{5}_{1}} \times \frac{\cancel{100}^{20}}{}\%$

4 x 20%

= 80%

or ⅘ x 100%

= ⅘ x $\frac{100}{100}$ (In this case do not divide the denominator of 100)

$= \frac{\cancel{4}}{\cancel{5}_{1}} \times \frac{\cancel{100}^{20}}{100}$

$= 4 \times \frac{20}{100}$

$= \frac{80}{100}$

= 80%

(b) Write $\frac{9}{4}$ as a percentage.

$\frac{9}{4}$

$\frac{9}{\cancel{4}_{1}} \times \frac{\cancel{100}^{25}}{}\%$

9 x 25%

= 225%

(c) Write 2½ as a percentage.

2½ x 100%

$(\frac{2 \times 2 + 1}{2}) \times 100\%$

$= \frac{5}{2} \times 100\%$

$\frac{5}{\cancel{2}_{1}} \times \frac{\cancel{100}^{50}}{}$

5 x 50%

= 250%

(d) Express ⅔ as a percentage.

⅔ x 100% = ⅔ x $^{100}/_{100}$ = 66⅔%

= ⅔ x $^{100}/_{100}$

= $\frac{2}{3_{1}}$ x $\frac{^{33\frac{1}{3}}100}{100}$

= $\frac{2 \times 33\frac{1}{3}}{100}$

= $\frac{(2 \times 33) + (2 \times \frac{1}{3})}{100}$

ALTERNATE

⅔ x 100% = $\frac{2 \times 100}{3}$%

= 200%
3

= 66⅔%

Exercise:

1. Convert the following to percentage.

(a) ¼

(b) $^{7}/_{20}$

(c) $\frac{4}{10}$

(d) $\frac{1}{5}$

(e) $\frac{11}{20}$

(f) $\frac{7}{40}$

(g) ⅗

CHANGING DECIMALS TO PERCENTAGES.

Examples:

1. Express 0.5 as a percentage.

$0.5 = 0.5 \times 100\%$

$= \frac{5}{10} \times 100\%$

$= \frac{5}{\cancel{10}} \times 100\%$

$= 50\%$

or

$0.5 \times 100\%$

$\frac{5}{10} \times \frac{100}{100}$

$= \frac{5}{\cancel{10}} \times \frac{\cancel{100}}{100}$

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

$= \frac{50}{100}$

$= 50\%$

2. Example II Write 0.04 as a percentage.

$0.24 = 0.24 \times 100\%$

$= \frac{24}{100} \times 100\%$

$= \frac{24}{\cancel{100}} \times \cancel{100}\%$

$= 24 \times 1\%$

$= 24\%$

3. Express 2.75 as a percentage.

$2.75 = 2.75 \times 100\%$

$= \frac{275}{100} \times 100\%$

$= \frac{275}{\cancel{100}} \times \cancel{100}\%$

$= 275 \times 1\%$

$= 275\%$

Exercise:

(a) Express 0.3 as a percentage.

(b) Write 0.7 as a percentage.

(c) Express 0.27 as a percentage.

(d) Write 0.72 as a percentage.

(e) Express 0.62 as a percentage.

(f) Write 1.25 as a percentage.

CHANGING PERCENTAGES TO DECIMALS.

Examples:

1. Express 65% as a decimal fraction.

   65% = $^{65}/_{100}$

   = $^{65}/_{100}$

   = $\frac{00.65}{100}$

   = 0.65

   x 00.65

   100 | 650

   6 x 100 600

   500

   5 x 100 - 500

2. Write 130% as a decimal.

   130% = $\frac{130}{100}$

   = $\frac{13\cancel{0}}{10\cancel{0}}$ (reduce by 10)

   = 1.3

   x 1.3

   10 | 13

   13 1 x 10 - 10

   30

   3 x 10 - 30

   = 1.3

Note: The denominator gives the place value of the last digit in the numerator i.e tenth

$\frac{34}{10}$ = 3.4

Exercise:

(a) Express 25% as a decimal fraction.

(b) Change 30% to a decimal.

(c) Write 42% as a decimal.

(d) Express 75% as a decimal.

(e) Change 125% to a decimal.

(f) Express 69% as a decimal.

EXPRESSING RATIOS AS PERCENTAGES.

Examples

Write 2 : 5 as a percentage. (express the ratio as a fraction, multiply by 100%).

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

$= \frac{2}{5} \times 100\%$

$= \frac{2}{\cancel{5}_{1}} \times \frac{\cancel{100}^{20}\%}{}$

$= 2 \times 20\%$

$= 40\%$

Express 7 : 8 as a percentage.

$7 : 8 = \frac{7}{8}$

$= \frac{7}{8} \times 100\%$

$= \frac{7}{\cancel{8}_{2}} \times \frac{\cancel{100}^{25}}{}$

$= \frac{7 \times 25\%}{2}$

$= \frac{175\%}{2}$

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

$2 \overline{)175}$ = 0.87

-16

15

$2 \times 7 = -14$

1

Exercise:

1. Express the ratio below as a percentage.
   (a) 4 : 5

(b) 1 : 5

2. Write 6 : 5 as a percentage.

3. Change 3: 4 to a percentage.

4. Express 5 : 8 as a percentage.

5. Write 2: 1 as a percentage.

EXPRESSING PERCENTAGES AS RATIOS.

Examples:

1. Express 45% as a ratio.

$$45\% = \frac{45}{100}$$

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

$$= \frac{\cancel{5} \times 3 \times 3}{2 \times 2 \times 5 \times \cancel{5}}$$

$$= \frac{9}{20}$$

$$= 9 : 20$$

5	45
3	9
3	3
	1

2	100
2	50
5	25
5	5
	1

2. Write 135% as a ratio.

$$135\% = \frac{135}{100}$$

$$= \frac{135}{100} \text{ reduce by } 5$$

$$= \frac{135 \div 5}{100 \div 5}$$

$$= \frac{27}{20}$$

$$= 27 : 20$$

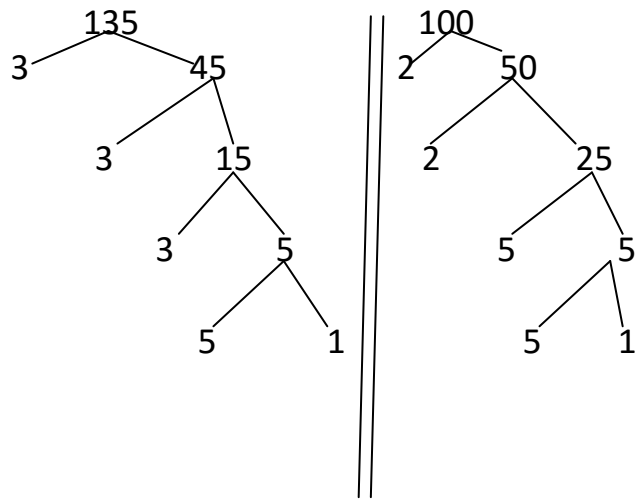
Or 135% = $\frac{135}{100}$

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

$= \frac{3 \times 3 \times 3 \times \cancel{5}}{2 \times 2 \times 5 \times \cancel{5}}$

$= \frac{27}{20}$

$= 27 : 20$



Exercise:

(a) Change 72% to a ratio.

(b) Write 95% as a ratio.

(c) Express 20% as a ratio.

(d) Write 80% as a ratio.

(e) Express 37% as a ratio.

NUMERACY:
FRACTIONS.
FINDING PARTS OF A PERCENTAGE.

The total percentage is 100%.

Examples;

a. In a class 80% are girls and the rest are boys. What is the percentage of boys in class?

   Let the % for y.

Boys	**Girls**	**total**
Y	45%	100%

   Y + 80% = 100%
   Y + 80% - 80% = 100% - 80%
   Y = 20%
   The percentage is 20%

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b. In a village 45% are women, 37% are male and the rest are children. What percentage are children.

   Let the % of children be K.

Children	women	men	total
K	45%	37%	100%

   K + 45% + 37% = 100%
   K + 82% = 100%
   K + 82% - 82% = 100% - 82%
   K = 18%

   The percentage for children is 18%.

Activity:

1. Mrs. Opio sold 60% of her land. What percentage of the land was left?

2. If 83% of the pupils in class are present, what percentage is absent?

3. A child read 25% of the book on Monday, 38% on Tuesday and 16% on Wednesday. What percentage is left to be read?

4. A parent spends 25% on fees, 20% on clothing, 15% on transport and the rest of the money is spent on other family needs. What percentage is spent on others?

5. 25% of the passengers on a train travel in 1st class, 35% travel in the 2nd class. What percentage of the passengers travel in the 3rd class?

6. 55% of the people in Uganda are Arsenal fans, 35% are Manchester United fans and the rest support other clubs. What percentage supports other clubs?

MORE ABOUT PERCENTAGE PARTS.

Note: The total percentage is 100%

Examples

1. In a class there are 20% more girls than boys.
   (a) What is the percentage of boys in class?
   Let the % for boys be q.

Boys	Girls	Total
q	q + 20%	100%

$q + q + 20\% = 100\%$

$2q + 20\% = 100\%$

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

$2q = 80\%$

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

$q = 40\%$

40% are boys

(b) What is the percentage of girls in class?

Girls = q + 20% | but q = 40
= 40% + 20%
= 60%
60% are girls.

2. A family spends 40% less on clothes than school fees. What percentage is spent on fees?

Let the % for fees be m

Fees	clothes	Total
M	M – 40%	100%

m + m - 40% = 100%
2m - 40% = 100%
2m - 40% + 40% = 100% - 40%
2m = 140%

$\frac{\cancel{2}m}{\cancel{2}} = \frac{\overset{70}{\cancel{140}}}{\cancel{2}}$

m = 70%

(b) What percentage is spent on clothes?

Clothes = q - 40% | but q = 70%
= 70% - 40%
= 30%
30% is spent on clothes.

Activity:

1. In a school, there are 30% more old students than new students.
   a) What is the percentage of the new students?

b) What is the percentage of the old student?

2. Daddy spends 20% more on food than fuel.
   a) Calculate the percentage spent on fuel.

   b) What percentage is spent on food?

3. In Uganda, there are 40% more White cars than others.
   (a) What is the percentage of the cars which are not white?

(b) Calculate the percentage for white cars.

4. There are 20% less girls than boys in the class.
   a) What is the percentage of boys in class?

   b) Calculate the percentage of girls in class?

5. On a farm, there are 40% less bulls than cows.
   (a) What is the percentage of cows on the farm?

(b) Calculate the percentage of bulls on the farm.

EXPRESSING QUANTITIES AS PERCENTAGES.

Examples:

1. Express 60 desks as a percentage of 80 desks.

$= 60 \times 100\%$
$\quad 80$

$= \frac{\cancel{60}^{3}}{\cancel{80}_{4}} \times \frac{\cancel{100\%}^{25}}{1}$

$= 3 \times 25\%$

$= 75\%$

2. Express 200 g as a percentage of 2 kg.

1kg = 1000 g

2 kg = (2 x 1000) g

= 2000 g

$= \frac{\cancel{200}}{\cancel{2000}} \times \frac{10\cancel{0}\%}{1}$

$= 10\%$

2. Herny had 40 goats. He sold 15 of them. What percentage was sold?

$\frac{15}{\cancel{40}_{2}} \times \frac{\cancel{100}^{5}}{1}$

$\frac{15 \times 5\%}{2}$

$\frac{75\%}{2}$

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

d x 37 w

2 ⟌ 75

6

15

- 14

1 n

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

b) What percentage was not sold?

40 - 15 = 25

Unsold fraction = $\frac{25}{40}$

$= \frac{25}{\cancel{40}_{2}} \times \frac{\cancel{100}^{5}\%}{}$

$= \frac{25 \times 5\%}{2}$

$= 125\%$

$\frac{2}{}$

$= 62\frac{1}{2}\%$

X 0.62

d 2 | 125

0

12

12

5

4

1^{n}

$= 62\frac{1}{2}$

Activity:

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 class passed their exams;
   a) What percentage of the pupils passed the exams?

   b) What percentage of the pupils failed the exams?

4. Express 24 minutes as a percentage of 1 hour.

5. Express 500 g as a percentage of 2 kg.

6. Express 750 ml as a percentage of 1 litre.

FINDING QUANTIITIES EQUVALENT TO PERCENTAGE.

Examples:

a) What is 20% of 500 g?

= 20% of 500 g

= $\frac{20}{100} \times 500$ g

= (20 x 5) g

= 100 g

b) What is 50% of an hour?

50% of 1 hour

1 hour = 60 minutes

50% of 1 hour

= $\frac{50}{100} \times 60$ minutes

= (5 x 6) minutes

= 30 minutes

c) What is 60% of 3 dozens of books?

60% of 3 dozens of books

1 dozens = 12 books

3 dozens = (3 x 12) books

= 36 books

60% of 36 books

$\frac{60}{100} \times 36$

= $\frac{6 \times 36}{10}$

= $\frac{216}{10}$

= 21.6 books

d) What is 12½% of 800 people?

12½% of 800 people

$\frac{(2 \times 12) + 1}{2}$% of 800

$\frac{25}{2}$% of 800 people

$\frac{25}{2}$ (÷ $\frac{100}{1}$) x 800 people

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

$= 25 \times 4$

$= 100$ people

Activity:

1. What is 12% of 2400 litres?

2. A school bought 450 kg of rice at the beginning of the term, 72% was used.
   a) How many kgs were used?

   b) How many kgs were not used?

3. What is 12¼% of sh.4000?

4. Find 15% of 840 metres.

5. What is 25% of 1 kg?

6. A maths test was marked out of 25. If Angella got 72%, what was his original mark?

SHARING QUANTITIES USING PERCENTAGES.

Examples:

1. In a class of 80 pupils, 30% are boys and the rest are girls.
   a) What is the percentage of girls in class?
      100% - 30% = 70%
      70% are girls.

   b) How many girls are in class?
      70% of 80 pupils are girls
      $= \frac{70}{100} \times 80$
      $= 7 \times 8$
      56 girls.

   c) How many boys are in class?
      30% of 80 pupils are boys.
      $= \frac{30}{100} \times 80$
      $= 3 \times 8$
      = 24 boys

Activity:

1. Grace earns sh.24,000. She spends 75% and saves the rest.

   a) What percentage is saved?

b) How much does she save?

c) How much does she spend?

2. A school has 400 students 55% are girls and the rest are boys.
   a) What is the percentage of boys?

   b) How many boys are in the school?

   c) Find the number of girls in school.

3. (a) There are 120 pupils in class. If 15% are absent, what percentage is present?

(b) How many pupils are present?

(c) How many pupils are absent?

4. There are 1500 people in the village 35% are women, 25% are men and the rest are children.
   i) What is the percentage for children?

   ii) Find the number of children in the village.

iii) How many more women than men are in the village?

5. On a poultry farm of 400 chicken, 70% of them are layers and the rest are broilers.
   a) Calculate the percentage for broilers.

   b) How many broilers are on the farm?

   c) Find the number of layers on the farm.

FORMING AND SOLVING EQUATIONS INVOLVING PERCENTAGES.

Examples:

1. If 10% of a number is 400. What is the number?
   Let the number be K.

$$10\% \text{ of } K = 400$$

$$\frac{10}{100} \times K = 400$$

$$\frac{10}{100} k = 400$$

$$\frac{\cancel{10}k}{\cancel{10}} = \frac{40000}{10}$$

$$k = 4000$$

$\frac{100}{100} \times \frac{10k}{100} = 400 \times 100$

$10k = 40000$ The number is 4000

2. If 5% of a number is 200, what is 35% of the same number?

Let the number be q

5% of q = 200

$\frac{5}{100} \times q = 200$

$\frac{5q}{100} = 200$

$\frac{100}{100} \times \frac{5q}{100} = 200 \times 100$

$5q = 20000$

$\frac{5q}{5} = \frac{20000}{5}$

$q = 4000$

∴ 35% of 4000

$= \frac{35}{100} \times 4000$

$= 14000$

$35 \times 4 = 140$

Activity:

1.If 70% of my salary is sh.28000. What is my salary?

2. If 80% of a number is 2000. What is 20% of the same number?

3. After walking 20% of the journey, Peter still had 60 km to go. How long was the journey?

4. After spending 20% of my salary on fees, I remained with sh.20,000 only. How much is my income?

INCREASING QUANTITIES BY PERCENTAGES.

Note: Increase means add on.

Examples:

1. Increase sh.500 by 20%.
   Original number is 100% = sh.500
   New number = 100% + 20% of sh.500
   = 120% of sh.500
   = $\frac{120}{100}$ x sh.500
   = 120 x sh.5
   = sh.600
   ALTERNATIVE
   Increase sh.500 by 20%.
   The increase = 20% of sh.500
   = $\frac{20}{100}$ x sh500
   = 20 x sh.5
   = sh.100
   New amount = sh.500 + sh.100
   = sh.600

   sh. 500
   + sh. 100
   sh. 600

2. Norah's salary was increased by 24%. She used to earn sh.120,000. Calculate her new salary.

New amount = 100% + 24%
= 124%
New amount = 124% of 120,000
= $\frac{124}{1\cancel{00}}$ x sh.120$\cancel{00}$
= 124 x sh.1200
= sh.148,800

124
x 12 (10 + 2)
248
1240
1488

3. Increase 800 pupils by 12½%.

New number in % = 100% + 12½%
= 100% + 12% + ½%
= 112% + ½%
= 112½%

New number = 112½% of 800 pupils.

$= (112 \times 800) + (\frac{\cancel{1}}{\cancel{2}}{}^{400} \times \cancel{800}) \div \frac{100}{1}$

$= (89600 + 400 (\div \frac{100}{1}$)

= 90000 x $\frac{1}{100}$
= 900 pupils

Activity:

1. Increase 540 kg by 30%.

2. Increase 1200 cows by 22⅓%.

3. The school enrolment is 600 people. The predicted increase in 5 years is 35%. What will be the increase in 5 years?

4. The price of a radio was increased by 30% from sh.90,000. What is the new price of the radio?

5. Increase 1800 chairs by 15%.

6. Increase 5400 litres by 10%.

DECREASING QUANTITIES BY PERCENTAGES.

Note:- To decrease means to reduce, deduct or subtract.

Examples:

1. Decrease sh.2000 by 25%.
   Original number is 100% = sh.2000

New number = (100% - given %) of the original number.

(100% - 25%) of sh.2000

= 75% x sh.2000

100

$= \frac{75}{100} \times$ sh.2000

New number = sh.1500

75 x 2 = 150

ALTERNATIVE

Decrease sh.2000 by 25%

The decrease = 25% of sh.2000

$= \frac{25}{100} \times$ sh.200

= sh.500

New amount = sh.2000 - sh.500

= sh.1500

1 × 25 × 2 = 50

10 × 2000 - 500 = 1500

2. The number of pupils in a school last year was 400. This year the number decreased by 10%. What is the new number of pupils in the school this year?

New amount in % = 100% - 10%

= 90%

= 90% of 400

$= \frac{90}{100} \times 400$

$= 90 \times 4$

$= 360$

The new number of pupils is 360.

3. Decrease 720 mangoes by 33⅓%.

New amount in % = 100% - 33⅓%

= 100% - 33% - ⅓%

= 67% - ⅓%

= (67 - 1) - ⅓

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

= 66⅔%

New amount = 66⅔% of 720 mangoes

$= (66 \times 720) + (\frac{2}{3}_{1} \times 720) \div \frac{100}{1}$

$= 47520 + 480 \div \frac{100}{1}$

$= 48000 \ (\div \frac{100}{1})$

$= 48000 \times \frac{1}{100}$

New amount = 480 mangoes.

Activity:

1. Reduce 700 kg by 35%.

2. Decrease sh.3600 by 12½%.

3. The price of a radio is sh.80,000. If it is decreased by 10%. What is the new price of the radio?

4. The number of books in the library is 18000. What is the new number, if books are decreased by 20%?

5. Decrease 4800 cattle by 30%.

6. Reduce 4500 litres of water by 25%.

FINDING PERCENTAGE INCREASE.

Note: Percentage increase = $\frac{\text{increase}}{\text{Original No.}}$ x 100%

Examples:

1. By what percentage will 500 goats be increased to 600 goats?

   The increase = 600
   − 500
   100

   % increase = $\frac{\text{increase}}{\text{Original No.}}$ x 100%

   = $\frac{100}{500}$ x $\frac{20}{100}$
   1

   = 20%

---

2. A worker's salary was increased from sh.15000 to sh.18000. By what percentage was the salary increased.

   The increase = sh.18000
   − Sh.15000
   Sh. 03000

   % increase = $\frac{\text{increase}}{\text{Original No.}}$ x 100%

   = $\frac{3000}{15000}$ x 100%
   $\frac{20}{60}$
   3
   1

   = 20%

Activity:

1. By what percentage will 800 cows be increased to 880 cows?

2. When 480 porters are increased by n%, they become 540 porters. Calculate the value of n.

3. A farmer had 800 heads of cattle last year, this year he has 1200. By what percentage did the number increase?

4. By what percentage will 960 boys be increased to 1056 boys?

5. The number of pupils in a school increased from 5oo pupils to 750. Calculate the percentage increase.

6. By what percentage will 300 books be increased to 450 books?

FINDING PERCENTAGE DECREASE.

Note:- Percentage decrease = $\frac{\text{decrease}}{\text{Original No.}}$ x 100%

Examples:

1.When 240 pupils is decreased it becomes 192.

Calculate the percentage decrease.

The decrease = 240 − 192 = 078

% decrease = $\frac{\text{decrease}}{\text{Original No.}}$ x 100%

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

$= 2 \times 10\%$

$= 20\%$

3. After decreasing 630 by a certain percentage it becomes 441. Calculate the percentage decrease.

512 10
630
− 441
189

% decrease = $\frac{\text{decrease}}{\text{Original No.}}$ x 100%

= $\frac{189}{630}$ x 100%

= 3 x 10%

= 30%

Activity:

1. By what percentage will 900 birds be decreased to 810?

2. The number of pupils at the beginning of the year was 480, at the end of the year they were 360. By what percentage did the children decrease?

3. When 300 is decreased it becomes 270. Calculate the percentage decrease.

4. I bought a radio for sh.50,000 and later sold it at sh.35000. Calculate the percentage decreased?

5. When 1000 is decreased by X% it becomes 900. Find the value of x.

6. A man's salary was sh.18000, it was reduced to sh.15300. Find the percentage decrease.

FINDING PERCENTAGE PROFIT.

Profit:- Is the amount of money gained in business activity. Profit is realized when the selling price is more than the buying price.
Profit:- Selling price - Buying price (P = Sp - BP).

Selling price :- I the amount of money at which an item is bought.

Percentage profit = $\frac{\text{Profit}}{\text{Buying price}} \times 100\%$

Buying price:- Is the amount of money at which an item is bought.

Examples:

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

   Profit = S.P - B.P

   Profit made = sh.12000
   − sh.10000
   sh.02000

   % profit = $\frac{\text{Profit}}{\text{B.P}}$ x 100%

   = $\frac{\text{sh.2000}}{\text{sh.10000}}$ x 100%

   = 2 x 10%

   = 20%

   The percentage profit was 20%

---

2. A trader bought a book at sh.16,000 and later sold it at sh.20,000. Calculate his percentage profit.

   Profit = S. P - B.P

   110
   = sh.20000
   − sh.16000
   sh.04000

   025
   4 | 100
   0
   10
   - 8
   20
   - 20
   00

   % profit = $\frac{\text{profit}}{\text{B.P}}$ x 100%

   = $\frac{\text{sh.4000}}{\text{Sh.16000}}$ x 100%

   = 25%

Activity:

1. Grace bought a radio at sh.40,000 and sold it at sh.50,000. What was his percentage profit?

2. Paul bought a shirt at sh.12,000 and later sold it at sh.15,000. What was his percentage profit?

3. Samuel bought a chair at sh.20,000 and sold it at sh.21,000. What was Samuel's percentage profit?

4. A man bought a phone at sh.500,000 and later sold it at a profit of sh.40,000. Calculate the percentage profit.

5. After selling a television for sh.800,000, Joel gained sh.50,000. Calculate his percentage gain.

6. The profit on a dress which was sold at sh.48,000 was sh.3000. Calculate the percentage profit.

FINDING PERCENTAGE LOSS.

Loss:- Is the amount of money lost in business activity. Loss is realized when the buying price is more than the selling price.

Loss = Buying price - Selling price

Percentage loss = $\frac{\text{Loss}}{\text{Buying price}}$ x 100%

Examples:

1. Dad bought a radio at sh.40,000 and later sold it at sh.30,000. Calculate his percentage loss.

Loss = B.P _ S.P
= sh.40000
– sh.30000
sh.10000

x 025
4 ⟌ 100
- 0
10
– 8

$$\% \text{ profit} = \frac{\text{Loss}}{\text{B.P}} \times 100\%$$

$$= \frac{\text{sh.}10000}{\text{sh.}40000} \times \frac{25}{100}\%$$

$$= 25\%$$

20
− 20
00

2. A loss on a shirt which was sold at sh.50,000 was sh.6000. Calculate the percentage loss.

$$\% \text{ loss} = \frac{\text{loss}}{\text{B.P}} \times 100\%$$

$$= \frac{\text{Sh.}6000}{\text{Sh.}56000} \times \frac{25}{100}\%$$

$$= \frac{3 \times 25\%}{7}$$

$$= \frac{75}{7}\%$$

$$= 10\tfrac{5}{7}\%$$

3. Calculate the percentage loss if the buying price is sh.58000 and selling price is sh.50,000.

Loss = B.P - S.P

= sh.58000
− sh.50000
sh.08000

$$\% \text{ loss} = \frac{\text{loss}}{\text{B.P}} \times 100\%$$

$$= \frac{\text{sh.}8000}{\text{sh.}58000} \times 100\%$$

$$= \frac{4 \times 100\%}{29}$$

$$= \tfrac{400}{29}\%$$

$$= 13\tfrac{23}{29}\%$$

Activity:

1. Peter bought a shirt at sh.15000 and later sold it at sh. 12000. Find his percentage loss.

2. Betty bought a car at sh.8,000,000 and later sold it at sh.6,000,000. Calculate her percentage loss.

3. A trader bought cassava at sh.30,000 and later sold it at a loss of sh.6000. Calculate the percentage loss.

4. Calculate the percentage loss on a phone bought at sh.75000 and sold at sh.60,000.

5. By selling a bag at sh.12,000, a trader made a loss of sh.6000. Calculate the percentage loss.

6. A man bought a jerrycan at sh.75000 and later sold it at sh.60,000. Calculate his percentage loss.

SIMPLE INTEREST

Simple Interest = Principal x Rate X Time

(SI = P x R x T)

Interest:- Is the extra money paid after using another party's money.

Principal:- Is the amount of money kept or borrowed in the bank on which Interest is paid.

Rate:- Is the percentage charged every year (per anum).

Note:- Express rate as a fraction i.e 25% = $^{25}/_{100}$.

Time:- Is the period in months or years that the principal is kept or Invested.

Note:- If the time is in months change it to years i.e. 9 months = $^{9}/_{12}$.

Examples:

1. Calculate the simple interest on sh.120,000 kept for 2 years at a rate of 15% per year.

   ST = P x R x T
   = sh.120,000 x 15% x 2
   = sh.120,000 x $^{15}/_{100}$ x 2

   = sh.1200 x 15 x 2
   = sh.1200 x 30
   = sh.36000

---

2. Daddy deposited sh.80,000 for 5 years at a simple Interest rate of 25% per annum. Calculate his simple interest.

   SI = P x R x T
   = sh.80000 x 25% x 5
   = sh.80000 x $\frac{25}{100}$ x 5
   = sh.800 x 25 x 5
   = sh.800 x 5 x 25
   = sh.4000 x 25
   = sh.100,000

---

3. A man borrowed sh.96000 for 6 months at 5% per year. What Simple Interest did he pay?

   SI = P x R x T
   = sh.96000 x 5% x 6 months
   = sh.^{480}96000 x $\frac{5}{100}$ x $\frac{^{1}6}{^{2}12}$
   = sh.480 x 5
   = sh.2400

   4
   48
   x 5
   240

Activity:

1. Calculate the Simple Interest on sh.80,000 for 2 years at 12% per annum.

2. Calculate the Simple Interest on sh.120,000 kept for 4 months at a rate of 15% per year.

3. Opio kept sh.150,000 in the bank which gives an interest rate of 10% for 2½ years. Calculate his Simple Interest.

4. Find the Simple Interest on sh.200,000 borrowed for 3 months at an Interest rate of 12% per month.

5. Akello borrowed sh.300,000 from the bank and promised to pay back the loan at an Interest rate of 12% per annum for 3 years. Calculate the Simple Interest Rate.

FRACTIONS

SIMPLE INTEREST AND AMOUNT.

Amount:- Is the sum of money paid at the end of the contract / servicing the loan.

Amount:- Prinicipal + Interest

Examples:

1. Calculate the amount on sh.200,000 borrowed for 2 years at 8% per year.

SI = P x R x T

= sh.200,000 x 8% x 2

= sh.200,0~~00~~ x $\frac{8}{1~~00~~}$ x 2

= sh.2000 x 8 x 2

= sh.32,000

Amount = Principal + Interest

= sh.200000

+ sh. 32000

sh.232,000

2. Uncle borrowed sh.450,000 from the bank and promised to pay an Interest rate of 12% per annum for 2 years. Calculate the amount he paid at the of the contract.

SI = P x R x T
= sh. 450000 x 12% x 2
= sh.450000 x $\frac{12}{100}$ x 2
= sh.4500 x 12 x 2
= sh.9000 x 12
= 108,000

Amount = Principal + Interest
= sh.450000
+ sh.108000
sh.558000

He paid sh.558,000

3. A girl kept sh.180,000 in the bank for 9 months at 8% interest per year. Calculate the amount she will get at the end of the contract.

SI = P x R x T
= sh.180000 x 8% x 9 months
= sh.180000 x $\frac{2\ 8}{100}$ x $\frac{3\ 9}{12\ 4\ 1}$
= sh.1800 x 2 x 3
= sh.10,800

Amount = Principal x Interest
= sh.180,000
+ sh. 10,800
sh.190,800

She will get sh.190,800

Activity:

1. Calculate the amount paid on a loan of sh.240,000 for 9 months at 10% per annum.

2. Grace has sh.45,000 in the bank
   a) How much Interest will she get after 2 year at 4% Interest?

   b) What will her amount be after 2 years?

3. Aunt borrowed sh.300,000 from a micro finance at an Interest of 10% per annum for 1½ years. Calculate the amount she paid at the end of the contract.

4. What amount will mummy pay back after borrowing sh.200,000 at an Interest rate of 15% for 3 months.

5. Dad deposited sh.40,000 for 5 years at a Simple Interest Rate of 2½% per year. Calculate the total amount of money paid after 5 years.

Name: …….. Stream: ……

HUMAN HEALTH

ALCOHOL, SMOKING AND DRUGS IN THE SOCIETY.

ALCOHOL IN THE SOCIETY

Alcohol

Alcohol is a chemical substance that is produced as a result of fermentation. Alcohol is a chemical substance contained in alcoholic drinks which when taken makes one drunk e.g. beers, spirits, wines. It is a chemical substance which can make one drunk when taken excessively.

Types of alcohol

1. Methanol (Methyl alcohol)
2. Ethanol (Ethyl alcohol)

Methanol is found mostly in home distilled alcohol.

- It is very dangerous and poisonous and may cause blindness or death.
- Methyl is used to mix some chemicals and medicines in industries and laboratories.
- It is used to kill germs on some medical instruments. (For sterilizing medical instruments).
- It can be used as a fuel.

Ethanol is contained in all alcoholic drinks that are consumed.

- It can also be used as a fuel.

Production of alcohol

Common alcoholic drinks are made from juices of bananas, pineapples, sugar cane, millet, maize, sorghum, barley, cassava, potatoes.

Yeast is added to the mixture of water and these food substances speed up fermentation.

Locally brewed alcohol and the raw materials used.

Alcohol	Raw Materials
Wine	Various fruits e.g. pineapples and bananas
Malwa (ajon)	Millet, sorghum
Omuramba	Sorghum
Kwete	Cassava / maize
Beer	Oats, barley, sorghum
Munanasi	Pineapples
Mwenge bigere (Tonto)	bananas

Methods of producing alcohol.

(i) Fermentation

(ii) Distillation

Fermentation

This is the process by which sugar in juice or liquid is turned into alcohol with the help of yeast.

Sugar $\xrightarrow{\text{yeast}}$ carbon dioxide + ethanol (alcohol)

What is the importance of yeast during fermentation?

It speeds up fermentation (catalyst)

- Fermented fruit juices make wine.
- Fermented starch mixture from grains or cereals make beer.

Source of yeast.

Yeast can be obtained from germinating cereals like millet or sorghum.

Activity:

(a) Which type of alcohol is poisonous to people?

.....

(b) How is the alcohol you have named above dangerous to people?

.....

2.Which type of alcohol is contained in most alcoholic drinks?

.....

3. Name three examples of alcoholic drinks.
   i) .....
   ii) .....
   iii) .....
4. Mention two ways of making alcoholic drinks.
   i) .....
   ii) .....
5. Mention two cereals which can be used for producing alcohol.
   i) ..... ii) .....

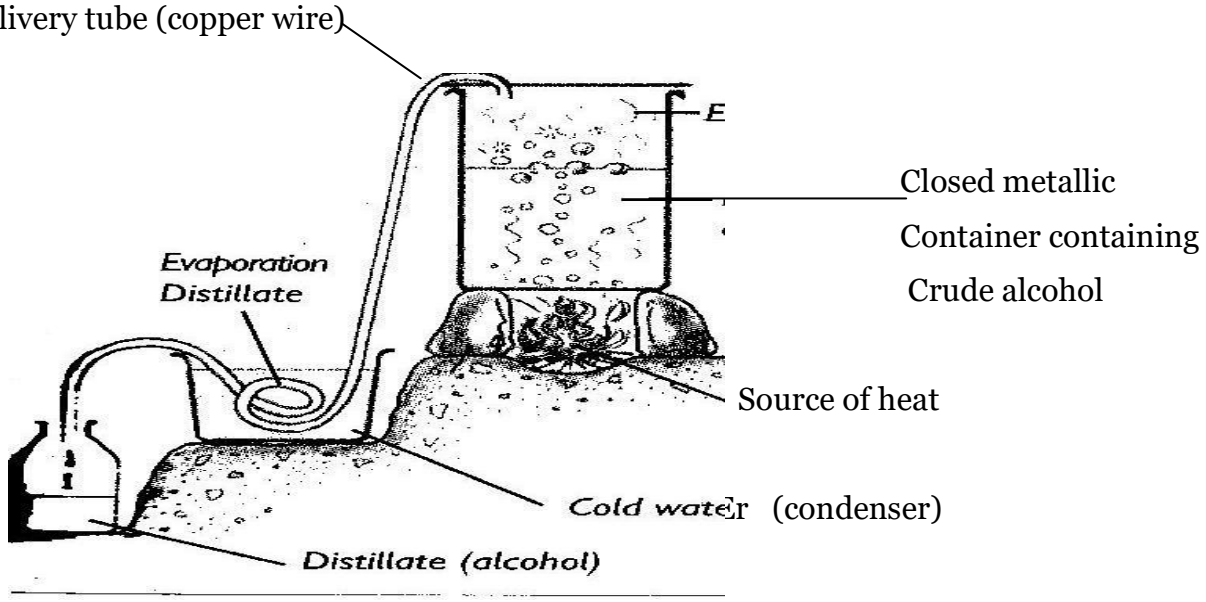
Distillation of Alcohol

This is the process of obtaining pure alcohol from impure alcohol.

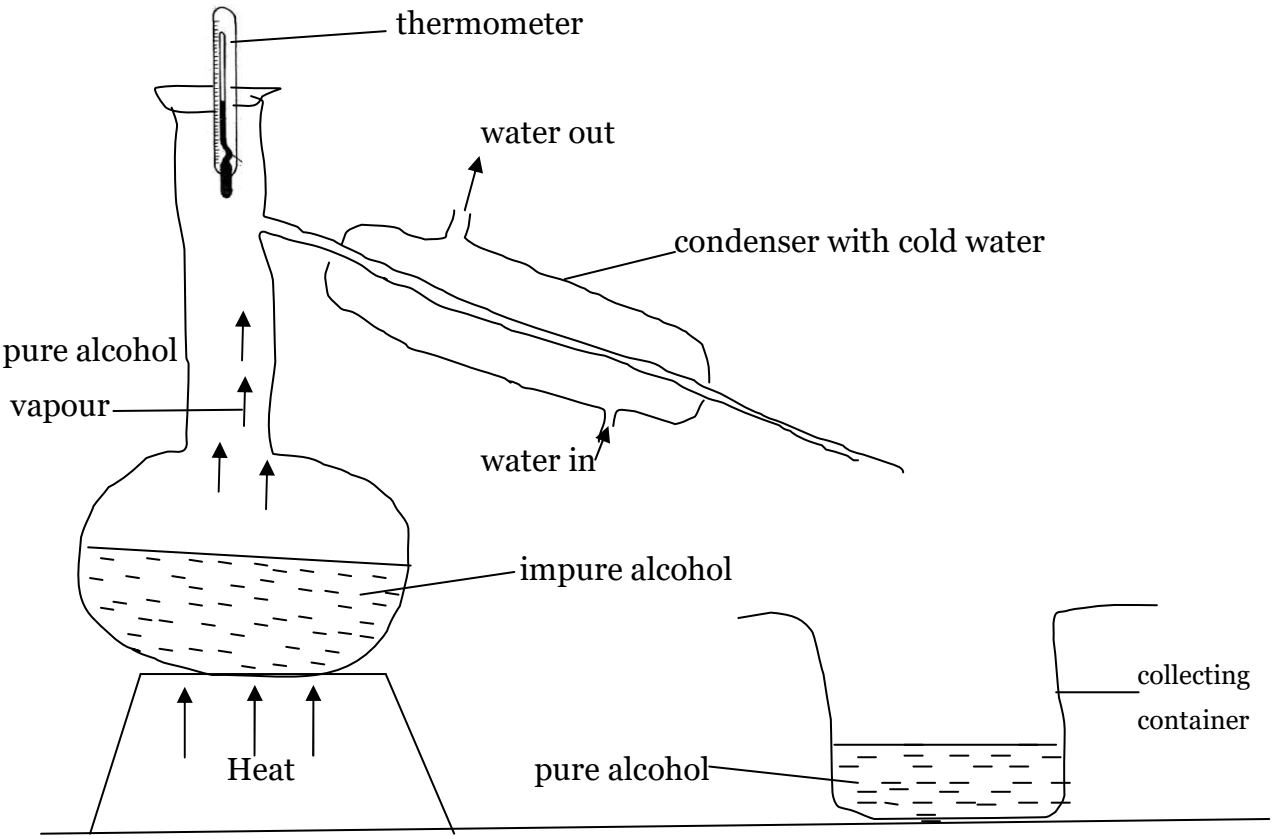
This is the process of obtaining alcohol from fermented juice by the process of evaporation and condensation of liquids containing alcohol.

- The alcohol in the fermented mixture is heated in a closed container.
- Pure alcohol easily evaporates while impurities remain in the container.
- The alcohol vapour passes into a metallic tube and is condensed into a liquid by passing it through cold water and then collected as **distillate**. The distillate is the purified alcohol.
- The alcohol produced is more pure, stronger and more potent (has a greater effect on a person who takes it).

Local distillation of alcohol



Process of distillation in factories.



Importance of parts of distillation apparatus.

a) Heating container:
This is where crude (impure) alcohol is heated to produce alcohol vapour.

b) The delivery tube
It is used to collect alcohol vapour. It is usually coiled in the condenser to increase the surface area for condensation of alcohol vapour.

c) Condenser (cold water)
This condenses (cools down) alcohol vapour so that it changes from gaseous state to liquid alcohol. This is done by passing delivery tube with alcohol vapour in cold water.

d) Collecting container
This is where the distillate (pure liquid) alcohol is collected e.g bottles or jerrycans.

e) Thermometer: Shows temperature at which pure ethanol is give off (about 78°C).

Activity:

1. What is the use of cold water in the beaker or basin?
   .....
   .....
2. Which scientific name is given to the liquid collected?
   .....
3. Why are most delivery tubes in the distillation of alcohol made of copper?
   .....
4. Why is the delivery tube coiled in the beaker containing cold water?
   .....
5. Apart from the above method, name one other method used for making alcohol.
   .....

REASONS WHY PEOPLE DRINK ALCOHOL AND ITS EFFECTS ON AN INDIVIDUAL, FAMILY AND COMMUNITY.

Reasons why people drink alcohol.

i) Peer pressure from friends.
ii) Idleness and desire to pass time with friends.
iii) To forget their problems.
iv) Misleading (seductive) adverts on T.V, radios, magazines.
v) To show they are rich.
vi) Because they are happy.
vii) Family background and social environment.
viii) People's culture in ceremonies / celebrations.
ix) To increase their thinking capacity.

Uses of alcohol

- For drinking.
- For disinfecting wounds.
- For making medicines.
- For sale to get money.
- Used in making cosmetics and perfumes.
- Used as a fuel.
- Used to sterilize medical instruments in hospitals.
- Used in making in making nail vanish solutions.

Terms associated with alcohol.

a) Alcoholism:

This is a condition whereby the body becomes dependant on alcohol as a result of prolonged use of alcohol.

b) An alcoholic

This is a person who is addicted to alcohol and is unable to stop thinking about it.

c) Addiction

It is a condition in which a person has a very strong desire to take alcohol everyday.

Factors which may lead to alcoholism.

i) Stress
ii) Peer pressure
iii) Seductive adverts
iv) Happiness
v) Success
vi) Excitement
vii) Family background

Effects of alcohol on an individual (immediate effects)

- Affects functioning of the brain.
- Some people vomit when they drink a lot of alcohol.
- Leads to forgetfulness.
- Leads to loss of body balance.

Long term effects

- Leads to liver diseases
- Loss of appetite
- Self neglect.
- Loss of jobs.
- Pancreas may swell.
- Too much can cause hand tremor.
- Leads to peptic ulcers.
- Leads to brain damage.

Effects of alcohol to the family

- Leads to family neglect.
- Leads to poverty in a family.
- Can lead to domestic violence and child abuse.
- Leads to bad behavior among children.

Effects of alcohol to the community.

- Leads to poor job performance.

- Leads to high crime rate in society e.g rape, robbery and defilement.
- May cause traffic accidents.

Activity:

1. State two ways in which alcohol is useful to health workers.
   i. .....
   ii. .....
2. Mention two factors which may lead to alcoholism.
   (i) .....
   (ii) .....
3. State any two effects of taking alcohol for a long time to people.
   (i) .....
   (ii) .....
4. Mention any two effects of alcoholism to a family.
   (i) .....
   (iii) .....
5. How can alcoholism lead to the breakage of a family?
   (i) .....
   (ii) .....
   (iii) .....
6. How can alcohol lead to an accident?
   .....
7. Why do most alcoholics eat very little food?
   .....

<u>Life Skills of avoiding Alcoholism and Uganda Laws on alcohol</u>.

Life skills of avoiding alcohol.

1. Avoid groups which drink alcohol, especially peer groups.
2. Never believe in advertisements which praise alcohol as a good drink.
3. Never believe what people in your community say about alcohol such as alcohol makes one think better, brave, makes one forget his / her problems.

4. Join groups whose members do not take alcohol.
5. Never drink alcohol to overcome problems.
6. Take your parents and other people's warning about the dangers of alcohol seriously.
7. Engage in activities which help to spend free time properly like singing, playing netball, football.

Uganda laws on alcohol.

i) People under 18 years of age are not allowed to take alcohol.
ii) No one is allowed to drive a vehicle when he is drunk.
iii) Home distillation of alcohol is forbidden unless one acquires a license.
iv) No one is allowed to transport or sell home distilled alcohol.
v) Public places that sell alcoholic drinks are allowed to operate up to a limited time.

Activity:

1. A police officer found a taxi driver and all the seven passengers drunk but he only arrested the driver.
   a) Why was the driver arrested and not the passengers?
      .....
      .....
   b) Which law about alcohol was the police officer enforcing?
      .....
2. State any three life skills of avoiding alcohol.
   (i) .....
   (ii) .....
   (iii) .....
3. What advice would you give a friend who intends to become an alcoholic?
   .....
   .....

P. 6 ENGLISH

Name: …… Stream: ……

Despite and **in spite** have the same meaning as **'although'** or **'much as'** or '**but**'.

Note the following:

i. Despite is used with 'the fact'.
ii. In spite is used 'of the fact'.
iii. Despite and in spite can be used without "(of) the fact"

In this case, the adjective or verb that comes after despite must change into a noun e.g.

i. Despite the fact that it was raining, the children went out to play.
ii. In spite of the fact that it was raining, the children went out to play.
iii. Despite the rain, the boys went out to play.
iv. In spite of the rain, the boys went out to play.
v. Much as it was raining, the children went out to play.

Rewrite the following using 'despite the fact'

1. Although the car was moving at a high speed, the man jumped off.
   ……
2. The woman danced a lot although she was pregnant.
   ……
3. In spite of the fact that the police was on alert, the party members went on with the rally. ……
   ……
4. The boy completed the term in spite of the fact that he had no school fees.
   ……
5. In spite of the fact that he was poor, he always admired expensive things.
   ……
   ……
6. The child did a lot of mistakes although power was on.
   ……

7. The machines failed to work although power was on.

   .....

8. In spite of the fact that he was tired, he spoke throughout the night.

   .....

9. The child was given hard food although he had no teeth.

   .....

   .....

10. In spite of the fact that it was sunny, the clothes did not dry up.

    .....

    .....

Rewrite using 'despite' or 'in spite' with out using the 'fact that'

1. Although he was complaining, nobody listened to him.

   .....

2. Despite the fact that he was highly paid, he did not buy anything at home.

   .....

   .....

3. Kasozi jumped the highest although, she was very heavy.

   .....

4. Suzan did not stop fighting although her father was around.

   .....

5. Despite the fact that she was poor, she ate meat daily.

   .....

6. Despite the fact that he was given intensive treatment, he did not recover in time.

   .....

   .....

7. Although Sharon was weak, she went for the dance.

   .....

8. Birungi went on fast although she loved food.

   .....

9. In spite of the fact that she was poor, she ate meat daily.

   .....

10. In spite of the fact that she was beautiful, she did not get married.

    .....

11. The pupils feared a lot although the night watch man was around.

    .....

12. Although the lamp had enough fuel, it did not give bright light.

    .....

13. Many children don't go to school although there is free education.

    .....

14. She kept on complaining although she got her salary in time.

    .....

15. James was annoyed although she kept on laughing.

    .....

Hardly, scarcely, and **barely** are negatives and are therefore used to express a near negative / negative situation e.g. (a) We hardly eat meat. This means we almost don't eat meat. These three conjunctions can be used in place o 'No sooner,' as soon as,' 'just as,' 'the moment' and 'immediately'.

Note: No sooner is used with **'than'** and **barely, scarcely,** and **hardly** go with **when** e.g.

1. No sooner had he come than we went away.
2. Scarcely had he come when we went away.
3. Barely had the teacher entered the class when the pupils clapped their hands.
4. Hardy had the manager arrived when the applicant knocked at the door.

No comma in the middle of the sentence except when the sentence begins with: As soon as, just as, the moment or immediately.

Rewrite the following using "No sooner'

1. As soon as Cate saw the book, she shouted for joy.

   .....

2. As soon as it started raining, we entered the room.

   .....

3. Just as the visitors arrived, the host brought soda.

   .....

4. Just as the elections were over, the electoral commission announced the results.

   .....

5. They sang the national anthem the moment the president arrived.

   .....

6. She complained as soon as she go the salary.

   .....

7. As soon as the doctor arrived, the patient died.

   .....

8. The taxi started moving just as all the passengers sat.

   .....

9. The moment the hair dresser arrived, all the women stopped working.

   .....

10. As soon as the parent came back, the child reported the matter.

    .....

    Rewrite this exercise using '**Barely**', '**Scarcely**', or '**Hardly**,.

11. As soon as Cate saw the book, she shouted for joy.

    .....

12. As soon as it started raining, we entered the room.

    .....

13. Just as the visitors arrived, the host brought soda.

    .....

14. Just as the elections were over, the electoral commission announced the results.

    .....

15. They sang the national anthem the moment the president arrived.

    .....

16. She complained as soon as she got the salary.

    .....

17. As soon as the doctor arrived, the patient died.

    .....

18. The taxi started moving just as all the passenger sat.

    .....

19. The moment the hair dresser arrived, all the women stopped working.

    .....

20. As soon as the parent came back, the child reported the matter.

.....

21. The moment the sun rose, the peasant went to the garden.

.....

22. The boys went to the garden just as the bell rang.

.....

23. No sooner had the doctor arrived than the patient died.

.....

24. On seeing the snake, the woman shouted for help.

.....

25. Immediately the cook arrived at school, the headmistress called him to her office.

USE OF; HAVING .....

The structure '**having**' is used to express that after a certain action, another one followed immediately. E.g. Having seen the book, the girl became happy.

Note that: having is always followed by a verb in the past participle tense e.g

i. Having taken the drugs, the boy went to sleep.

ii. Having eaten all the food, the pupils went out to play.

There must be a comma after the object if 'having' begins a sentence.

Rewrite the following using: Having .....

1. The children ran to school after putting on the school uniform.

.....

2. The girl started peeling cassava after getting the knife.

.....

3. The baby slept. It first took a cup of milk.

.....

4. The boy entered class after paying school fees.

.....

5. Joan got a first class. She went to Namagunga S. S.

.....

6. The visitor relaxed a bit and then gave a speech.

.....

7. After getting the money, the old woman bought a kilogram of sugar.

   .....

8. After reaching the city, the girl grew wild.

   .....

9. The woman washed her hands. She started eating.

   .....

10. The driver started the car. The driver drove off.

    .....

11. The demanded for marriage after growing up.

    .....

12. She shouted for joy because she saw the father.

    .....

13. Kasumba sold off his bicycle. He went to the city.

    .....

14. Suzan started dancing after getting all numbers right.

    .....

15. Mugabi bought a new shirt. He boasted around.

    .....

WHENEVER

Whenever means every time. If whenever begins a sentence, a comma must be put after a verb.

(i) Whenever Carol sang, she got a lot of money.

Rewrite the following using 'whenever'.

1. It is good to inform your parents every time you are sick.

   .....

2. Any time you want to go out you must always ask for permission.

   .....

3. People must work hard every time they want to get money.

   .....

   .....

4. Crops dry up every time there is too much sun shine.

   .....

5. My husband fights a lot every time he drinks.

   .....

6. People always dance a lot every time there is a party.

   .....

7. Everytime I am hungry, I prepare myself food.

   .....

8. Every time Mukasa drives that car, he has to knock someone.

   .....

9. Every time that shop is open, it attracts many customers.

   .....

10. Many people fear to walk every time it is dark.

    .....

"...LOOKING FORWARD TO ..."

The structure 'looking forward to ...' is used to express an eagerness to experience a certain situation in the future. "Looking forward to" is normally followed by a verb ending in ..... **ing** e.g.

i. I look forward to meeting you there.

ii. We are looking forward to receiving you in time.

Rewrite the following sentences using 'looking forward to'

1. The candidates are eagerly waiting to sit their PLE.

   .....

   .....

2. We shall see the president walking on foot.

   .....

3. I will watch Arsenal playing football.

   .....

4. We hope to receive you at the party.

   .....

5. Jane is hoping to build her own house.

   .....

6. Matovu is eagerly waiting to win the race.

   .....

7. We are hoping to see you at the stage.

   .....

8. I am expecting to start my own shop.

   .....

9. Jolly is waiting for the day she will join university.

   .....

10. The manager is expecting to see his workers busy.

    .....

BOTH

"**Both**" means that not only but also the other': It makes the nouns plural e.g.

(a) Philip is sick. Andrew is sick.

Both Philip and Andrew are sick.

Rewrite the following using: Both ....

1. Cate is tall. Allen is also tall.

   .....

2. The husband attended the party. The wife also attended the party.

   .....

3. Uganda is a lively country. Nigeria is a lively country.

   .....

4. My house is nice. His house is nice.

   .....

5. The son resembles his father. The daughter also resembles her father.

   .....

6. Namilyango Junior School is a good school. City Parents' School is also a good school. .....

   .....

7. They stole my slippers. The stole my shoes.

   .....

8. The morning paper was difficult. The evening paper was also difficult.

   .....

9. My sister is suffering from malaria. My brother is also suffering from malaria.

   .....

USING; AS WELL AS .....

'As well as' simply means just like the other. When using this conjunction, focus should be on the similarity or likeness.

Using **'as well as'** calls for a comma just before **'as well as'** and then after the second noun.

E.g. 1. Mary, as well as Betty, has gone to fetch water.

2. John, as well as Henry, is very polite.

N.B: Don't confuse '**both**', '**together with'** and '**and**' with as well as. '**Both**', '**and**' and '**together** with' make the subjects plural. As well as doesn't change the subject to plural.

Rewrite the following using as well as.

1. James is sick. Kato is sick too.

   .....

2. Mary has come. Betty has come.

   .....

3. Julius is going to Jinja. Matovu is also going to Jinja.

   .....

4. A lorry is a good vehicle. A taxi is a good vehicle.

   .....

5. A teacher is very important in society. A doctor is very important in society. .....

   .....

6. Education is wealth. Health is wealth.

   .....

7. The secretary has to come. The teacher has to come.

   .....

8. That song is nice to hear. This song is nice to hear.

   .....

9. My father is very generous. My mother is very generous.

   .....

10. The headmistress is happy. The teachers are happy.

…… ……

BY THE TIME.

The structure **by the time** is used when one wants to express which one of the actions (verbs) took place first and which one came second.

By the time is normally followed by the second action. The first action in this sentence is expressed in the past perfect tense if both actions were in the past. If the actions are in future tense, the first action is always in future perfect tense and the second one is expressed in present simple tense.

Note: If **"by the time"** begins a sentence, a comma comes in to separate the two actions e.g.

i. **By the time** John came, the teacher had gone away. In this case the "teacher had gone away" was the first action and "John came" was the second.

ii. **By the time** Moses writes the notes, Fred will have finished the work ('finished') will be the first action to take place and writes will come next.

Rewrite the following beginning: By the time ….)

1. Musa went to Jinja before we celebrated the Independence Day.

   ……

   ……

2. Ssebungenyi started the car before the passenger sat properly

   ……

   ……

3. Sam saw the moon before entering the house.

   ……

   ……

4. The pupils went for short calls and then started the examinations.

   ……

   ……

5. They planted the maize before it started raining.

   ……

   ……

6. The patient died and then the Doctor came in.

   .....

7. After giving birth, Teddy was promoted to a senior level.

   .....

8. Amin died after ruling Uganda for several years.

   .....

9. Gerald was arrested after stealing so many goats in the village.

   .....

10. Many people saw the python. It then died.

    .....

Rewrite using .....by the time .....)

1. Grace went to the party after hearing the sad news.

   .....

2. After eating the maize, Kasozi took a cup of tea.

   .....

3. We shall go for a tour before we break off.

   .....

4. They will prepare for the president before he comes.

   .....

5. The visitors will have a meal and then we shall have a meal also.

   .....

NOT ONLY.

The conjunction '**Not only'** means the following besides, on top of, in addition to, and apart from e.g.

i. **Not only** is James a carpenter but also a lawyer. (It suggests that James is both a carpenter and a lawyer).

Note: After the first verb or adjective, ' **but also'** is used to introduce the second verb or adjective e.g.

i. Not only did Kapere drive a car **but also** rode a bicycle.

ii. He not only wrote the notes **but also** read them out.

1. Apart from being a teacher, John is also a doctor.

   .....

   .....

2. Mary is a lawyer. She is also a student.

   .....

3. Susan is bright on top of being humble.

   .....

4. George was hardworking and disciplined.

   .....

5. Jackie will go to London. She will also go to South Africa.

   .....

6. Primary seven pupils will go to Jinja. Even Primary six will go.

   .....

7. In addition to being stupid, Namagwatala was very playful.

   .....

8. Besides preparing the meal, Mary will also serve it.

   .....

9. The teacher will teach us a lot. He will also care for us.

   .....

10. He punished the child. He also denied him food.

    .....

    Rewrite the following using 'not only'

    1. Kasumba is a mechanic. Kasumba is also a driver.

       .....

       .....

    2. Juma cleaned his bedroom and his sitting room.

       .....

    3. Kafeero applied for education. He also applied for law at the university.

       .....

    4. Besides being humble, Najjuma is beautiful.

       .....

5. On top of being happy, Susan is generous.

   .....

6. In addition to a radio, Julius got a car too.

   .....

7. Fazirah went to the mosque and also read the holy book.

   .....

8. The boy is lame in one leg. The same boy is blind.

   .....

9. Apart from dancing, Jane sings well.

   .....

10. She bought a book and a school bag.

    .....

Note: "Besides", "on top of" or "in addition to" are closely followed by 'being' before any adjective is written e.g.

a) Besides being short, Rose is thin.
b) On top of being clever, Aggrey is friendly.
c) In addition to being young, Rita is absent minded,

Rewrite the following using : Besides ……..)

1. Nakayima is not only helpful but also generous.

   .....

2. Godfrey is hungry. Godfrey is angry too.

   .....

3. Mr. Muyita is a teacher on top of being a preacher.

   .....

4. Kakembo is careless. He is always forgetful.

   .....

5. Wasswa is late. Wasswa is lazy.

   .....

6. Not only is Mwanje a news reporter but also a businessman.

   .....

   .....

7. Kasule is not only poor but also indisciplined.

   .....

8. Joshua is a policeman. Joshua is a trader.

   .....

9. On top of being energy less, Dorcus is dizzy.

   .....

10. Mwangu is punctual and attentive.

    .....

11. John is a shop keeper. He is also a farmer.

    .....

12. Water is used for bathing. It is also used for washing.

    .....

13. A phone is used for sending messages. It is also used for receiving information. .....

    .....

14. Apart from law, education is also an expensive course at the university.

    .....

15. He is hard hearted and strong.

    .....

Rewrite the following using: .....on top .....)

16. Nakayima is not only helpful but also generous.

    .....

17. Godfrey is hungry. Godfrey is angry too.

    .....

18. Mr. Muyita is a teacher on top of being a preacher.

    .....

19. Kakembo is careless. He is always forgetful.

    .....

20. Wasswa is late and lazy.

    .....

21. Kasule is not only poor but also indisciplined.

    .....

22. Not only is Mwanje a news reporter but also a businessman.

    .....

23. Joshua is a policeman. Joshua is a trader.

    .....

    Rewrite the following using: **in addition to .....**

24. On top of being energy less, Dorcus is dizzy.

    .....

25. Mwangu is punctual and attentive.

    .....

26. John is a shop keeper. He is also a farmer.

    .....

27. Water is used for bathing. It is also used for washing.

    .....

28. Apart from education, law is also an expensive course at the university.

    .....

29. He is hard hearted and strong.

    .....

NEED, NECESSARY, OUGHT.

Need, **necessary** and **ought** can be used to express the same situation. They all mean the something is essential or inevitable.

Please, take note:

1. Need does not take "to"
2. Ought take "to"
3. Necessary takes ..... for .....

Look at the following examples:

1. You need wake up early for the lesson.
2. You ought to wake up early for the lesson.
3. It is necessary for you to wake up early for the lesson.

Study the following sample questions carefully before you do the given exercises.

1. You should have gathered all your books in the morning. (Use: ....necessary .....)

   .....

   = (It was necessary for you to gather all your books in the morning.

2. Sam should not worry about the future. (Use: .....need .....)

   = (Sam need not worry about the future.

3. Girls need work hard all day. (Use: .....ought .....)
   = (Girls ought to work hard all day).

Rewrite as instructed in the brackets.

1. Children should not cry for what they can not get. (Use: .....need .....)
   .....
2. Candidates should not play so much. (Use: .....need .....)
   .....
3. It is necessary for all men to pay tax. (Use: .....need .....)
   .....
4. It is not necessary for you to lament for food at home. (Use: .....need .....)
   .....
5. All candidates need revise their books seriously. (Use: .....necessary .....)
   .....
6. Farmers ought to supervise their gardens all the time. (Use: .....need .....)
   .....
7. Drivers should be careful when driving at night. (Use: .....need .....)
   .....
8. Christians ought to go to church every Sunday. (Use: .....need .....)
   .....
9. Musicians ought to be humble and respectful in society. (Use: ..... need .....)
   .....
10. The youth need think about their future as they study. (Use: .....necessary .....)
    .....

COMPARISONS.

In comparing two things we use 'as .....as' if there two things are equal 'not as' is used when one thing is not equal to the other **less than** or **more than** are also used in comparing two items. The structure 'The (adjective in comparative degree) e.g.

(a) The harder ....., The more ....., call for a comparative adjective in the second part of the sentence e.g.
   - The fatter he grew, the lazier he became.
   - The brighter he became, the happier the parents became.

Rewrite the following as instructed in the brackets.

1. James is bright. Aggrey is equally bright. (Use: .....as ..... as ....)

.....

2. Joan is short. Rose is shorter. (Join using: .....not only .....)

.....

3. Keith is strong. Waswa is stronger. (Join using: .....than .....)

.....

4. Fred is tall. Ronald is very tall. (Rewrite as one sentence using: .....taller .....)

.....

5. As he grew richer, he became more complicated. (Begin: The richer .....)

.....

6. It becomes cool as you go high. (Begin: The higher .....)

.....

7. He became more and more miserable as he lost more and more money.
(Begin: The more .....)

.....

8. As it became hot and hot, our clothes dried quickly. (Begin: The hotter .....)

.....

9. He worked hard. He passed well. (Rewrite and end: .....the better he passed.)

.....

10. She became less comfortable as she grew fatter. (Begin: The fatter .....)

.....

11. Birungi is humble just as Doreen is. (Re-write using .....as .....as .....)

.....

12. Kato is wiser than Wasswa. (Use .....not as .....)

.....

13. Wealth is less important that education. (Rewrite using: .....more .....)

.....

14. He got more money as he worked hard. (Begin: The harder .....)

.....

15. Father is good. Mother is equally good. (Join using: .....as .....as .....)

.....

16. Matovu had more money than Kassozi. (Use: .....less .....)

.....

17. Joan is proud. Suzan is also proud. (Use: .....as .....as .....)

.....

18. Sugar is not less expensive than salt. (Rewrite using: .....more .....)

.....

19. She became funny and funny as she grew old. (Begin: The older .....)

.....

20. The man became kind as he continued to read the Bible. (Begin: The more .....)

.....

SINCE AND FOR

Since is used when a point of time in the past when the action started is to be mentioned e.g. Mary has been sick **since** yesterday. **Yesterday** is the point of time when Mary started being sick.

Note: (i) If the action is still going on, since is proceeded by "**has been**" or "**have been**".

(ii) If the action has stopped, don't use **'has been'** or **'have been'** e.g.

- Tom has been busy since morning. This means that Tom is still busy.
- Tom was busy since morning. This means that Tom is no longer busy.

For" is used only when the total amount of time taken by an action is to be mentioned e.g.

a) Mary has been sick for two days.

b) Tom has been busy for six days.

Rewrite the following as instructed in the brackets.

1. Jolly is reading the novel. She started reading it last week. (Join using ....since .....)

   .....

2. Kellen started washing her dress in the morning. She is still washing. (Use:..since ..)

   .....

3. Matovu is digging. He started digging at 1: 00 pm. (Join using: .....has been .....)

   .....

4. Mwesigwa is still living in London. He went there in 2002. (Join using ....since .....)

   .....

5. Kangave became patriotric on the Independence Day. He is still patriotic. (Join using ....since ....) .....

   .....

6. It is five days since Joan fell sick and she is still sick. (Rewrite using .....for .....)

   .....

7. Mwebaza spent ten years living in California. (Rewrite using .....for .....)

   .....

8. The child has spent four hours sleeping. (Rewrite using .....for .....)

   .....

9. The manager has spent nine years praying for a car. (Use .....for .....)

   .....

10. They have been studying English. They started at 10: 00 am. (Join using: ...since ...)

    .....

    .....

11. Mulungi is sick. The sickness started two weeks ago. (Join using .....for .....)

    .....

12. Moses has spent five months away. (Use .....for .....)

    .....

13. They are playing. They started in the morning. (Join using: .....since .....)

    .....

14. The Primary five pupils have been in class. They went there at break time.
    (Use..since ..) .....

    .....

15. Martin has lived in Kampala from 2014. He has been there for six years.
    (Join using .....since .....) .....

    .....

16. I am singing. I started singing in the morning. (Join using .....since ....)

    .....

17. They are digging. They have spent ten hours now. (Join using .....for .....)

    .....

18. My uncle is in London. He went there ten years ago. (Join using ....since ....)

    .....

    .....

Name: …….. Stream: …….

MAJOR RESOURCES OF EAST AFRICA.

Transport and communication.

Communication.

Meaning of communication.

Communication is the sending and receiving of messages.

Categories of communication.

- Traditional means of communication.
- Modern means of communication

Examples of traditional means of communication.

- Drum
- Horns
- Smoke
- Bell
- Trumpet
- Whistle
- Special messengers
- Clapping
- Yelling
- Spreading ashes
- Use of alarms

Types of communication.

- Verbal communication.
- Written communication.
- Gestures / Non-verbal communication.

Gestures

This is the movement that you make with hands, head or face to show a particular meaning.

Advantages of gestures.

- It caters for the deaf.

Disadvantages of gestures.

- It doesn't cater for the blind.
- It doesn't cater for distant people.

Written communication

- This is recorded or written information.

Advantages of written communication.

- It can be stored for a long time.
- It can not easily be distorted.

Disadvantages of written communication.

- Many people do not know how to read and write (illiterate).
- It doesn't cater for the blind people.
- It is expensive to gather and write information.

Verbal of Oral communication.

- This is spoken information.

Advantages of verbal communication.

- It is time saving.
- It is cheap to get information.

Disadvantages of verbal or Oral communication.

- The information can easily be changed from one person to another.
- It is tiring to send messengers to deliver information.
- It does not cater for deaf people.

Challenges of traditional means of communication.

- Delay of messages.
- A lot of effort was needed for example to blow horns, trumpets, whistles and running.
- Covering a smaller area.
- Skill of drawing and interpreting of pictures was lacking among some people.
- The information can be easily distorted / altered / changed.
- Most of the means of traditional communication do not favour the deaf.

Advantages of traditional means of communication.

- Information is cheap to get and send.
- It favours people who can not read and write.
- Some traditional means of communication are used for entertainment e.g. drums.

Activity

1. Draw three traditional means of communication.

2. What is verbal communication?

   .....

   .....

3. Give the commonest means of communication used during games and sports.

   .....

4. Why do people use gestures during communication?

   .....

5. Identify two ancient means of communication.

   (i) .....

   (ii) .....

Modern means of communication.

Examples of modern means of communication.

- Telephones
- Letters
- Radios
- Television
- Bill boards
- Newspapers
- Magazines
- Telegrams
- Computer
- Telefax

Examples of Telecommunication companies in East Africa.

- Uganda Telecommunication Limited (UTL).
- Africell
- K2 Telecom
- Airtel
- MTN
- Smile Telecom

Advantages of Telephone communication.

- Telephone communication covers a wide area.
- Telephone communication is faster than other modes of communication.
- The user gets instant feedback.
- It is convenient especially when people use mobile phone.

Disadvantages of mobile telephone.

- Mobile telephone headsets requires constant charging.
- Mobile telephones cannot be used where the is no communication network.

Activity

1. Suggest one reason why mobile telephones are difficult to maintain in most rural areas.

   .....

2. Why do you think some people do not have mobile phones in Uganda?

   .....

3. Mention any two companies that make mobile phones.

   (i) .....

   (ii) .....

4. How is electricity important to people as they use their mobile phones?

   .....

   .....

5. Write MTN in full.

   .....

TRANSPORT AND COMMUNICATION IN EAST AFRICA.

Post Office

Meaning of Post Office.

- Post office is a place where you can buy stamps, send letters and parcels. It also refers to an organization responsible for collecting and delivering letters.

Service provided by the post office in Uganda.

- Communication service.
- Transport services.
- Banking services.

Communication services provided by the post office.

- Telegram, masts, telefax, telephone, etc.

Importance of the post office to the people.

- Issues postage stamps.
- Delivers letters or mails.
- Delivers parcels.
- Controls internal and external telecommunication.
- Offers remittance services.
- It offers employment.

The biggest post office in Uganda is found in Kampala district.

Mass Media

- This is a way of sending messages to many people.

Examples of mass media.

- Provides information.
- Advertises goods on the market.
- Educates the citizens through education programs.
- Entertains listeners through music and plays.

Radios

This is a piece of equipment used for listening to programmes that are broadcast to the public.

Examples of radio stations in Uganda.

- Uganda Broadcasting Corporation (UBC)
- Capital Fm
- CBS radio FM
- Impact FM
- Top Radio
- Radio Paidha FM
- Bukedde FM
- Endigyoto
- Guido Radio
- Arwa one FM
- Zzina FM
- Radio One
- Radio WEST
- Beat FM
- X-FM radio
- Dembe FM
- Simba FM

Importance of radios in a country.

- They help to provide employment to people.
- They provide news to the people.
- They provide music to people.
- They give announcements.
- They advertise goods and services.
- They educate people.
- They mobilize people in the community.

Advantages of radios.

- Radios are cheap to by and manage.
- Radios are common i.e. on phones, televisions etc.
- Radios cover a wide area.
- Radios give information in many languages.

Disadvantages of using radios.

- Some radio programmes teach immoral behaviours.
- Radios are costly to maintain in buying dry cells.

Activity

1. Mention two means of mass media common in Uganda.
   (i) ..... (ii) .....
2. What is meant by the term mass media?
   .....
   .....

3. Give two ways in which radio stations help to entertain people.
   (i) .....
   (ii) .....
4. Why is radio considered to be the best means of communication?
   .....
   .....
5. How have the FM radio stations tried to improve the economy of some people in Uganda.
   .....
   .....

Televisions and Newspapers.

- Uganda Broading Corporation Television.
- Azam TV.
- National Television (NTV).
- Top Television.
- Record Television.
- East African Television.
- Urban Television.
- Citizen Television.
- Light House Television.
- Bukedde Television

Advantages of Television stations.

- They entertain people through music and films.
- They help to broadcast educative programmes.
- Television stations provide employment to the people.
- They advertise goods and services.

Disadvantages of Television programmes.

- Some television programmes promote immorality.
- It can lead to idleness among children and some people as they take their time watching programmes on televisions.
- They increase electricity bills.

Newspapers

Examples of newspapers in Uganda.

- The New Vision
- Bukedde Newspaper
- The Orumuri
- The Daily Monitor
- The Red Pepper
- The Etop
- The Observer
- The Rupiny
- Kamunye

Advantages of Newspapers.

- They are sources of current news.
- They entertain people through stories, cartoons, etc.
- They are sources of educative articles eg on health, agriculture, etc.
- They help to advertise jobs, new items on market, wrong doers.
- They are sources of announcements.
- They provide employment.
- They provide sports updates.
- They can be stored for future use.
- They cater for the deaf.

Disadvantages of newspapers.

- They are expensive to buy on daily basis.
- They take long to reach rural areas.
- They do not cater for illiterate people apart from seeing pictures.
- Some newspapers print pornographic pictures.
- They do not favour the blind.
- They don't cater for all languages spoken by different tribes.

Activity

1. State any one advantage of television communication over radio.

   .....

   .....

2. Write down two advantages of newspapers.
   (i) .....
   (ii) .....
3. Name any one government newspaper in Uganda.
   .....
4. How are newspapers important to a person who loves soccer?
   .....
5. How do newspapers promote trade?
   .....
   .....
6. Give any two disadvantages of newspapers.
   (a) .....
   (b) .....

Transport and communication.

Factors that affect effective communication

- Poverty
- Ignorance
- Illiteracy
- Difficulty in language.
- Poor transport network
- Shortage of capital to install communication lines.
- Poor network coverage.
- High cost of maintaining communication equipment by individuals eg buying airtime, charging phones.
- Insecurity that may lead to destruction of communication lines.

Possible solutions to overcome some challenges in communication.

- National language should e adopted.
- Mobile phones should be availed at low prices.
- People should be sensitized on how to use communication equipment.

- Low call rates should be charged for the use of airtime on mobile phones.
- Better transport network should be built in order to connect most parts of the country with communication lines.

Importance of having a national language.

- It promotes unity among people.
- It eases communication.
- It promotes trade among different tribes.

Activity

1. Why is a magazine referred to as mass media?
   .....
   .....
2. How are magazines similar to newspapers in terms of storing messages?
   .....
   .....
3. Name one country in East Africa that has a national language.
   .....
4. Write any two factors that affect effective communication in a country.
   (a) .....
   (b) .....
5. What is the official language used in Uganda?
   .....
6. Why do you think some people have not acquired mobile phones?
   .....

Transport and communication in East Africa.

Introduction to transport.

Transport is the movement of people, goods or services from one place to another.

Categories of transport.

- Traditional types of transport.
- Modern means of transport.

General traditional means of transport.

- Dhows
- Canoes
- Rafts
- Stretches
- Camels
- Horse
- Ropes
- Footing / legs
- Stepping on stones

Means of animal transport.

- Donkeys
- Camels
- Horse
- Oxen

Means of water transport.

- Dhows
- Canoes
- Rafts
- Ferries
- Logs

Modern types of transport in East Africa.

- Road transport
- Water transport
- Railway transport
- Air transport
- Pipe line transport

Road transport

- Murram roads - made with murram
- Tarmac roads - made with tar, bitumen and concrete

Means of road transport

- Bicycles
- Lorry
- Bus
- Motor cycle
- Tractors
- Wheel barrow

Great engineers of road construction in the world.

- John Mac Adams (for tarmac roads)
- John Metcalf (for murram roads)

Two major roads in Africa

- Trans Africa Highway - runs from Mombasa through Nairobi, Uganda, DRC, Central African Republic and ends at Lagos in Nigeria.
- The Great North Road (Cairo – Gaborone Highway:) It starts form Cape Town in South Africa, Botswana, Zimbabwe, Zambia, Tanzania, Kenya, Uganda, Sudan and ends at Cairo in Egypt.

Advantages of road transport

- It provides door to door service.
- It is cheap to construct and maintain.
- It is faster than railway and water transport.
- It helps to transport farmers' produce to the market centres.

Disadvantages of road transport.

- Accidents are common on roads.
- It is affected by traffic jam.
- It needs regular maintenance.
- It is slower than air transport.
- Murram roads are slippery during rainy season and dusty during dry season.

How road transport promotes development.

- It promotes trade.
- It promotes industrialization.
- It helps in easy transportation of farmers' produce.
- It promotes development of towns.

Activity

1. Write two means of road transport.

   (i) ..... (ii) .....

2. How are feeder roads important to farmers in rural areas?

   .....

   .....

3. Give any two reasons why road accidents are common in Uganda today.

   (i) .....

   (ii) .....

4. Why are bridges constructed on rivers?

   .....

   .....

5. Which section of police is responsible for collecting road accidents in Uganda?

   .....

<u>Water transport</u>

Water transport is the system of transporting or carrying goods and people on water. Water transport is the cheapest form of transport. It transports more bulky goods compared to other forms of transport.

Means of water transport.

- Ships
- Canoes
- Ferries
- Boats

Why some rivers in East Africa are not navigable.

- They have water falls and rapids.
- They have floating vegetation.
- They are shallow with rocks.
- They harbour dangerous wild animals.

Advantages of water transport.

- It is the cheapest of all the forms of transport.
- It transports more bulky goods than both road and air transport.
- There are less accidents compared to other types of transport.
- It is not easily affected by traffic jam.

Disadvantages of water transport.

- It is slow, so it cannot transport perishable goods to overseas countries.
- Facilities at landing sites are expensive to build and maintain.
- It can be blocked by floating vegetation.
- It can be blocked by storms.
- It is not flexible. Therefore, it cannot be effective in transporting goods to their final destination.
- The fumes from the engine, boats and ships pollute the water.
- Steamers and other boats interrupt marine life.

Causes of accidents on water.

- Overloading of water vessels.
- Heavy storms on lakes.
- Hard rocks in rivers.
- Drunk sailors.
- Dangerous water animals.

Solutions to accidents on water.

- Putting on life jackets.
- Using inflated tyres.
- Using sealed empty jerrycans.
- Examining water vessels before use.
- Giving proper loads.

Activity

1. What are fragile goods?

   .....

2. How does water transport lead to water pollution?

   .....

   .....

3. State any two causes of accidents on water.
   (i) .....
   (ii) .....
4. Which type of transport is suitable for bulky goods?
   .....
5. Mention two ways people can save their lives in case of accidents on water.
   (i) .....
   (ii) .....
6. Write any two advantages of water transport over road transport.
   (i) .....
   .....
   (ii) .....
   .....

Air transport

Air transport is the system of carrying goods and people using air means.

- Air transport in East Africa was at first controlled by East African Airways (EAA).
- The headquarters of East African Airways (EAA) were at *Nairobi in Kenya*.
- The first aeroplane landed at Entebbe in 1927 on Lake Victoria.

Means of air transport.

- Aeroplane
- Helicopter
- Jets aircraft / fighters

International airports in East Africa.

- Entebbe
- Nairobi
- Kilimanjaro
- Mombasa
- Dar-es-salaam
- Arusha
- Bujumbura
- Zanzibar

Examples of airstrips in Uganda.

- Kololo airstrip
- Nyakisharara
- Kasese

Advantages of air transport.

- It is the quickest form of transport.
- It is not hindered by physical features.
- It is not affected by traffic jam.
- It connects distant places.
- It is best for transporting perishable goods over long distances.
- It is more comfortable than other types of transport.
- It works on a fixed time table unlike others.

Disadvantages of air transport.

- It is very expensive to pay for the service.
- It is affected by bad weather.
- It requires a flat area to construct an airport which is rare to acquire in many parts of East Africa.
- It is only profitable when goods are of high value. This is because it is expensive.
- It is not common due to high transport fares which cannot be afforded by most people of East Africa.

Activity

1. What are perishable goods?

   .....

   .....

2. State any two examples of perishable goods.

   (i) .....

   (ii) .....

3. Name the international airport of Uganda.

   .....

4. State any two advantages of air transport over road transport.
   (i) .....
   (ii) .....
5. Give two values of airports to a country.
   (i) .....
   (ii) .....

Railway transport.

Railway is a track with rails on which trains run. Trains are a means of transport which use railway lines.

Types of trains.

- Passenger train
- Cargo train
- The first railway line to be constructed in East Africa was called Tanga Korogwe railway.
- It was built by Germans / German colonialists in Tanganyika from 1893 - 1903. It was built to transport sisal.
- Tanzanian and Zambian government also funded the construction of **Tazara railway line**. It was constructed by **Chinese expatriates**.

Reasons for building the Tazara railway.

- To transport copper ore from Zambia copper belt to Dar-es-salaam for export.
- To link Zambia to the coastal port of Dar-es-salaam.
- To develop southern parts of Tanzania.

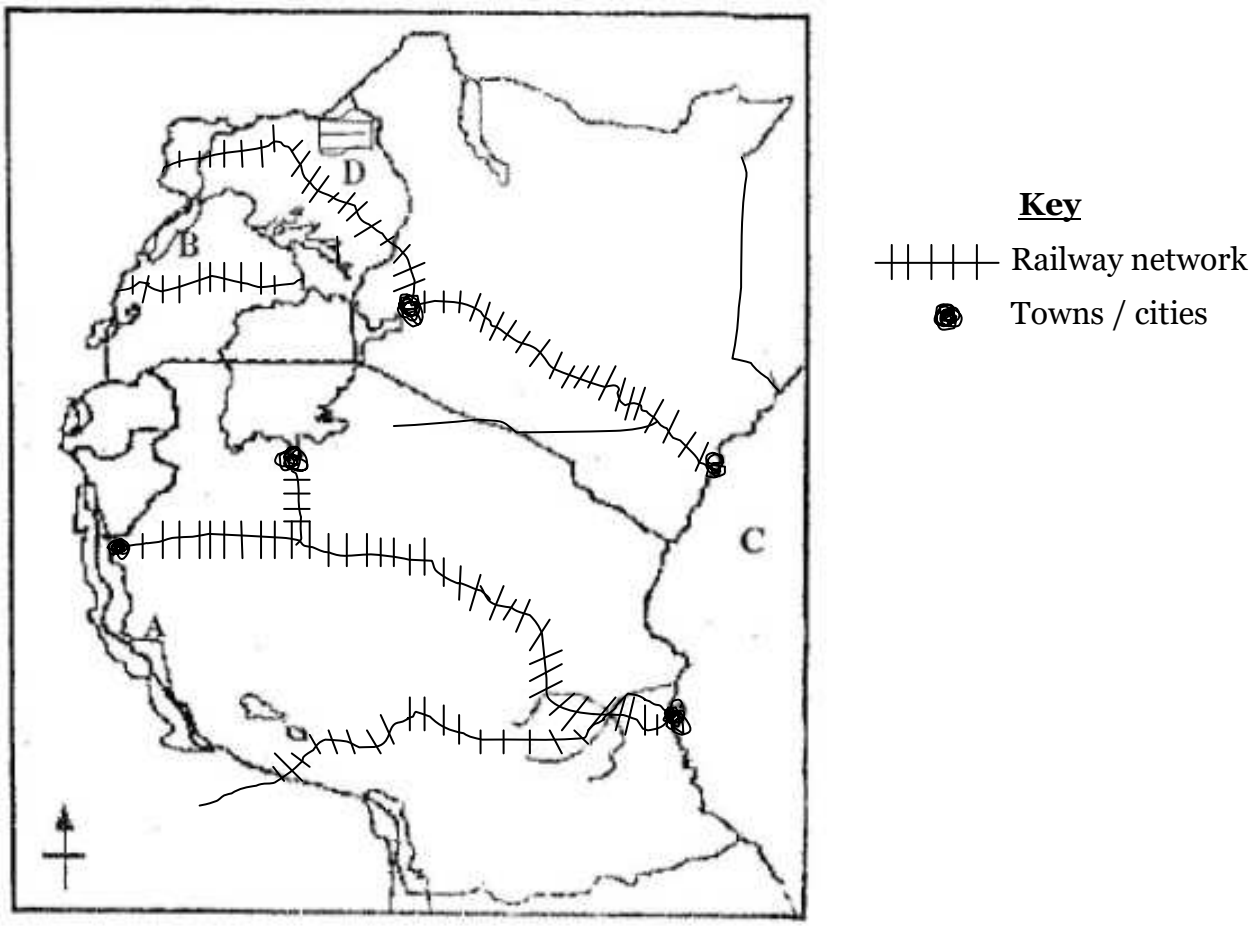
Advantages of railway transport.

- It carries bulky goods.
- It is less affected by bad weather.
- It links important cities and industrial areas.
- It is cheaper to pay for the cost of service than road and air transport.

Disadvantages of railway transport.

- It can not take goods and people to their final places.
- It is slower than road and air transport.

The map of East Africa showing railway lines and international airports.



Note: Use the Atlas to draw the accurate map showing the railway network in East Africa.

Activity:

1. Name the first railway line to be constructed in East Africa.

   .....

2. Which colonialists constructed the first railway line?

   .....

3. What was the major reason for constructing the Tazara railway line?

   .....

   .....

4. What is the difference between passenger train and cargo train?

   .....

   .....

5. What is the major means of railway transport?

   .....

   .....

<u>The Kenya-Uganda Railway</u>.

The Kenya-Uganda Railway was called the Uganda railway because it was built mainly to link Uganda to the coast.

- Uganda railway was constructed by the ***<u>British Colonialists</u>***. The construction started at ***<u>Mombasa</u>*** in Kenya in 1896. The first builders were Africans but later the ***<u>Indian Coolies</u>*** were hired to build the railway line.

Why Africans refused to work on the Uganda railway.

- They were underpaid.
- They did not want to live very far from their families.
- They feared to be attacked by fierce lions at Tsavo.

Reasons why Uganda railway was built.

- To link Uganda to the coast.
- To make British administration easy.
- To stop slave trade.
- To make transport easy.
- To encourage white settlers in Kenya.

Personalities who made the construction of Uganda railway possible.

- Sir William Mackinnon - He brought the idea of constructing the Uganda railways.

- Captain Mac Donald - He was the chief surveryor of the land where the railway line was to pass.
- Sir George Whitehouse - He was the chief engineer during the construction of the Uganda railway.
- Colonel Patterson - He killed the fierce lions at Tsavo that delayed construction work.
- Sir Guildford Molesworth - He was the last engineer to inspect the completed Uganda railway.

Results of Uganda railway.

Positive results:

- Uganda was linked to the coast.
- Slave trade was stopped.
- Towns developed along the railway line.
- It brought employment to the people of East Africa.
- Trade developed in East Africa.
- Transport of people and goods became easier.
- Administration in East Africa became easy.

Negative result:

- It led to exploitation of resources in East Africa.
- It led to the coming of white settlers who occupied the fertile Kenya highlands.
- The railway lines were only occupied constructed in productive areas.

Problems faced by railway builders.

- Attack from tropical diseases.
- Attack from fierce lions at Tsavo.
- Attack from hostile tribes e.g. Nandi.
- Some physical features made the construction of the railway difficult e.g. Eastern rift valley.

Activity

1. In which town of East Africa did the construction of the Uganda railway start?
   .....
2. Why were the Indian Coolies brought to East Africa?
   .....
3. How was the challenge of lack of serious labourers solved during the building of the Uganda railway line?
   .....
4. What was the main purpose for building the Uganda railway?
   .....
5. How did the construction of the Uganda railway help to solve the problem of slave trade? .....
   .....

Pipeline transport.

Pipe line is a series of pipes that are usually placed underground and are used for transporting liquid materials e.g. oil, petrol, diesel, gas, kerosene, etc.

- The first pipeline was built by Italians from Dar-es-salaam to copper belt at Ndola in Zambia.

Advantages of pipeline transport.

- It is less costly to deliver petroleum products than other types of transport.
- Less labour is used to transport oil by pipeline.
- It is quicker and easier than rail or road transport.
- Less fuel is used to deliver oil or water from one place to another.
- It reduces traffic jam on roads and railways through the same pipeline.

Disadvantages of pipeline transport.

- Pipes are expensive to buy and install.
- Pipes are not flexible.
- In case of leakage, it takes some time to realize.

Transport problems experienced by landlocked countries.

- Payment of many taxes.
- Delay of goods in transit.
- Unstable political conditions.

Solutions to transport problems in East Africa.

- Promotion of friendship.
- Promotion of railway transport.
- Promotion of air transport.
- Promotion of industrialization and agriculture.
- Setting strict traffic rules to promote safety on roads.

Activity

1. Mention any three advantages of pipeline transport.
   (i) .....
   (ii) .....
   (iii) .....
2. Which is the best form of transport for carrying petroleum products?
   .....
3. Why does Uganda need to promote good relationship with Kenya?
   .....
4. How can landlocked countries solve their challenge of poor transport network?
   .....
   .....
5. Outline three disadvantages of pipeline transport.
   (i) .....
   (ii) .....
   (iii) .....
6. In which way does promotion of modern agriculture benefit landlocked countries?
   .....
   .....

CHRISTIAN RELIGIOUS EDUCATION

Christians on the way.

Christ is the answer.

Examples of needy people and how we can help them.

- A needy person is someone who is not able to meet his / her needs. Many people undergo suffering and this makes them needy.

Examples of needy people.

- The poor.
- The mute / dumb.
- Stranded travelers.
- People affected by disasters.
- Refugees.
- The lames.
- For human beings to have a better life, their needs must be met.

Examples of human needs.

- Food
- Clothing
- Medical care
- Security
- Shelter
- Water
- Love and support.

Causes of human suffering.

- Sin (act of disobeying God or fellow man).
- Accidents
- Illness e.g. HIV / AIDs
- Selfishness
- Illiteracy
- Wars and political instabilities
- Death of dear ones.
- Teenager pregnancy / early pregnancy

In Matthew 6 : 1 -4, Jesus taught that when we help a needy person, we help Him.

- Therefore as Christians, we ought to help the needy in order to be blessed by God and also get our needs.

Ways we can help needy people.

- By giving them food.
- Providing the blind with some of their work.
- Promoting peace in the community.
- Driving carefully and teaching road safety rules.
- Taking the sick to the hospital.
- Guidance and counseling.

Note: Jesus Christ is called the anointed one. He taught His disciples to Love one another as He loved them.

Activity

1. What are human needs?

   .....

2. Give three examples of human needs.

   (i) .....

   (ii) .....

   (iii) .....

3. State any three causes of suffering.

   (i) .....

   (ii) .....

   (iii) .....

4. Who is a needy person?

   .....

5. Which commandment did Jesus give His disciples?

   .....

<u>Christ is the answer</u>.

Christ's concern fro different people. Jesus was sent on earth by God to save mankind from sin. This is why He is called the savior / redeemer.

- After Jesus was baptized, He was led by the Holy Spirit into the wilderness. There, He prayed and fasted for 40 days and nights.
- When He came back, He started preaching in the surrounding cities e.g. Capernaum.

Examples of people who were met by Jesus and needed help.

- The demon possessed.
- The sick.
- The hungry.
- The lepers.
- His disciples.
- The poor.
- The dead.
- The widows.
- The children.

Ways Jesus showed concern for people.

- He preached to people who gathered to him.
- He fed the hungry e.g. 5000 men with five loaves of bread and two fish and had twelve baskets of left overs.
- He forgave the sins of a paralysed man.
- He cleaned the lepers.
- He healed the people who were sick of many diseases eg Simon Peter's mother-in-law, the paralyzed man.
- He cast out demons and unclean spirits.

Activity

1. Why is Jesus called the savior?

   .....

   .....

2. What does the word Christ mean?

   .....

3. Name any four groups of people that Jesus showed concern to.

   (i) .....

   (ii) .....

   (iii) .....

   (iv) .....

4. Why did Jesus go to the wilderness?

   .....

   .....

5. Name the place where Jesus performed His first miracle.

   .....

6. Why did Jesus perform miracles?

   .....

Christ is the answer.

Jesus' concern for sinners.

Jesus came to save mankind from sin.

- A sinner is a person who has committed an act which is against the laws of God.
- When one sins, he/she deserves a punishment.
- Jesus knew we couldn't bear to save us of our sins and he came to save us.
- People have committed many sins today which have caused suffering to mankind and need to save us.

Examples of sins.

- Immorality
- Killing / murder.
- Stealing and cheating.
- Telling lies.
- Adultery / idolatry.
- Envy and jealousness.
- Mistreating other people.
- Using God's name falsely, etc.

Instances when Jesus showed concern for the sinners.

(a) Matthew 9: 9 - 23

- Jesus openly forgave and ate with sinners eg tax collectors, sinners and lepers to show love.
- Jesus taught us that He had come to save the lost (sinners.
- He comforted those who had lost hope.

(b) Luke 6: 27 – 35

- Jesus taught us that we should love our enemies and do good to those who hate us.
- Jesus told His disciples not to revenge.
- Jesus forbid His disciples from fighting back.
- Jesus told the disciples to love all people.

(c) John 18: 19 – 23.

- The high priest asked Jesus of His teaching and He answered politely.
- Jesus told the High Priest to ask the people about what He had done to them.
- One army officer struck Jesus with His palm but Jesus didn't fight Him back.

Activity

1. Mention four examples of sin.
   (i) .....
   (ii) .....
   (iii) .....
   (iv) .....
2. Name the disciple of Jesus who was a tax collector.
   .....
3. How did Jesus show that He was the savior?
   .....
4. Who is a sinner?
   .....
5. How did Jesus show concern to :
   (a) lepers? .....
   (b) tax collectors ? .....
   (c) those who hated him? .....

Prayers

Prayers are ways of talking to God.

- When communicating with God through prayer, we talk to God telling Him our desires and wants.

- Christians need to pray all the time as this builds good relationship between God and people.
- When we pray, we need to do it quietly and have faith that God hears and answers prayers.

Reasons why people pray.

- To overcome temptations.
- To get their needs e.g. food, shelter, clothings.
- To worship God.
- To interact for other people.
- To beg for forgiveness (repent).
- To strengthen their faith.
- To show obedience.
- To promote fellowship.

Note: Prayers can be said individually or as a group. Group prayers are called congregational prayers while those said individually are personal prayers.

Temptations of congregational prayers.

- People share God's love.
- Promotes fellowship.
- Builds unity.
- They encourage weak Christians.
- They promote friendship.

Types of prayers.

- A type of prayer depends on the purpose to which it is said. Below are types of prayers.

1. Intercession prayer
   The is a prayer said to plead on behalf of other people.
2. Repentance prayer / confession prayer

- It is a prayer said to plead on behalf of other people.

3. Repentance prayer / confession prayer

It is a prayer said to ask for forgiveness.

4. Thanksgiving prayer.
   It is a prayer said to thank God for what He has enabled us to achive.
5. Petition prayer
   These are specific requests made to God.
6. Supplication prayers
   It is an act of making humble requests to God.
7. Liturgical prayers
   These are recited prayers in church. Their format does not change.

Examples of liturgical prayers:

- Apostle's creed
- The lord's prayer
- The Grace prayer
- Praising prayer
  It is the prayer for giving glory and honour to God for what He has done.

Activity

1. Why do Christians pray?
   (a) before meals"
   .....
   (b) after meals"
   .....
2. What are congregational prayers?
   .....
   .....
3. Write two examples of liturgical prayers.
   (i) .....
   (ii) .....
4. How should Christians pray?
   .....

5. Mention any four types of prayers.
   (i) .....
   (ii) .....
   (iii) .....
   (iv) .....

<u>Examples of Jesus as a prayerful person</u>.

Jesus always prayed during His ministry on earth.

- He prayed for people who were suffering.
- He prayed for Himself and always went to the mount to pray.

Examples

- He cast out demons.
- Prayed for the sick.
- At night, He could go to pray on the mountain.
- On the transfiguration day, He was praying when His body turned and His clothes became dazzling white.
- When Jesus was faced with hardships, He prayed i.e.
- When He was about to be arrested in Gethsemane;
- He prayed To God to take away the cup of suffering.
- He prayed to God's will to be done.
- He sweated blood.
- God sent angels to encourage Him.

On the cross.

- He gave His spirit in the hands of God.
- He asked God to forgive those who hurt Him.
- Jesus taught His disciples how to pray (Matthew 6: 6 – 13)
- He told them to avoid a show off.
- He told them to pray quietly.

Importance of prayers

- What prayer did Jesus teach His disciples?

The Lord's prayer.
Our Father in heaven.
Hallowed be thy name.
Your Kingdom come.
May Your will be done on earth.
As it is in heaven.
Give us this day our daily bread.
And forgive us our sins.
As we forgive those who sin against us.
And lead us not into temptation
But deliver us from evil,
For the Power, Glory and dominion are yours,
Amen.

Importance of prayer

- One is forgiven.
- Builds faith.
- One gets comfort.
- It shows love.
- Builds unity and fellowship.
- One's needs are met by God.

Activity:

1. Give one way in which people talk to God.

   .....

   .....

2. State any two values of prayer.

   (i) .....

   (ii) .....

3. Why did Jesus pray?

   .....

4. What is the meaning of 'Transfiguration'?

   .....

   .....

5. State one use of a church to a Christian.

   .....

6. What lesson do you learn from the life of Jesus as a prayerful person?

   .....

Meaning and importance of forgiveness.

Matthew 18 : 21 – 24, Luke 22 : 54 – 64), John 21 : 15 – 19)

- Sin is any act that is against God's laws.
- When one sins, his / her relationship with God and fellow human beings gets spoilt.
- Sin is caused by human weakness. Weakness is inability to control one's feelings or desires.

Examples of weaknesses

- Lust
- Envy and jealousness
- Gluttony and greed
- Unfaithfulness
- Selfishness
- Pride
- Fear
- Hatred
- Cheating

    - When we sin, we disappoint God and fellow people. Therefore, we need to always repent. When we repent, God forgives us.
    - Repentance is the act of feeling sorry for a bad act committed and abandoning it.

Repentance brings:

- ✓ Reconciliation among people.
- ✓ Love.
- ✓ Peace
- ✓ Unity
- ✓ Hope
- ✓ Forgiveness
- ✓ Builds friendship.

- o Simon Peter also had weaknesses. The weaknesses made him to deny Jesus because he feared to die or be treated harshly like they did to Jesus.
- o Jesus had predicted that Simon Peter would deny Him before the cock crowed for the third time (Matthew 26 : 34).
- o Simon Peter repented (asked for forgiveness) when he realized he had sinned.

Activity

1. Give the meaning of each of the words below.
   (a) Repentance
   .....
   (b) Forgiveness
   .....
2. What did Jesus teach us to do to those who wrong us?
   .....
   .....
3. What is human weakness?
   .....
4. Who denied Jesus Christ?
   .....
5. Give one danger of each of the following;
   (a) hatred
   .....
   (b) selfishness
   .....

Christ's Gift for the journey.

Meaning and importance of sacraments.

Sacrament is a visible sign of an invisible grace of God.

- There are seven (7) sacraments in Christianity namely:
    - Baptism
    - Confirmation
    - Eucharist / Holy communion
    - Penance
    - Holy Matrimony
    - Anointing of the sick
    - Holy Orders

Baptism (Matthew 3 : 1 – 11, 28 : 18 – 19)

- It is a Christian sacrament / ritual in which water is used to anoint or submerge someone to welcome them into the church.
- Baptism was began by John the Baptist at River Jordan where he called people to repent and be baptized.
- Many people came to be baptized. They included:
    - Tax collectors
    - Soldiers
    - Jesus Christ
- He urged them to be baptized and save themselves from the coming destruction.

Reasons why Jesus was baptized.

- To fulfill the prophecy.
- To be empowered by the Holy Spirit.
- To set an example.

Events on Jesus' baptism

- Heaven was opened.
- A voice spoke from heaven saying "This is my son with whom I am weel please."
- The Holy Spirit came upon Him in form of a dove.

- John the Baptist also prophesied about the coming of the Messiah who will be baptized with fire and the Holy Spirit.
- Baptism is the first sacrament in Christianity therefore called an initiation ceremony into Christianity.

<u>Importance of Baptism</u>.

- It initiates one into God's family.
- It washes away the original sin of Adam and Eva.
- It is a symbol of repentance.
- It enables us to receive the Holy Spirit.
- It is a symbol of humility.
- It symbolizes death to sin and union with the risen Christ.

Things used in baptism and their meaning.

1. White cloth - It is a symbol of purity / righteousness.
2. Candle - It is a symbol of the Holy Spirit.
3. Water - It is a symbol of life in Christ. It is also a symbol of cleansing from sin.
4. Anointing oil - It is a symbol of leadership and empowerment.

Activity

1. What sacrament initiates one to God's family?
   .....
2. Apart from the sacrament above, mention any other example of sacraments.
   .....
3. State any three values of baptism in Christianity.
   (i) .....
   (ii) .....
   (iii) .....
4. Why was Jesus baptized?
   .....

5. How is John the Baptist important in Christianity?

   .....

   .....

6. How is the sacrament of Baptism administered?

   .....

   .....

HOLY COMMUNION

It is a sacrament that enables;

- Christians to share on the body and blood of Jesus.
- It is symbolized by the breaking of bread and sharing of a cup of wine.
  1. Bread represents the body of Jesus.
  2. Wine represents the body of Jesus.
- It was began by Jesus on Holy Thursday when He shared the Passover meat with His disciples.
- The Holy Communion is also called the Eucharist.
- Before receiving the sacrament of the Holy Communion, one needs to observe repentance.
- Today, the sacrament of the Holy Communion is administered to people after the sacrament of confirmation by the church leaders.

Examples of church leaders who administer the Eucharist.

- Pope
- Cardinal
- Archbishop
- Bishop
- Priest
- Reverend
- Pastor

Importance of the Holy Communion.

- It helps us to repent.
- It reminds us of the importance of Jesus' death.
- It builds unity among Christians.
- It helps to get spiritual energy.

- It builds faith of a Christian.
- It shows the importance of the cross.
- It brings us closer to God.

Importance of the Holy Communion.

- It helps us to repent.
- It reminds us of the importance of Jesus' death.
- It builds unity among Christians.
- It helps to get spiritual energy.
- It builds the faith of a Christian.
- It brings us closer to God.

Activity

1. On which day did the sacrament of the Holy Communion begin?

   .....

2. Who began the sacrament of the Eucharist?

   .....

3. What is the importance of the following in Eucharist?

   (a) wine .....

   (b) Bread .....

4. Give the meaning of the term Passover.

   .....

5. Write any three benefits of the Eucharist.

   (i) .....

   (ii) .....

   (iii) .....

6. What does the word covenant mean?

   .....

   .....

Jesus as a way to God.

The disciples one time asked Jesus to show them the way to the father.

- Jesus replied "I am the way to the father except through Me." (John 14 ; 5)

Jesus as the way to God.

- Lived as an example i.e. He never sinned.
- He connects us to God.
- He taught what the father wanted Him to teach.
- He is an assurance of eternal life.
- Jesus promised the Holy Spirit to guide and counsel the disciples and we receive Him in the name of Jesus Christ.

Qualities of Jesus as the way to God.

- He was humble.
- He loved all people.
- He cared for people in need.
- He promoted peace.
- He promoted justice and equality.
- He was obedient.
- He was courageous.
- He was patient.
- He was faithful.
    - When we have those qualities, we please God.
    - We can't see God unless we follow Jesus as our Lord and Saviour.

Jesus also said that He is the Truth meaning.

- What he said was true.
- The truth leads us to everlasting life.
- He taught the truth about the father and the Holy Spirti.
- This therefore shows us the way to Go.

Jesus also said that He is the life.

- He gave his life that we may have eternal life.
- We receive God give life through Jesus.
- As Christians, we are on our journey to the father, we are passerby and Jesus is our guide to God.

Activity:

1. Who said "I am the way, the Truth, and the life"?
   .....
   .....
2. To whom did he say those words?
   .....
3. Whom does Jesus call our father?
   .....
4. How does Jesus show us the way?
   .....
   .....
5. How can we have everlasting life?
   .....
6. Why did Jesus send the Holy Spirit to the disciples?
   .....

The Holy Spirit.

The Holy Spirit is the third person of the Holy Trinity.

- When Jesus was about to end his ministry on earth, he promised to ask the father to give to the disciples, the Holy Spirit the helper will guide them in everything.

The Holy Spirit would do the following (John 14 : 36)

- Teach the disciples.
- Guide the disciples in everything.
- Help them to perform miracles.
- Empower the apostles.

- Comfort the disciples.
- Will testify about Jesus.
- The Holy Spirit is the working power of God.
- The Holy Spirit is represented by the following.
- Fire / tongue of fire.
    - Dove
    - Strong wind

- The Holy Spirit descended to the disciples on Pentecost day.
- The disciples were waiting in the upper room of the temple in Jerusalem when the Holy Spirit came.
- They were filled with the Holy Spirit and spoke in different tongues (languages).
- The Spirit rested upon them like flames of fire.
- The disciples begun performing miracles.

Note: The church was founded on the Pentecost day.

The Holy Spirit provided the following Gifts 1 Cor. 12: 7 – 9.

- Wisdom
- Knowledge
- Healing
- Performing miracles
- Speaking in tongues.
- Interpreting in tongues.
- Casting away evil spirits.
- Understanding
- Leadership (Ephesians 4 : 11)
- Prophesy
- Faith

Fruits of the Holy Spirit (Galatians 5: 21 – 23)

- These are characters we develop by having the Holy Spirit in us.
- They include;
    - Love
    - Joy
    - Kindness
    - Patience
    - Faithfulness
    - Self control
    - Gentleness
    - Goodness
    - Peace

Note: The fruits of the Holy Spirit are the same as the Christians values.

Importance of the Holy Spirit.

- Give boldness in preaching.
- Enables us overcome temptation.
- Reveals the truth about God.
- Gives meaning to Jesus' death.
- Reminds us of Jesus' presence.
- Guides believers.
- Helps to perform miracles.

Activity

1. What was the work of the Holy Spirit?

   .....

2. Who sent the Holy Spirit?

   .....

3. Who was the helper that Jesus promised?

   .....

4. What important event took place on the Pentecost?

   .....

   .....

5. Where were the disciples on the day of the Pentecost?

   .....

6. Mention any three gifts of the Holy Spirit.

   (i) .....

   (ii) .....

   (iii) .....

Temptation.

Temptation is any desire to something bad.

- All human beings have weaknesses. The devil uses these weaknesses to tempt us.
- The devil knows some people are lazy and therefore he can tempt them to lie, steal, cheat, be corrupt or even live a careless life.

Dangers of temptation

- Leads to sin and evil.
- When we sin we annoy God.
- Temptations can make us weak in faith.
- Temptations exposes our weaknesses.

Benefits of temptation.

- Helps to test our faith in God.
- Makes us powerful in God.
- Makes us trust in God.
- We gain experience to help other people.

Note: All temptations are meant for the good of us and not let us sin.

- The inner voice in our hearts is the Holy Spirit that helps us to choose rightly and protect us from temptation. (Read 1 Cor. 10: 11)

Activity

1. What does the term "Temptation' mean?

   .....

   .....

2. How did Jesus overcome temptation?

   .....

   .....

3. Give two dangers of temptation.

   (i) .....

   (ii) .....

4. Mention three temptations the devil gave to Jesus.

   (i) .....

   (ii) .....

   (iii) .....

5. Why are human being sometimes tempted?

   .....

   .....

Community life

A community is a group of people living and working together.

- A church is a group of Christians.
- As Christians, we live in a large community of people who have:
  - Different occupations
  - Different social status
  - Different education levels.
  - Different ethnicity.
- We need to live together thinking about the needs of other people.
- Needs of people are of two type.
  i. Material needs e.g. clothing, shelter, food etc
  ii. Non material needs e.g. education, security. Love, comfort, consideration, etc.
- We need to have the qualities that enable us to live peacefully with others. They include;

- Respect for all people
- Giving to the needy (John 4: 7 – 8)
- Love (John 13 : 34 – 35)

- Paul summarizes the qualities of true love in 1 Cor. 13: 1 -)
- Jesus also emphasized the aspect of love in the two great commandments:-
  - Love the Lord your God with all your mind and soul
  - Love your neighbor as you love yourself.
  - Our lives are like a travelled on a journey where there are many trials which help shape out behavior.

- Self control
- Prayerfulness
- Being fair / just
- Obedience
- Loyalty
- Kindness

Activity

1. What is a church?

   .....

   .....

2. What are Christian virtues?

   .....

3. State any two qualities of a good Christian.
   (i) .....
   (ii) .....
4. Who is a disciple?
   .....
   .....
5. State the two greatest commandments in the Bible.
   (i) .....
   (ii) .....

Qualities of a good Christian.

- Responsible
- Kindness
- Fairness
- Openness
- Obedience

- We need to make the world a better place to live in by:
  - Promoting peace.
  - Protecting the environment.
  - Respecting all people.
  - Being exemplary.
  - Protecting other people's rights.
  - Having self discipline e.g. dressing decently.

Activity

1.What is responsibility?

.....

.....

2. Give any two ways you can show responsibility to other people.
   (i) .....
   (ii) .....
3. Mention two ways of making the world a better place for people.
   (i) .....
   (ii) .....

4. Mention any two examples of needy people.
   (i) .....
   (ii) .....
5. What was the purpose of God creating man?
   .....
   .....

How to behave on the way.

Roles of people in the community.

Roles of people in the community.

Roles of people in our community depend on the activities they carry out.

- These activities are called occupations.
- Some people are professionals like lawyers, teachers, magistrates, doctors, engineers, etc. while others are casual labourers eg porters, gardeners, cleaners.
- When God created Adam, He places him in the Garden of Eden to till it. (Genesis 2: 15).
- Roles of people do help them care for God's creation.
- People carry out different roles for the following reason.
    - To create wealth.
    - To obtain food.
    - To live a better life.
    - To serve God.
    - To promote order and respect.

Categories of roles.

    - Leadership roles.

- A Leader is a person who has authority over a group of people.
    - Leaders play the following roles.

- Leaders play the following roles.
    - Settle disputes.

- Promote discipline and rule of law.
- Settle conflicts.
- Promote peace.
- Defend society / community.
- Create unity and co-operation.
- Promote development.

Groups of leaders.

- Religious leaders.
- Political leaders.
- Cultural leaders.
- Civic leaders.
- Voluntary leaders.

- Roles of people also depend on gender. Gender is the nature of being male or female.
- God created males and females to live together and subdue the earth as companions.

Activity

1. Give the meaning of Gender

   .....

   .....

2. Why do males and females need to respect one another?

   .....

   .....

3. Write two roles of leaders in the community.

   (i) .....

   (ii) .....

4. Give three examples of social services.

   (i) .....

   (ii) .....

   (iii) .....

5. What name is given to a group of leaders who provide social services?

   .....

   .....