LABASA SANGAM (SKM) COLLEGE

LESSON NOTES

School: Labasa Sangam (SKM) College | Year/Level: 11C/D/E
Subject: Applied Technology | Week 1
Content Learning Outcome:

- Classify safety, materials, tools and processes in simple cutting and forming techniques involved in

STRAND 6 Applied Engineering

SUB- STRAND ; REFRIGERATION AND AIR CONDITIONING

Refrigeration:

It can be defined as the process of transferring heat from a low temperature region to a high temperature region. In other words it is the process of cooling a substance. This can be achieved only if the heat is removed from that substance

Principle of refrigeration:

The principle of refrigeration is based on second law of thermodynamics. It states that heat does not flow from a low temperature body to a high temperature body without the help of an external work. In refrigeration process, since the heat has to be transferred from a low temperature body to a high temperature body some external work has to be done according to the second law of thermodynamics as shown. This external work is done by means of compressor, condenser etc.

Terms in refrigeration

1. Refrigerator

It is a machine used to extract heat from a body at low temperature and reject this heat to a body at high temperature. Thus it cools the body.

2. Refrigerant

It is substance, which is used as a working fluid in refrigerators. The refrigerant has low boiling point, which means that it vaporizes at low temperature and takes away the heat from a substance.

Examples: Freon 12 used in Domestic refrigerators. Freon 22 used in Air Conditioners. Properties of good refrigerant:

1. Have low freezing and boiling point
2. Have high COP
3. Be non-toxic and non-corrosive to metal
4. Be non-explosive
5. Easily be liquefied

Refrigeration Effect

It is defined as the ratio of the quantity of heat removed to the time taken.
Refrigeration Effect = Heat removed / Time taken

5. Coefficient of Performance (COP)

It is defined as the ratio of heat absorbed in a given time (Refrigeration Effect) to the work done

$$\text{COP} = \frac{\text{Refrigeration Effect}}{\text{Work done}}$$

Types of Refrigerators:

1. Vapor Compression Refrigerators
2. Vapor Absorption Refrigerators

Vapor Compression Refrigeration System

This type of refrigeration system is the most commonly used system in domestic refrigerators. In VCRS the vapor alternatively undergoes a change of phase from vapor to liquid and vice versa during a cycle.

Constuction:

Vapor compression refrigeration system has the following components at its basic parts.

1. Compressor: The function of the compressor is to compress the input refrigerant of low pressure and low temperature. As a result the pressure and the temperature of the refrigerant increases. Generally reciprocating compressors are used in a refrigeration system. An external motor is used to drive the compressor.

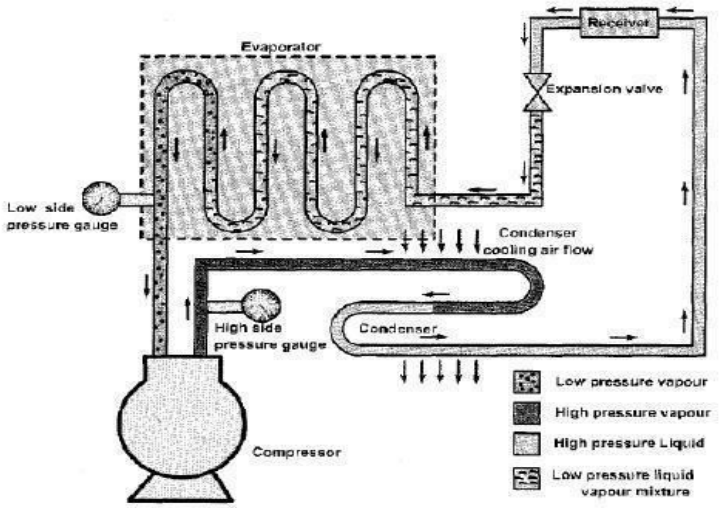
2. Condenser: The condenser is a coil of tubes, which are made of copper. This is used to condense the refrigerant which is in the form of vapor. And convert into liquid.

3. Expansion Valve: this is otherwise called throttle valve. This valve is used to control the flow rate of refrigerant and also to reduce the pressure of the refrigerant.

4. Evaporator: This is the part in which the cooling takes place. This is kept in the space where cooling is required. It is a coil of tubes made up of copper.

Working Principle

The refrigerant, which is at low pressure and low temperature flows into the compressor. In the compressor the refrigerant is compressed and converted into a high pressure and high temperature refrigerant.



This high pressure and high temperature refrigerant in vapor form then passes through the condenser where it is condensed into high pressure liquid refrigerant. The high pressure liquid refrigerant thus produced passes through the expansion valve. In the expansion valve the pressure and temperature of the refrigerant drops and it partly evaporates. It is the allowed to flow into the evaporator at a controlled rate. In the evaporator, the partly liquid and vapor refrigerant is mostly evaporated and converted into a low pressure vapor. During this process, the refrigerant absorbs its latent heat of vaporization from the material that is to be cooled. Thus the body is cooled in the evaporator.

Then the low pressure vapor refrigerant enters the compressor and the cycle is repeated. Thus a material is cooled in vapor compression system. Vapor Absorption Refrigeration System:

The compressor in the vapor compression refrigeration system consumes lot of energy. To avoid this, the vapor absorption refrigeration system has been developed. In this system, the compression process of vapor compression cycle is eliminated. Instead of that the three following process are introduced.

Ammonia vapor is absorbed into water .

HOME STUDY PACKAGE

School: Labasa Sangam (SKM) College | Year/Level: 11C/D/E

Subject: Applied Technology | Student Name: _____

Worksheet Number 1 /Week 1 | **Due Date: 26th July 2021**

Define the following term given below .

1. Refrigeration_____
   _____
   _____
2. What is the Principle of refrigeration:
   _____
   _____
   _____
   _____
   _____
   _____
   _____
3. Terms used in refrigeration

   _____
   _____
   _____
   _____
   _____

   State the Types of Refrigerators:

   _____
   _____
   _____
   _____

State the basic parts. Of Vapor compression refrigeration system

_____
_____
_____
_____
_____
_____

LABASA SANGAM (SKM) COLLEGE
YEAR 11 CHEMISTRY
HOME STUDY PACKAGE
WEEK 1

STRAND 3: REACTIONS
Sub-strand 3.2: Types of Reactions
Content Learning Outcome:

- Identify the type of reaction.
- State the properties of chemical reactions.
- Write balanced equations for the chemical reactions.

WEEK 1

Chemical Reactions

- Chemical reactions are processes that will cause change in the properties of the substances involved.
- Most reactions are chemical changes and are irreversible and some are reversible.
- Chemical reactions in living things are termed biochemical i.e. photosynthesis, respiration and digestion of food in the gut of animals.
- Chemical reactions are part of our daily lives in our homes and communities.

Example

- The study of chemical reactions is an integral aspect of chemistry.
- It equips us with the ability to understand and explain the chemical principles that involves changes.

These chemical reactions are:

1) Combustion
2) Synthesis
3) Decomposition
4) Neutralisation
5) Double Displacement
6) Precipitation
7) Oxidation-Reduction

1. Combustion

- It is the chemical term for the burning of substances in oxygen to form compounds called ***oxides***.
- Though oxygen does not burn, it is used as it supports combustion.
- Metals will burn completely in oxygen to form metallic oxides.
- The oxides are *ionic* compounds and are *basic* in nature.

Example

Magnesium + Oxygen → Magnesium oxide

$2Mg_{(s)} + O_{2\,(g)} \rightarrow 2MgO_{(s)}$

- Combustion of metals may be used to distinguish some common metals as metals burn with distinctive flame.

- Non-metals burn completely in oxygen to form non-metal oxides.
- These oxides are *molecular* substances and are *acidic* in nature.
- Most are gases at room temperature.

- Organic compounds are used as fuels for its high carbon content.
- It burns completely in oxygen to produce carbon dioxide and water.
- A lot of energy is released.
- Incomplete combustion will form harmful products such as carbon monoxide, soot (unburnt carbon) and less heat is released.

Examples

1. Carbon + Oxygen → Carbon dioxide

   $C_{(s)} + O_{2(g)} \rightarrow CO_{2(g)}$

2. Glucose + Oxygen → Carbon dioxide + Water

   $C_6H_{12}O_{6(s)} + 3O_{2(g)} \rightarrow 6CO_{2(g)} + 6H_2O_{(g)}$

2. Synthesis

- Naturally occurring elements combine chemically to form compounds.
- When two non-metals combine, a covalent substance is formed.
- However, metals combine with a non-metal to form ionic compounds.

Example 1 Combination of two non-metals.

$C_{(s)} + S_{(s)} \rightarrow CS_{2(l)}$

Carbon disulphide

Example 2 Combination of a metal and a non-metal

$Fe_{(s)} + S_{(s)} \rightarrow FeS_{(s)}$

Iron sulphide

Example 3 Formation of oxides

- All combustion of elements is **synthesis reaction**.

LABASA SANGAM (SKM) COLLEGE
YEAR 11 CHEMISTRY

WEEK 1
WORKSHEET 1

1. Define chemical reaction.

   _____

   _____

2. State **one** property of chemical reactions.

   _____

3. Give the **term** given to chemical reactions in living things and also give **an example**.

   _____

4. Give **an example** of chemical reaction that occurs in our everyday life.

   _____

5. For each reaction below:

   i. Write a balanced equation.
   ii. Classify the type of reaction

   a. Burning of sulphur.
      Equation: _____
      Type of reaction: _____

   b. Burning of magnesium.
      Equation: _____
      Type of reaction: _____

   c. Formation of ammonia from nitrogen gas and hydrogen gas.
      Equation: _____
      Type of reaction: _____

6. Balance the equations given below:
   i. $\_Al + \_O_2 \longrightarrow \_\_Al_2O_3$
   ii. $\_SO_2 + \_O_2 \longrightarrow \_\_SO_3$
   iii. $\_C + \_H_2 \longrightarrow \_CH_4$

LABASA SANGAM (SKM) COLLEGE

YEAR 11 ECONOMICS WORKSHEET

HOME STUDY PACKAGE

WEEK 1

Strand	Microeconomics
Sub-Strand	Price Mechanism
Content Learning Outcome	-Explain how the market establishes the equilibrium price and quantity. -deriving demand and supply schedule and curves.

Price Mechanism

Market is a situation where buyers and sellers interact to exchange goods and services for money.

Examples: Goods market, Factor market, Money market, Stock exchange market and Forex market.

Price Mechanism

It is a price system that determines the price of goods and services through the interaction of supply and demand.

1. Equilibrium is a state of balance. It is a situation where QS=QD. Equilibrium is also known as "status quo" (Greek phrase).

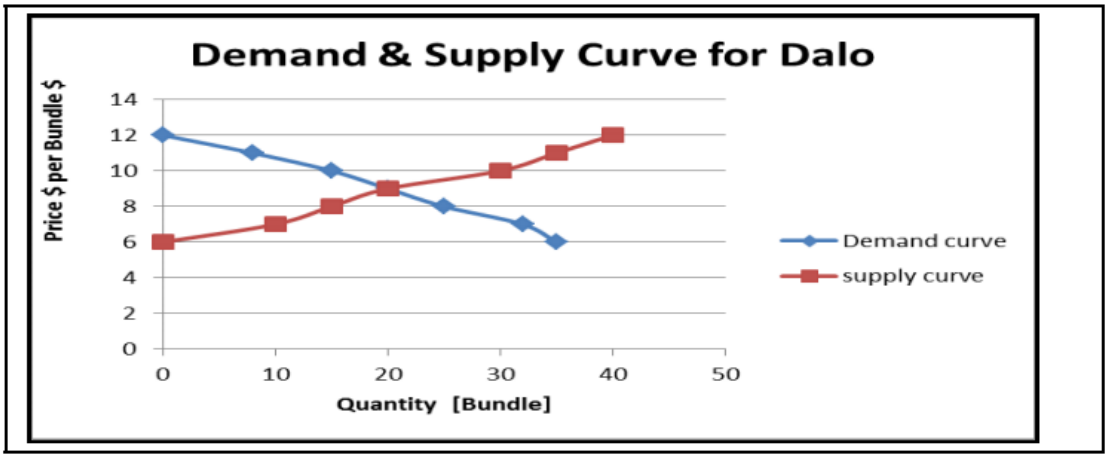
Demand: refers to the amount of goods and services that consumers are willing and able to buy in a given period of time at a particular price.

Supply: refers to the quantity of a good that producers are willing and able to sell at various possible prices over a given period of time.

2. Supply and Demand Curve

Price per bundle	Qty Demanded	Qty Supplied	Market Situations
12	0	40	40 surplus
11	8	35	27 surplus
10	15	30	15 surplus
9	20	20	0 equilibrium
8	25	15	10 shortage
7	32	10	22 shortage
6	35	0	35 shortage

Graphical Illustration



Shortage [Excess Demand] is situation where quantity demanded is greater than quantity supplied. Any price below the equilibrium will bring about a shortage in the market.

Surplus [Excess Supply] is a situation where quantity supplied is greater the quantity demanded. Any price above the equilibrium will bring about a surplus in the market.

LABASA SANGAM (SKM) COLLEGE

YEAR 11 ECONOMICS WORKSHEET

HOME STUDY PACKAGE

Worksheet Number :1

Name of the Student: _____

Year: _____

1. At equilibrium, the sum of surplus is_____, because resources have been used in the most efficient way possible.

   A. Maximised B.Minimised C.Reduced D. Not Changed

2. Any price set below the equilibrium price will create

   A. Surplus B. Shortage C. Maximised D. No Change

3. The situation where quantity supplied is greater than quantity demanded is known as

   A. Surplus B. Shortage C. Maximised D. No Change

4. The situation where quantity demanded is greater than quantity supplied is known as

   A. Surplus B. Shortage C. Maximised D. No Change

Short Answer Question

Define the following concepts:

Concepts	Definition
Market	
Price Mechanism	
Demand	
Supply	
Surplus	
Shortage	

LESSON NOTES 1

WEEK 1

School: Labasa Sangam (SKM) College **Year:** 11B/E

Subject: History

Strand	Time Continuity and Change
Sub strand	Cultural Interaction and Integration
Content Learning Outcome	Rotuma and Rotumans of Fiji

Definitions

i. **Independence** - the end of British colonial rule and Fiji's ability to make all decisions affecting Fiji
ii. **Cession** - To give up land/country
iii. **Interaction** - Relationships between groups

Introduction

Rotuma is a volcanic island of approximately 43 sq. kilometers, located at 12 degrees south latitude and 177 degrees east longitude, approximately 465 kilometers north of Fiji. The island is mountainous and thickly forested and is divided into 2 parts by a very narrow isthmus about 200 yards wide at a spot called Motusa. Rotuma island is approximately 8 miles long with a maximum width of about 3 miles. Apart from the rich and fertile soil producing abundance of tropical fruits and crops, Rotuma, is also one of the most beautiful, attractive, and romantic of Pacific Islands.

The island has been politically part of Fiji since 1881, but culturally Rotumans resemble that of the Polynesian islands to the east, mainly Tonga, Samoa, Futuna and Uvea. Rotumans are of Polynesian appearance with a distinctive language and therefore is a recognizable minority group within the Republic of Fiji.

In unit 1 we read about how the island of Rotuma in the 19th Century was a busy port of call for ships, where Chinese had set up small trade shops, missionaries were posted to, ships

would stop over for refreshments and supplies before moving on. Hence, this was a clear indication of interaction of different ethnic and cultural communities. We also learnt that Rotumans, like Tongans, Samoans, Solomon Islanders, Tuvaluans, ni Vanuatu, Cook Islanders, Kiribati, and Europeans had migrated to Fiji making up Fiji's society with distinctive multi-ethnic, multi-religious and multi-cultural communities. However, what we did not learn, was Rotuma's unique history and how it came to be politically part of Fiji during its colonial rule and even after Fiji's independence from British rule.

Legend and Early settlers.

The most significant cultural 'invasions' was said to have come from Samoa and Tonga. This was a good example of what was sometimes called the westward Polynesian 'backwash'- the movement of people east to west. Just as we learnt in Unit 1 where Fijians were early settlers of Samoa, Samoans and Tongans were said to be early settlers of Rotuma. According to Legend, the island of Rotuma was originally 'produced' and settled by a Samoan chief named Raho. Another legend tells how Tongans invaded the island led by the chief Ma'afu.

Discovery/Contact

Rotuma island was sighted in 1791 by Captain Edward Edwards and his crew of the HMS Pandora. They were searching for sailors who were mutinied on the ship 'Bounty'. After this discovery the island was visited by Captain James Wilson in the missionary vessel "Duff" in 1797. He was then followed by several trading ships over the next 20 years.

At first, when traders arrived on Rotuma shores, Rotumans were not eager to trade but, towards the first half of the 19th century, when European contact increased, reluctance to trade in the first place, began to give way to the Islanders eagerness to acquire European goods. More specifically, Whalers found the island as an excellent station for replenishing their stores. The Island then became famous and a favourite place for ships to stop.

Missionaries and Religious War

The island was also a favourite spot for runaway convicts and beachcombers. By 1831, the island was reported to have about 70 European men. They were the Rotumans first impressions of Europeans. They were described as undesirable in behaviour and had most often scared the local people. However, many of them married local women as the island increasingly became a haven for these white men.

Missionaries arrived a little after the islands discovery and contact, and their arrival was somewhat more permanent and influential. Wesleyan missionaries arrived from Tonga followed by the Marist Roman Catholic missionaries in the mid-19th century, and despite having the missionaries present on the island, 1871 and 1878 were dubbed as a time of Religious war.

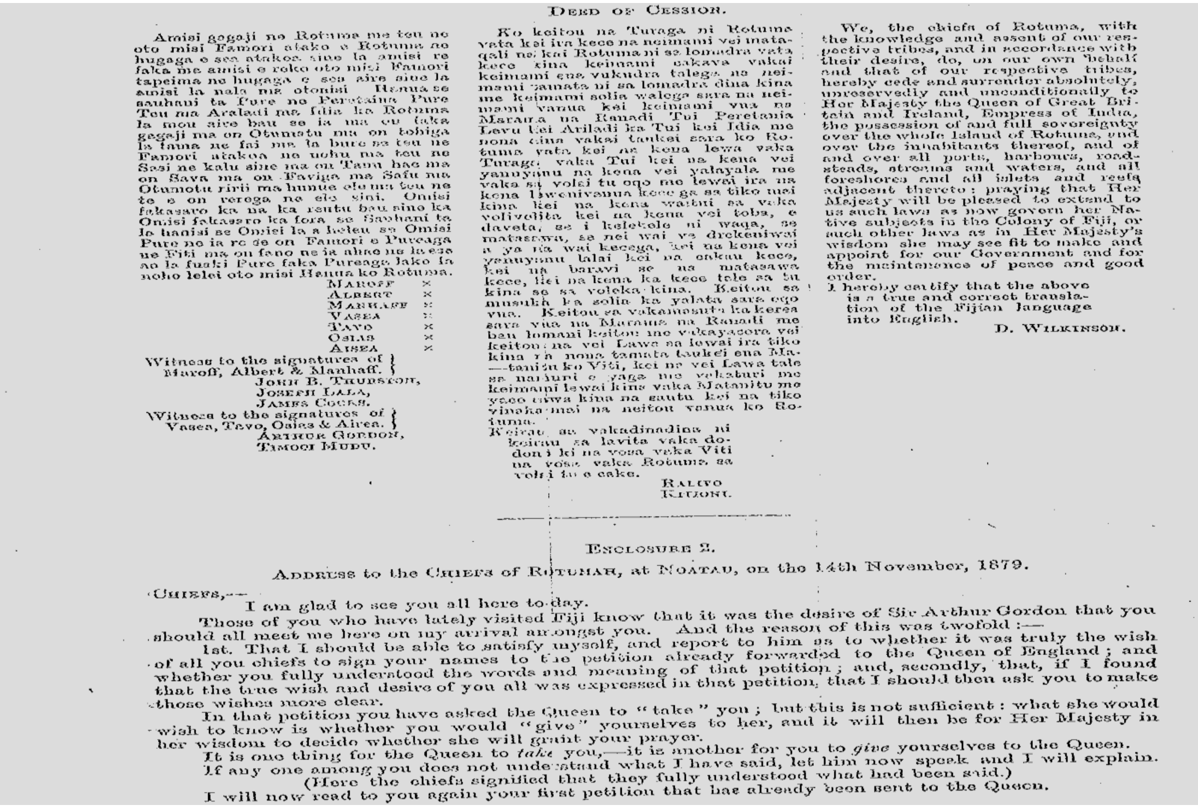
Cession

In response to the unrest, The Rotumans decided to cede their island to Britain in 1881. Fiji's Governor, Sir Arthur Gordon, sent Lt Commander Bower to Rotuma to look into the request. After a thorough study, Bower summoned the chiefs for a meeting. He told them that it would be privilege for them to be counted among the children of the Great Queen.

The island was then officially ceded to Britain where Seven chiefs signed the instrument of Cession to Queen Victoria on May 13, 1881 and at the same time, Britain decided that Rotuma should be administered as a part of the colony of Fiji seeing that Fiji was the nearest crown colony. This was done so that it would be easier to administer 1 colony rather 2 separate colonies. There was a Resident Commissioner who was sent to administer the island and it had an advisory body, consisting of the 7 paramount chiefs.

It was fortunate for the islanders that under the English laws, colonial government had the desire to discourage religious conflicts and eventually, there was harmony between the 2 previously warring religious factions.

Copy of Cession instrument



DEED OF CESSION.

Amisi gagaji ne Rotuma me tou ne oto misi Famori atako e Rotuma ne hugaga e sea atakoa sine la amisi re faka me amisi e roko oto misi Famori tapeima ne hugaga e sea aire sine la amisi la nala ma otonisi Hanua se sauhani ta Pure ne Peretania Pure Tou ma Araladi ma Idia ka Rotuma la mou aire bau se ia ma ou faka gagaji ma on Otumotu ma on tohiga la fauna ne fai ma la bure se tou ne Famori atakoa ne uohu ma tou ne Sesi ne kalu sine ma on Tam hae ma on Sava ma on Faviga ma Safu ma Otumotu ririi ma hunue ele ma tou ne te e on verega ne ele sini. Omisi fakasaro ka na ka rautu bau sino ka Omisi fakasaro ka fora se Sauhani te la hanisi se Omisi la a heleu se Omisi Pure ne ia re de on Famori e Pureaga ne Fiti ma on fano ne ia ahae ne la esa ao la fuaki Pure faka Pureaga lako la noho lelei oto misi Hanua ko Rotuma.

MAROFF ×
ALBERT ×
MANHAFF ×
VASEA ×
TAVO ×
OSIAS ×
AISEA ×

Witness to the signatures of Maroff, Albert & Manhaff.
JOHN B. THURSTON,
JOSEPH LALA,
JAMES COCKS.

Witness to the signatures of Vasea, Tavo, Osias & Airea.
ARTHUR GORDON,
TIMOCI MUDU.

Ko keitou na Turaga ni Rotuma vata kei ira kece na neimami vei mataqali na kai Rotuma ni sa lomadra vata kece kina keimami cakava vakai keimami ena vukudra talega na neimami tamata ni sa lomadra dina kina me keimami solia walega sara na neimami vanua kei keimami vua na Marama na Ranadi Tui Peretania Levu kei Ariladi ka Tui kei Idia me nona dina vakai taukei sara ko Rotuma vata kei na kena lewa vaka Turaga vaka Tui kei na kena vei yanuyanu na kena vei yalayala me vaka sa volai tu oqo me lewai ira na kena lewenivanua kece ga sa tiko mai kina kei na kena waitui sa vaka volivolita kei na kena vei toba, e daveta, se i kelekele ni waqa, se matasawa, sa nei wai se drekeniwai a ya na wai kecega, kei na kena vei yanuyanu lalai kei na cakau kece, kei na baravi se na matasawa kece, kei na kena ka kece tale sa tu kina se sa voleka kina. Keitou sa musuka ka solia ka yalata sara oqo vua. Keitou sa vakamasuta ka kerea sara vua na Marama na Ranadi me bau lomani keitou me vakayacora vei keitou na vei Lawa sa lewai ira tiko kina na nona tamata taukei ena Matanitu ko Viti, kei na vei Lawa tale sa nanuma e yaga me vakaturi me keimami lewai kina vaka Matanitu me yaco tawa kina na sautu kei na tiko vinaka mai na neitou vanua ko Rotuma.

Keirau sa vakadinadina ni keirau sa lavita vaka dodonu ki na vosa vaka Viti na vosa vaka Rotuma sa volai tu e cake.

RALIVO
KITIONI.

We, the chiefs of Rotuma, with the knowledge and assent of our respective tribes, and in accordance with their desire, do, on our own behalf and that of our respective tribes, hereby cede and surrender absolutely, unreservedly and unconditionally to Her Majesty the Queen of Great Britain and Ireland, Empress of India, the possession of and full sovereignty over the whole Island of Rotuma, and over the inhabitants thereof, and of and over all ports, harbours, roadsteads, streams and waters, and all foreshores and all islets and reefs adjacent thereto: praying that Her Majesty will be pleased to extend to us such laws as now govern her Native subjects in the Colony of Fiji, or such other laws as in Her Majesty's wisdom she may see fit to make and appoint for our Government and for the maintenance of peace and good order.

I hereby certify that the above is a true and correct translation of the Fijian language into English.

D. WILKINSON.

ENCLOSURE 2.

ADDRESS to the CHIEFS of ROTUMAH, at NOATAU, on the 14th November, 1879.

CHIEFS,—

I am glad to see you all here to-day.

Those of you who have lately visited Fiji know that it was the desire of Sir Arthur Gordon that you should all meet me here on my arrival amongst you. And the reason of this was twofold:—

1st. That I should be able to satisfy myself, and report to him as to whether it was truly the wish of all you chiefs to sign your names to the petition already forwarded to the Queen of England; and whether you fully understood the words and meaning of that petition; and, secondly, that, if I found that the true wish and desire of you all was expressed in that petition, that I should then ask you to make those wishes more clear.

In that petition you have asked the Queen to "take" you; but this is not sufficient: what she would wish to know is whether you would "give" yourselves to her, and it will then be for Her Majesty in her wisdom to decide whether she will grant your prayer.

It is one thing for the Queen to *take* you,—it is another for you to *give* yourselves to the Queen.

If any one among you does not understand what I have said, let him now speak and I will explain.

(Here the chiefs signified that they fully understood what had been said.)

I will now read to you again your first petition that has already been sent to the Queen.

Source: W.J.E.Eason, *A Short History of Rotuma, (*pp117-118)

Memorial site of Cession in Motusa

Rotuman ex-servicemen who took part in the Solomon Campaign in Bougainville 1942-1945
From the family album of Josefa Rigamoto; courtesy of Bruce Tizard-Varcoe

Today, although Rotumans are a minority group, they have made important contribution to Fiji's occupational structure. For the most part, Rotumans have proved to be excellent employees and have fared relatively well in their jobs. Perhaps the root of Rotumans' success in Fiji lies the cultural factor which places importance on maintaining harmony and conflict free relationship.

Rotumans' determination to succeed is very strong. The majority of Rotumans who migrate to mainland Fiji have 2 main aims in mind. To acquire a good education and skills necessary to secure good employment so as to have a better life. If they were to fail, it would mean humiliation and probably a return to the old way of living on the island. There have also been many cases of intermarriages with local iTaukei and other ethnic groups in Fiji.

Summary

In this unit you have seen and learnt about Rotuma's unique history and how it came to be politically part of Fiji during its colonial rule and still is even after Fiji's independence from British rule. We learnt the historic events of Rotuma and of Rotumans and how the Island and or Islanders became a part of main land Fiji from 1881. We also learnt how Rotuma is still a constituent of Fiji Islands. Looking at its Legendary creation and Early settlers you also saw the time of European discovery and contact. You also learnt that even though missionaries were thought be agents of peace and positive, they had actually contributed to tribal warring

and that because of their arrival and religious faction, Rotuma became a British colony under Fiji protectorate. That even after being a single district within the administrative structure of the colony of Fiji, there was social and cultural interaction and integration relations between Rotumans and people of different ethnic background on main land Fiji. Rotumans, although a minority group, have made significant contribution to Fiji's occupational structure and is part and parcel of Fiji as a whole, geographically, politically socially and economically.

WORKSHEET 1

HOME STUDY PACKAGE

School: Labasa Sangam (SKM) College **Subject:** History

Student's Name: _____ **Year:** 11____

Due date: 26th July 2021

Dear Students,

Please read the following extracts and answer the questions that follow. The questions are derived from the extracts provided. The questions are to know your understanding of the different topics. The coverage is from the place where the discussion was stopped. (**REF:** Year 11 Textbook – Cultural interaction and integration)

UNIT 7: Reading 7.2

GOING DOWN MEMORY LANE

IMAGINE what the members of the Royal Suva Yacht Club would be talking about. Their topic of discussion would most probably be of those days when they were young kids and teenagers and spending all their free time at the club, either sailing or swimming in the pristine clear waters of the Suva harbour near the yacht club.

When one takes a look down memory lane, the year was 1932 when a group of enthusiasts decided to form a club now known as the Royal Suva Yacht Club. However, the name of the club used to be just the Suva Yacht Club with the title of 'Royal' in 1950 granted by Sir Allan Lascelles, Secretary to King George VI.

Prior to being termed the Royal Suva Yacht Club, it was located between Stinson Jetty and Nubukalou Creek along Suva's foreshore from 1932 to 1938.

The club was a sail only club and the first official race was held on Saturday, October 22, 1932 with an entry fee of two shillings. And the first cruising race was held on January 17, 1933 with a race to Nukulau Island and the first regatta was held at Levuka in August of the same year with 'Sea ghost' and 'Cimba' as the first overseas yachts to visit the club in June 1935. Records kept at The Fiji Times and the Royal Suva Yacht Club show the Suva Yacht Club was originally located behind the Bank of New South Wales fronting the sea.

And by then the club had a register of 23 yachts and 141 members that grew from strength to strength through to 1941. However, the Second World War brought all activities of the club to a standstill as many of the members of the club had joined the Fiji Armed forces and other Commonwealth Countries.

In the early colonial days the Suva Yacht Club was only meant for the Europeans and none of the Indians or indigenous people was allowed membership but those days have passed and now the membership is not that segregated.

The club and its members are known for their volunteer services and resources with regards to the provision of boats in times of need during natural disasters associated with flooding and cyclones.

Construction on the new site in Walu Bay began in September 1937 and was completed in August 1948.

The following were the flag officers to the club in 1932 and they were Commodore T.M. Mcguire, Vice Commodore E.E. McGowan and Rear Commodore F. Reay. Today the Royal

Suva Yacht Club provides members with a place to relax and gives the young and the old a place to learn the rudiments of sailing, develop nautical skills, seamanship and have a healthy respect of the sea. The club has seen throughout the years, numerous dedicated members who have provided their time and expertise which has helped the club grow to what it is today.

Activity:

1. When was the Royal Suva Yacht Club formed?

   _____
   _____
   _____
   _____
   _____

2. Compare the membership of the Royal Suva Yacht Club during the colonial days and the present?

   _____
   _____
   _____
   _____
   _____

3. What is the present membership of the club?

   _____
   _____
   _____
   _____
   _____

Reading 7.3

From the birth of Fiji as an independent state, sports and recreation have taken up a role of unifying people. Whether they are players or spectators, sports have brought so many people together regardless of race. In a festival or along the picnic spots in the country during the holidays, people mix around with each other, with the common interest of enjoying themselves and never ever thinking of whatever ethnic and cultural community the other person next to them belong to.

The following reading is taken from The First Decade: 1970 – 1980 by Vuetivavalagi, L. 1980, pages 95 - 96.

In a multiracial country where half of the population is below 21 years of age, the role of sport in building multiracial harmony and tolerance over the past ten years has been considerable.

From school playing fields to the various local and international arenas, sport in Fiji has helped to bring people together.

The first decade of independence saw a phenomenal growth in both the number of sports played and greater numbers of people participating, whether as players or spectators.
A Fiji Sports Council was formed in late 1978, to look after and promote the welfare of sports and sporting organizations in the country. Sporting facilities and techniques have improved. Gymnasiums and new grounds have been built and better times and standards have been achieved as a consequence of increased sporting awareness.

Sports have also helped to bring Fiji into increasing contact with the outside world and Fiji's modest sporting achievements overseas have put the country on the international map.

In the South Pacific region, Fiji's sporting traditions are well known. The country hosted the first ever South Pacific Games in 1963 and also hosted the biggest ever regional sporting event when the Games returned 16 years later. This was of course the 6th South Pacific Games. This single sporting fixture saw more than 2500 competitors from 18 different sports.

The staging of the Games in Suva in 1979 was symbolic of the growth and interest the people of this country have taken in sport during the first ten years of independence.

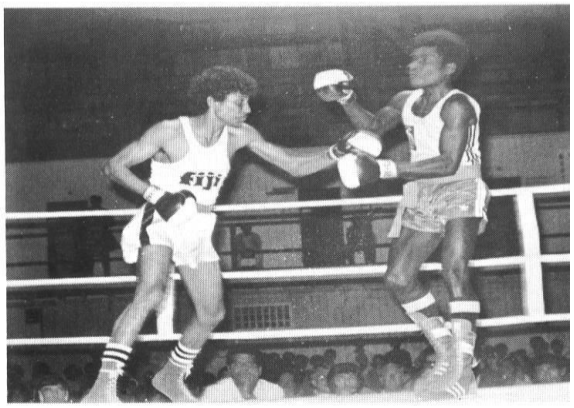
Fiji rugby teams have been outstanding champions in the Pacific and at international rugby seven tournaments in Hong Kong and interest in rugby continues to grow in Fiji. Soccer provides Fiji with its biggest annual sports fiesta when the inter-district tournament is played. Fiji soccer teams have notched up memorable victories in Australia, New Zealand, Taiwan and other countries.

Fiji staged the World Cup Team Amateur Golf Champions in 1979 and play at professional tournaments at Pacific Harbour, one of the world's finest courses. Boxing, both amateur and professional although administered by rival organizations, has also gained support throughout Fiji with a number of Commonwealth title fights being promoted in the country. School athletics has seen tremendous changes and growth as well.

Recognition by the Government of the role of sports in the overall national development picture was given in the first year of independence when sports portfolio was added to the Ministry of Education and Youth. The Government has since given considerable attention to sports which has included financial assistance in the form of grants to various sporting organizations.

Opening the complex in May 1979, Fiji's Prime Minister, Ratu Sir Kamisese Mara said, "This is a great day for sport in Fiji and for the young people of Fiji. And that means it is great day for Fiji. I say this because sport and youth both play a special part in bringing together the different races of our nation. And after all, nearly 50 percent of our population is composed of young people. So the classroom and the sports field are two special areas where there are special opportunities for getting together in an informal and relaxed way. And so I am sure it will be with our stadium, not only nationally but internationally, people will come together to play and see sport, and will find others of all races and nationalities coming for the same purpose. They will meet on common ground and with a common interest. And because the young people in particular are generous in spirit and open-minded in attitude, friendship will be born, and these friendships multiplied a thousand fold, can have untold effects and benefits for the future."

The Mexican soccer side are among international teams who have stopped over in Fiji to compete against the national elevens.



Boxing — both amateur and professional, is a sport that attracts a popular following.

Sports from independence onwards have brought people together, not only in the sports field but also as spectators. (Source: Vuetivavalagi L, 1990: 95-96)

Activity

1. What did sports build over the ten years after independence?

   _____

   _____

   _____

   _____

   _____

2. List the sports that have been played in Fiji from 1970 to 1980?

   _____

   _____

   _____

   _____

   _____

3. What has the government done as a way of recognizing the role of sports in the country?

   _____

   _____

_____

_____

_____

4. Identify the two venues where there are ‘special opportunities for getting together in an informal and relaxed way’?

_____

_____

_____

_____

_____

5. State some of the benefits for the future as friendship from sports ‘multiplied a thousand fold’?

_____

_____

_____

_____

_____

LABASA SANGAM (SKM) COLLEGE

LESSON NOTE- WEEK ONE

SUBJECT: HOME ECONOMICS

LEVEL: YEAR 11

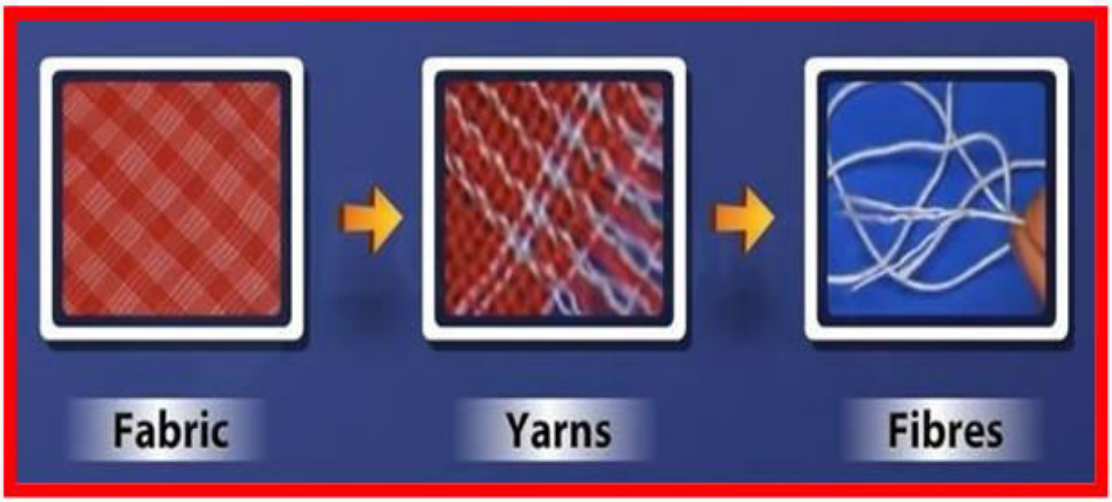
STRAND : 3 : CLOTHING AND TEXTILES

CHAPTER : 10 - STUDY OF FIBRES & FABRICS, BLENDS AND FINISHES AND DECORATION

LEARNING OUTCOMES:

a. Identify special fibres and classify their properties.
b. Examine the principles in the construction of fibres, yarn, and fabric.
c. Differentiate the characteristics of woven and knitted fabrics.

General Terms to Know:



Fibre

Fibres are small hair like structure that either grows naturally on animals or plants.

Yarn:

Yarn is a long, continuous thread made from twisted or spun fibres.

Fabric

A thin, pliable, sheet like material made from woven, knitted or knotted yarns, or felted or bonded textile fibres.

SPECIAL FIBERS

NO	FIBRES	SOURCES	PROPERTIES	USES
1	**Metallic** Includes manufactured fibres composed of metal, metal-coated plastic. 	Metallic fibres are produced in various ways including solid-state manufacturing and melt-state manufacturing, since metals can be cut, deformed and melt-procesed.	• Lightweight • High Strength • High Stiffness • Durable • Versatile • Shiny, adds decoration to garments • Magnetic	• Used as upholstery fabric and textiles such as lame and brocade. • Party and evening wear to club clothing, cold weather and survival clothing, and every day wear.
2	**Elastomeric** Elastomeric fibers are those fibers that possess extremely high elongations at break and that recover fully from high elongations up to their breaking point. 	Elastomeric fibers are produced with natural and synthetic polymers.	• Fiber is more elastic and durable than rubber. • The fiber is quite weak. • Dry-cleanable, the fiber is heat-sensitive and must be pressed with cool iron. • Hydrophobic, therefore it dries quickly because it‘s not comfortable and it‘s advisable to wear absorbent apparel over it.	• Use for texturized yarns and knitted structures and are used in waistbands, sock tops, foundation garments, and exercise wear.
3	**Micro –fibres** **MICRO-FIBERS** The term "Microfiber" is short for "Micro denier" fiber, that is, ultrafine fibers that are less than 1 denier in size. 	Microfiber Fabrics can be made from polyester, nylon, rayon, acetate or a combination of those fibers.	Microfibers are usually: • Very Drape able yet not flimsy; • Soft with luxurious hand; • Washable. Dry cleanable; • Shrink- resistant • High Strength(except Rayon) • Resist_Pilingl and Clinging;	• Used to make mats, knits, and weaves for apparel, upholstery, industrial filters, and cleaning products. • Athletic wear, such as cycling jerseys.

LABASA SANGAM (SKM) COLLEGE

WORKSHEET 1

Name:_____ Year: 11____

NOTE:

1. ***Write all your answers in the space provided.***
2. ***Always use your text book for reference.***
3. ***Return the completed worksheet on the 26th of July 2021(worksheets 1-3)***
4. ***For further enquires, do not hesitate to ask me.***
5. ***There is no need for you to rewrite the summarised notes. File them properly and neatly.***

1. Define the following terms:

(i) Yarn_____

_____

(ii) Fibre_____

_____

(iii) Fabric_____

_____

_____

2. Write the sources for the following special fibres.

(i) Metallic_____

_____

_____

(ii) Elastomeric_____

_____

_____

3. List down two properties of each of the fibres

(i) Metallic

1. _____
2. _____

(ii) Elastomeric

1. _____
2. _____

LESSON NOTES (WEEK 1)

SCHOOL: LABASA SANGAM (SKM) COLLEGE **YEAR: 11**

SUBJECT: MATHEMATICS LIFE SKILLS

STRAND: 3	**Linear Functions in Everyday Context**
SUB STRAND: 3.1	**Linear Modelling**
CONTENT LEARNING OUTCOME:	➢ Students should be able to solve practical situations using linear graphs and equations.

LESSON NOTES

3.1.1 Model real life situations using linear graphs and their equations

Linear Functions

- Linear functions are functions that produce a straight line graph (power of x and y = 1).
- The equation for a linear function is:

$$y = mx + c$$

Where:

m = the slope/ gradient ,
x = the input variable (the "x" always has an exponent of 1, so these functions are always first degree polynomial.).
c = where the line intersects the y-axis (y-intercept).

- The equation, written in this way, is called the *slope-intercept* form. These functions can also be written as y = ax + b (common in linear regression) or y = a + bx. These all represent the same graphs.

Examples of linear functions:

- f(x) = x,
- f(x) = 2x – 2,
- f(x) = x + 1.

X-Intercepts and Y-Intercepts

1. The **x-intercept** of a line is the point at which the line crosses the x-axis.
   (i.e. where the y value equals **0**)
   x-intercept = (x, 0)
2. The **y-intercept** of a line is the point at which the line crosses the y-axis.
   (i.e. where the x value equals 0)
   y-intercept = (0, y)

Slope/ Gradient

$$Slope/Gradient = m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

1. If the slope, *m*, is positive, the line slants uphill. As the slope gets larger, the uphill slant of the line gets steeper. As the slope gets extremely large (a very big number), the line becomes nearly vertical. If the line is vertical, the slope is undefined (because it has no horizontal change).

2. As the slope gets smaller (closer to zero), the line loses steepness and starts to flatten. If the slope is zero, the line is horizontal (flat)

3. If the slope is negative the line slants downhill. As the slope decreases (remember -2 is > -3), the downhill slant of the line gets steeper.

4. Domain: x Є R
   Range : y Є R

Plotting Graphs

There are **two Methods to plot graphs**, of which intercept method will be used more often.

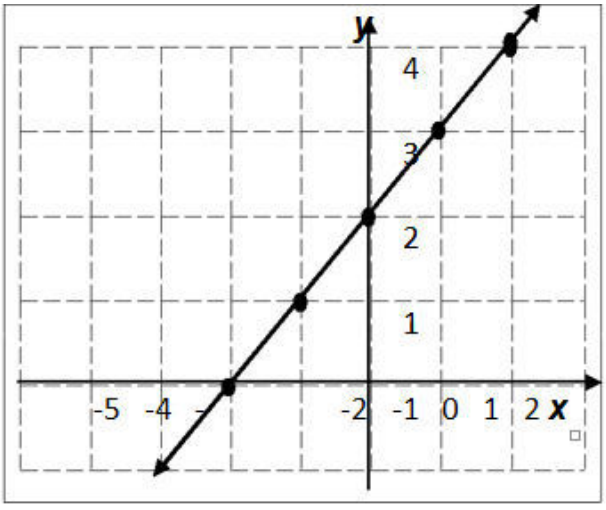
- Method 1: **Using Tables**
- Method 2: **Intercepts** [To solve for *x* – intercept, let *y*=0 & to solve for *y* – intercept, let *x*=0. Plot the intercepts and draw a straight line passing through the 2 points].

EXAMPLE 1: Sketch the graph of $y = x + 2$

Using tables Take some x – values, i.e, positive and negative numbers.

Substitute those x values to find y

x	*y = x + 2*	*(x, y)*
-2	*-2 + 2= 0*	(-2, 0)
-1	*-1 + 2 =1*	(-1, 1)
0	*0 + 2 = 2*	(0, 2)
1	*1 + 2= 3*	(1, 3)
2	*2 + 2= 4*	(2, 4)



EXAMPLE 2: Sketch the graph of $3y + 2x = 6$

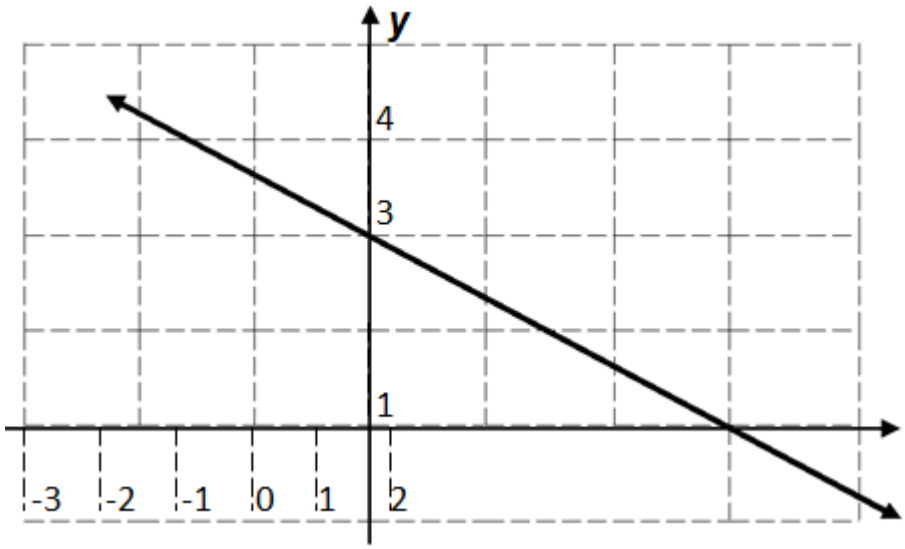
Using Intercepts

To find x – int, let y = 0: Substitute 0 in place of y & solve

$$3(0) + 2x = 6$$
$$2x = 6$$
$$x\text{ - int} = 3$$

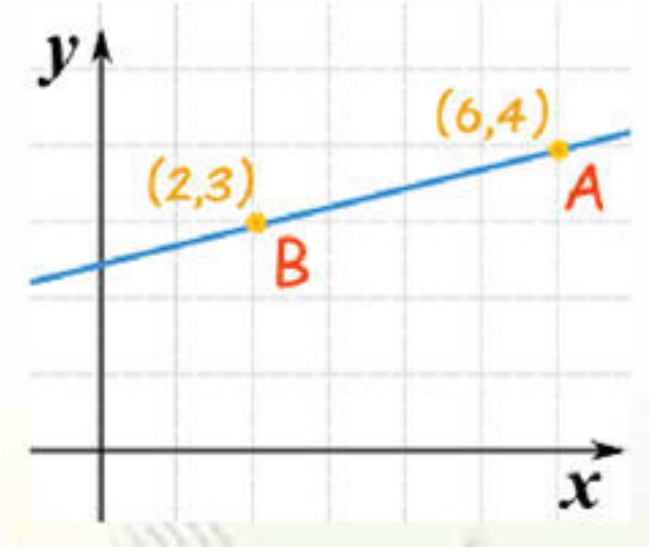
To find y – int, let x = 0: Substitute 0 in place of x & solve

$$3y + 2(0) = 6$$
$$3y = 6$$
$$y - int = 2$$



<u>Writing Equations from given graphs.</u>

<u>Finding Slope (or Gradient) from 2 Points and writing its equation.</u>



Slope / gradient:

$$m = \frac{\text{change in y}}{\text{change in x}} = \frac{4-3}{6-2} = \frac{1}{4} = 0.25$$

The easiest method is to start with the "point-slope" formula:

$$y - y_1 = m(x - x_1)$$

We can choose **any point** on the line as being point "1", so let us just use point (2,3):

$$y - 3 = m(x - 2)$$

Use the formula from above for the slope "m":

$$\text{Slope } \mathbf{m} = \frac{\text{change in y}}{\text{change in x}} = \frac{4-3}{6-2} = \frac{1}{4}$$

And we have:

$$y - 3 = (1/4)\,(x - 2)$$

That is an acceptable answer, but we could simplify it further:

$$y - 3 = x/4 - 2/4$$

$$y = x/4 - ½ + 3$$

Equation : $y = x/4 + 5/2$

NAME:
YEAR 11:

YEAR 11 MATHEMATICS LIFE SKILLS
WORKSHEET WEEK ONE

STRAND 3: Linear Functions in Everyday Context

SUBSTRAND 3.1: Linear Modelling

1. James walks to a coordinate of (4, 5) and then to (1, 2) which joins the two coordinate in a straight line.

Find the:

(i) Gradient (m) of the line joining the two points.
(ii) Equation of the line joining the two points.

2. An equation of a line is given as $y = x + 3$

Find the:

(i) X-intercept
(ii) Y-intercept

(iii) Sketch the graph $y = x + 3$

3. An equation of a straight line is given as $3y + 4x = 12$

Find the:

(i) X- intercept and Y-intercept

(ii) Sketch the graph.

LABASA SANGAM (SKM) COLLEGE

LESSON NOTES

SCHOOL: LABASA SANGAM (SKM) COLLEGE

YEAR/LEVEL: 11

SUBJECT: TECHNICAL DRAWING

WEEK 1

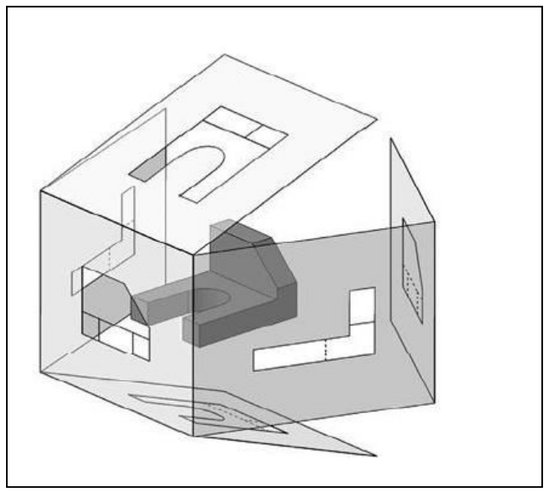
STRAND: 3 APPLIED DRAWING

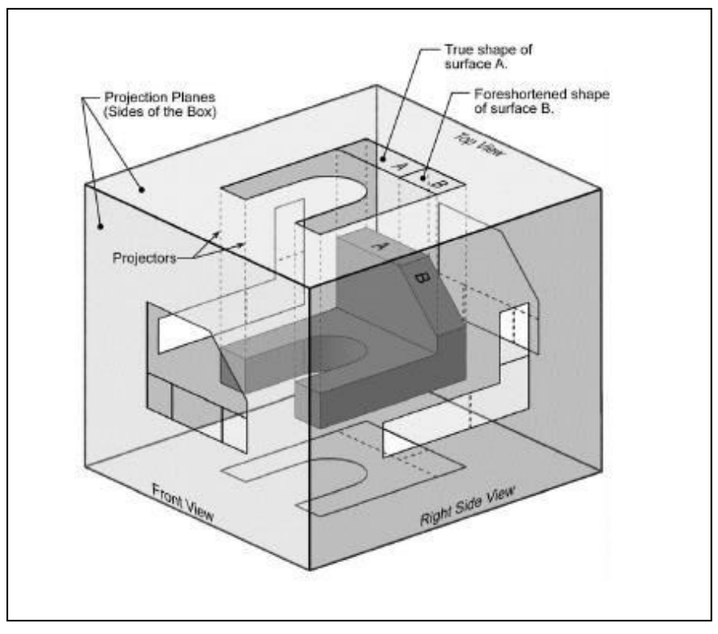
SUB-STRAND: ORTHOGRAPHIC DRAWING

CONTENT LEARNING OUTCOME

a) Identify two types of orthographic projections, uses and its application.
b) Draw shaped objects and carpentry and joinery projects using both projections.
c) Demonstrate the use of Orthographic Projections in working drawings.

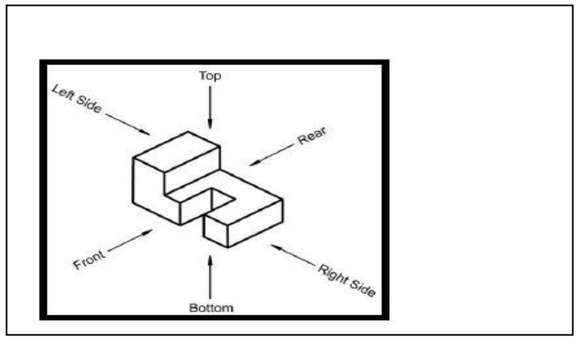
Orthographic Projection is a way of drawing a 3D object from different directions. Usually front, side and plan views are drawn so that a person looking at the drawing can see all the important sides. Orthographic drawings are useful especially when a design has been developed to a stage whereby it is almost ready to manufacture.





The 6 principle views are created by looking at the object, straight on, in the directions indicated.

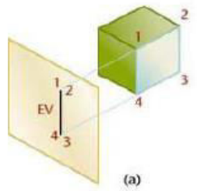
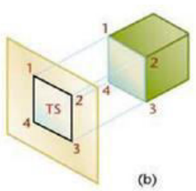
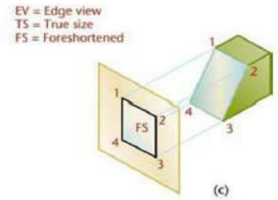
1. Top view
2. Front view
3. Right side view
4. Left side view
5. Rear
6. Bottom



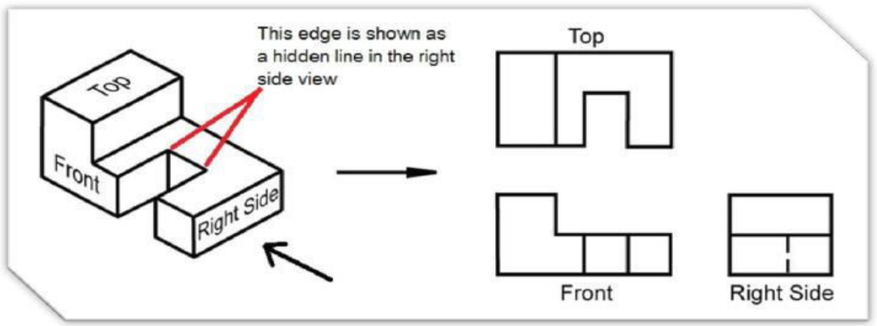
Rules of Orthographic Drawing.

- Front view and top view always form over/under each other.
- The front view shows the length and height of an object.
- The side view shows the breadth and height of an object.
- The top view shows the length and breadth of an object.
- Side view always forms beside the front view.

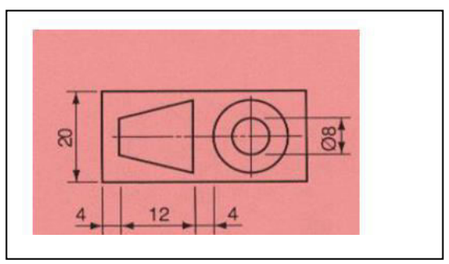
BASIC RULES FOR ORTHOGRAPHIC DRAWING

		
A plane surface that is perpendicular to a plane of projection appears on edge as a straight line	A plane surface that is parallel to a plane of projection appears as rectangle at true size	If a plane is angled to the plane of projection, it appears foreshortened 2 to 3 in projected plane is not equal to 2 to 3 measured on object

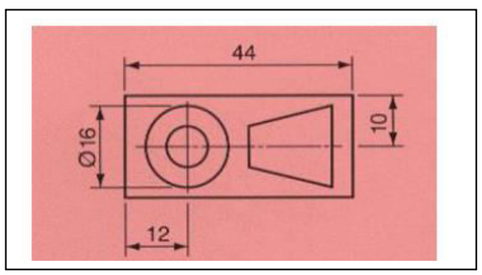
WHEN IS SOMETHING "HIDDEN" When an edge is not visible from that view, it is shown as a hidden line as shown below.



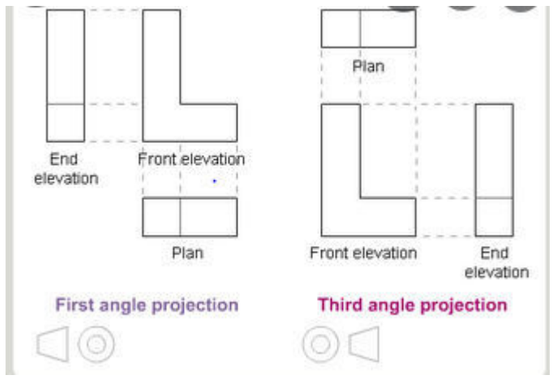
First angle Orthographic projection symbols



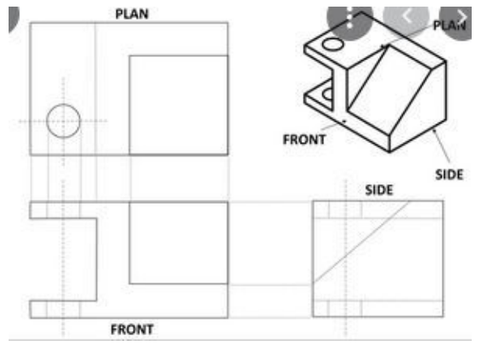
3rd angle Orthographic projection symbols



Example:1 1st and 3rd angle projection



Example:2-3rd angle projection



HOME STUDY PACKAGE

School: Labasa Sangam (SKM) College | Year/Level: 11___ | Week 1

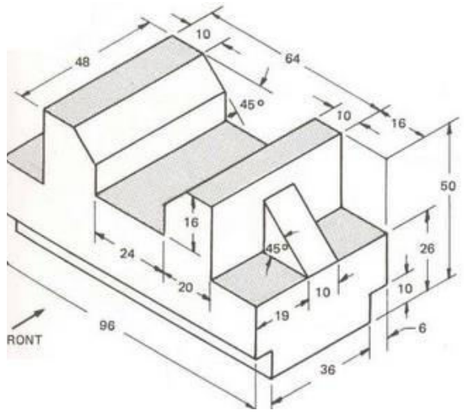
Subject: Technical Drawing | Student Name: _____ | Worksheet 1

Due Date: 26th July 2021

QUESTION:1

Given: The block is drawn in isometric view.

Required : Draw the 3rd angle orthographic views of the block With front elevation looking in the direction given by the arrow 'X



HP

VP

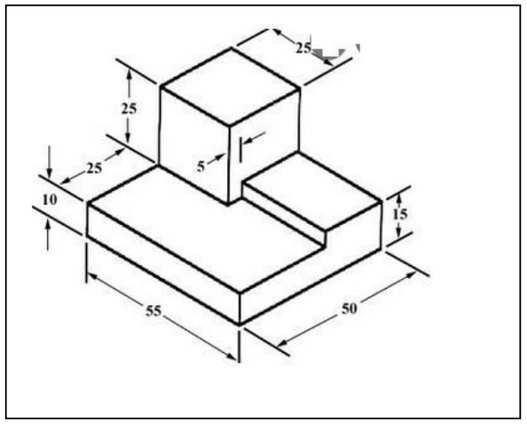
Q 1			
1	Correct dimension used	1	
2	Correct line	1	
3	Accuracy (l,W &H)	1	
4	Correct shape	7	
5	Neatness	1	
6	Accuracy/neatness	1	
7	Correct labels	1	
8	Correct printing style with guide line	2	

15

QUESTION: 2

Given: Given: The block is drawn in isometric view.

Required: Draw the 1ST angle orthographic views of the block With front elevation looking in the direction given by the arrow 'X



VP

VP

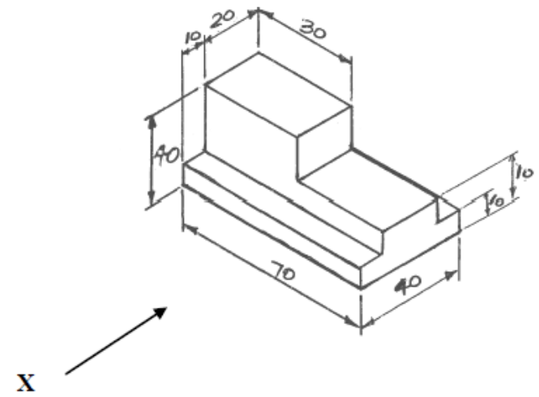
HP

Q 2			
1	Correct dimension used	1	
2	Correct line	1	
3	Accuracy (l,W &H)	1	
4	Correct shape	7	
5	Neatness	1	
6	Accuracy/neatness	1	
7	Correct labels	1	
8	Correct printing style with guide line	2	

QUESTION:3

Given: Given: The block is drawn in isometric view.

Required: Draw the 3rd angle orthographic views of the block With front elevation looking in the direction given by the arrow "X"



HP

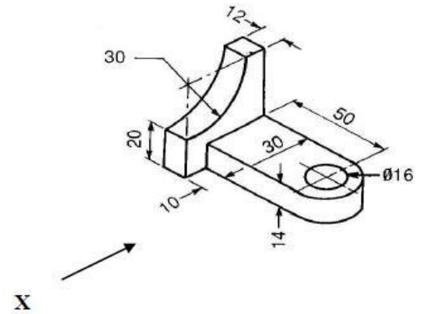
VP

Q 3			
1	Correct dimension used	1	
2	Correct line	1	
3	Accuracy (l,W &H)	1	
4	Correct shape	7	
5	Neatness	1	
6	Accuracy/neatness	1	
7	Correct labels	1	
8	Correct printing style with guide line	2	

QUESTION: 4

Given: The block is drawn in isometric view.

Required: Draw the 1ST angle orthographic views of the block with front elevation looking in the direction given by the arrow 'X



HP

VP

Q 4			
1	Correct dimension used	1	
2	Correct line	1	
3	Accuracy (l,W &H)	1	
4	Correct shape	7	
5	Neatness	1	
6	Accuracy/neatness	1	
7	Correct labels	1	
8	Correct printing style with guide line	2	

15

LABASA SANGAM (SKM) COLLEGE

WORKSHEET 1:

YACAMU: _____ YABAKI: _____

NA VEIVEISAU NI DRAKI

Digia e dua na ivakadinadina ni veiveisau ni draki ka sotava sara tiko ga qo na nomu itikotiko ka vakamacakataka na kena revurevu se vakacaca e sotavi kina kei na cava so sac aka me wali kina na leqa oqo.