# PHYSICAL HEALTH EDUCATION 3

FOR

## Junior Secondary School

AKADALEARN

# JSS3

# PHYSICAL HEALTH EDUCATION

# FIRST TERM

# TABLE OF CONTENT

**Physical Health Education, JSS 3,**

**WEEK1**

**Topic: Basic Javelin skills**

**Content**

1. **Basic Javelin skills**
   - **– Grip**
   - **– carriage**
   - **– run-up**
   - **– release**
   - **– Follow through**
   - **– recovery**

**Basic Javelin skills**

Javelin is a field event which involves the throwing of an implement with one hand for distance over a horizontal surface, the competitor is called javelin thrower.

**Qualities of a good javelin thrower**

- He must be a fast runner
- He must have a good arm extension prior to release
- He must have a good sense of balance
- He must have a good sense of coordination
- He must have a good muscular strength
- He must be physically fit

**Basic skill/ technique of javelin**

- The grip
- The carriage
- The approach run
- The release
- The follow through
- The recovery

**The grip**

There are various method of grip

- The American/ Hungarian grip
- The tennis grip
- The finnish grip
- The fork/ claw grip

**The carriage**

There are about two ways of carrying the javelin

- The over-shoulder carriage
- The over-head carriage

**The approach run**

The run up should be relaxed and fast enough to get the thrower to powerful throwing position of the 'five stride rhythm'. The carrying arm is withdrawn in the first three steps, the fourth is the impulse stride when the body leans backward, the elbow of the other arm leading and the last stride is the **cross step** that makes the abrupt stop at which the javelin is powerfully released. There is a special spike shoe for this break near the scratch line.

**The release**

During the release the left side of the body is fixed to provide a base.

**The recovery**

To recover and to avoid going over the scratch line, the right leg is brought forward. The left foot is brought back and thrower stands on the right foot.

**Types of throw**

There are two types of throw;

- The standing throw
- The running throw

**The standing throw**

**The approach run**

There is no approach run

**The stance**

- The thrower stands near the scratch line
- The rear leg is slightly flexed making the body lean
- The body weight is slightly over the rear leg

**The carriage**

- The javelin is carried over the head
- The javelin pointing towards the landing area
- The arm holding the javelin is withdrawn and the javelin points upward

**The release**

- The leg opposite the carrying arm is driven up
- And there is an explosive contraction and twisting of the shoulder joint for the release
- At the time of the release, a foot must be in contact with the ground

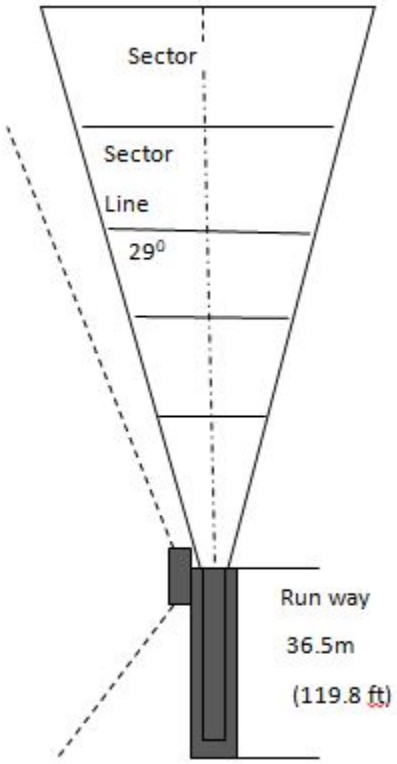
**The recovery**

- The body weight is now transferred to the other leg

**The running throw**

The running throw has been discussed under the technique

Drawing of javelin sector




**ASSESSMENT TEST**

1. Javelin is a ____ event
   (a) track
   (b) field
   (c) court
   (d) terrace
2. Javelin involves the throwing of an implement with ____ for distance over a horizontal surface
   (a) one hand
   (b) both hands
   (c) with the foot
   (d) with a bat
3. Someone who participates in javelin is known as the
   (a) javelin thrower
   (b) javelin vaulter

(c) javelin kicker

(d) javelin boxer

4. One of this is not a technique of grip in javelin throwing

   (a) the tennis grip

   (b) the finnish grip

   (c) the football grip

   (d) the fork grip

5. One of these is not a basic javelin skill

   (a) grip

   (b) carriage

   (c) kick

   (d) run-up

**ANSWERS**

1. b
2. a
3. a
4. c
5. c

**Physical Health Education, JSS 3, First Term**

**Week 2**

**TOPIC : Hockey**

**Content**

1. **Basic skills and techniques**
2. **Rules and regulations**
3. **Officials and their duties**

**Hockey**

It is difficult to say where hockey originated, but it is of record that people of the ancient Greece, Romans, and Persians play the game as far back as 541 B.C. It is on record that the Persian noble played polo on horseback with sticks and ball, and the people played theirs on the ground as a modified polo. The year 1876 mark the beginning of modern hockey, when the rules and regulations were formed. The first woman hockey club was formed in England in 1887 and the international federation of hockey was formed in 1900. Hockey was introduced in U.S.A in 1901 and the first international competition was held in 1952.

Hockey is a field event played between two teams comprising eleven players each. The game is played with hockey sticks and ball.

**The nature of the game**

The game is started by a center-pass. The formation on the field resembles that of the foot ball, as the numbers of players are the same.

The objective of the game is to get the ball by dribbling, passing ,hitting etc, into the striking circle from where it can be hit into the goal post of the opposing team to make a goal. The opponent shall defend and make counter attacks.

**Basic skills and technique involved in playing hockey**

- The dribble/ dribbling
- The tackling
- The drive/ hit/ hitting
- The stopping

- The passing
- The scooping
- The flick
- The goal keeping

**Description of the skills**

**Passing;** passing is the act of transferring the ball from one paler to another member of the team

**The dribbling; dribbling** is the act of moving with the ball and avoiding the opponents. There are two popular dribble;

- The straight dribble
- Indian zigzag dribble

**The tackling**

Tackling is the act of dispossessing an opponent of the ball. It should be done without any rough play

**The hitting**

Hitting is the act of striking the ball with the face of the stick to make it go a long distance

**The stopping**

Stopping is the act of putting an end to the movement of a passed ball. It can be done in two ways

- **Stopping a rolling ball on the ground**, when the head of the stick is placed in line with the ball.
- **Stopping a ball in the air,** a ball in the air can be caught with the hand and dropped immediately.

**The goal keeping**

- Goal keeping is the act of stopping a ball that is hit within the striking circle from getting into the goal

- Over the goal line
- Between the goal post
- Under the cross bar
- Either in the air or on the ground
- By the goal keeper

**The rules and regulations**

Some of the rules include:

- A team consists of 11 players, 22 players play the game at a time.
- The game is started by a center-pass
- A goal can only be scored from within the striking circle.
- Players' jerseys must be numbered front and back
- A player cannot take part in the game with a stick
- A player must not deliberately kick the ball
- All player must remain in their own half of the pitch during the center pass
- A player must not throw the stick at the ball
- A player must not hit the ball with the rounded part of the stick
- A player must not raise any part of the stick above his shoulder
- A player must not under cut or turn in order to hit the ball.

**Officials and their duties**

The officials are:

- Two umpires, one for each half of the field
- Two assistant umpires

Duties of the officials

**Umpires**

- Their decisions are final
- They shall inspect the equipments
- They shall conduct the toss for the choice of ends
- They shall blow the whistle to indicate any foul

- They have the power to disqualify any player for unsportmanlike behaviour

**The assistant umpire**

- They shall assist the umpire
- They shall indicate with the flag when the ball is out
- And any other infringement

**The controlling world body**

Federation of international hockey (F.I.H) headquarters Brussels

Nigeria:

Nigeria Hockey Federation (N.H.F)

**ASSESSMENT TEST**

1. It is not on record that the ancient ____ played hockey
   (a) Nigerians
   (b) Greece
   (c) Romans
   (d) Persians
2. The year ____ mark the beginning of modern hockey
   (a) 1876
   (b) 1877
   (c) 1878
   (d) 1879
3. The first woman hockey club was formed in
   (a) Nigeria
   (b) France
   (c) Brazil
   (d) England
4. The game is started by a
   (a) back-pass
   (b) middle-pass

(c) center-pass

(d) front-pass

5. One of these is an official in hockey

(a) umpire

(b) player

(c) goalkeeper

(d) coach

**ANSWERS**

1. a
2. a
3. d
4. c
5. a

**Physical Health Education JSS 3 First Term**

**Week 3**

**Topic: Hockey (II)**

**Contents**

- **Facilities and equipment used in hockey**
- **Values of the game**
- **Diagram of Hockey pitch and stick**

**A. Facilities and Equipment used in hockey**

- The hockey pitch
- The goal post
- The side boards
- The nets
- The flag post

**The field of play is rectangular**

- The length is 90.40m
- The width is 55.00m
- All lines must be clearly marked with white colour 75mm wide

**Other markings**

- The center line across the field , divides the field into two equal halves
- A 22.9m lines across the field.
- Thee edge nearer the center lines is 22.90m
- The line nearer the back line is 23m

**Equipment**

**The equipments are**:

- The hockey sticks
- The hockey balls
- The pads

- The gloves
- The studded shoes
- The knee caps
- The shin guards
- The face mask
- The chest pad
- The kickers

**Specification of the stick**

**The sticks are of two types:**

- Indian type
- English type

**The stick**

- Should have a rounded and flat end (blade)
- Should be 90-91cm long
- Should have a maximum weight 737g

**Parts of the stick**

- The hand
- The rubber grip
- The splice
- The heel
- The blade
- The toe

**Uses of stick and playing equipment**

- Shall not pay the ball intentionally with the back of the stick
- Shall not take part in or interface with the game unless they have their sticks in their hands.
- Shall not lift the stick over the heads of the players

- Shall not raise their sticks in a manner that is dangerous, intimidating or hampering to other players
- Shall not play the ball the ball dangerously or in such a way as to be likely to lead to dangerous play.

**The ball**

- Shall be spherical , hard and of any material
- Shall weigh between 158g and 163g
- The circumstance shall be between 224mm and 235mm
- The colours is usually white

**Players' equipment and uses**

- The ball is used for playing the game

**The goal keepers' pads**

They are used for protection against the ball and stick

**Shin guards**

They are used for the protection of the shin

**Kicker**

Kicker is attached to the goal keepers' pad for kicking the ball

**Studded shoe**

Studded shoe are used to have to have good grip on the ground when running

**Genital protector**

Genital protector is used to protect the genitals against dangerous play.

**Face mask**

Face mask is used by the goal keeper to protect the face

**Chest pad**

Chest pad is used to protect the chest

**Gloves**

Gloves are used by the goal keeper to protect the hands.

**Knee caps**

Knee caps are used to protect the knee

**Field specification**

- The longer perimeter (91.40) lines are called the
- **Side lines**
- The shorter perimeter (55.00) lines are called the
- **Back lines**
- The parts of the backlines between the goal posts are called the goal lines

**The goal post**

- The vertical goal post should be 2.14m from the ground (inside measurement)

**Backboards**

- Shall have a length of 3.66m
- Shall have a height of 460mm
- Shall be positioned on the ground at the end of the side board

**Side boards**

- Shall have a length of 1.20m
- Shall have a height of 460mm
- Shall be fixed to the back of the goal post
- Shall be painted in a a dark colour on the inside

**The striking**

The striking circle has a radius of 14.63m which is where a goal can be scored

**Purpose of the striking circle**

The purpose of the striking circle includes the following;

- To include the area where a goal can be scored
- To indicate the distance that must be kept when penalty hit is being taken
- To indicate where the goal keeper may kick the ball

**B. Importance/ values of hockey**

- Improves strength
- Improves flexibility
- Improve speed
- Decrease speed of injury
- Improve agility
- Improve acceleration
- Improve mobility
- Improve explosiveness
- Decrease time to fatique
- Improve structural balance
- Improve conditioning
- Improve body composition

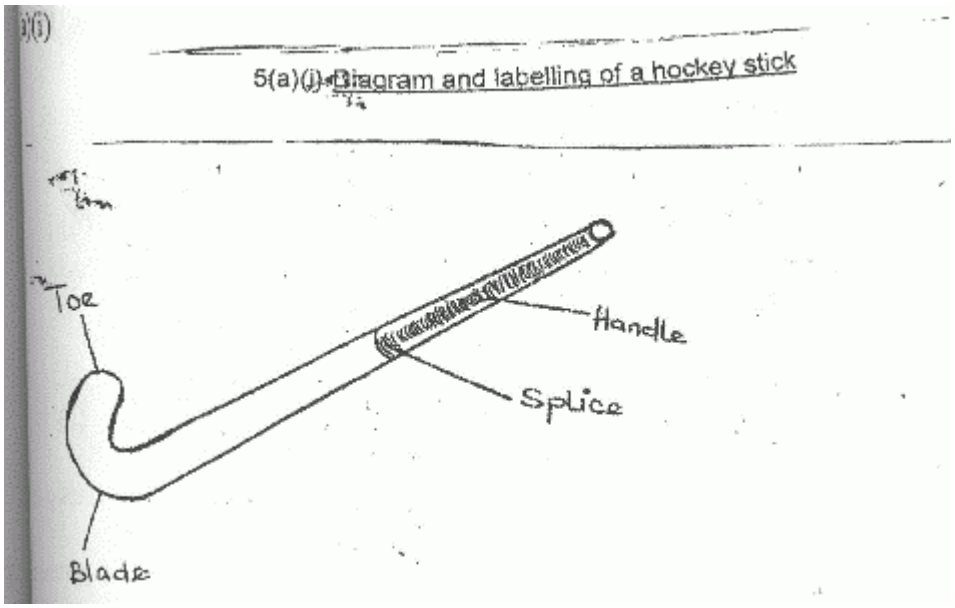
**Health benefit of hockey**

- **Helps burn fat and calories:** The fast pace of the game requires short bursts of energy that help burn a huge number of calories. Each player burns about 0.061 calories per pound, per minute. This amounts to a huge loss of body weight in the long run.
- **Develops the cardiovascular system of the body:** The energy and muscular strength required in hockey help in the development of cardiovascular system, which supplies the muscles with oxygen. Pumping of sufficient quantities of oxygen helps to improve the breathing and cellular activity.
- **Metabolism boosting:** Because of the start-stop nature of the game, where fast skating is broken up by periods of rest, you may get to enjoy even greater cardio benefits. This pattern mimics high intensity interval training, which can burn more calories and boost your metabolism.
- **Is a full body workout:** Playing hockey is an excellent way of developing the leg muscles, such as the hamstrings, calves and hip flexor muscles. It also aids in developing the endurance of triceps, forearms and shoulder muscles.
- **Enhanced muscular strength:**The enhanced muscular strength gained from hockey can reduce the risk of injury, improve bone strength, strengthen connective tissues and

increase muscle mass. All of these contribute positively to a healthier, stronger body that is less prone to injury and has improved overall function.

- **Develops hand-eye coordination:**Playing hockey involves the coordination between the hands and the eyes. It also improves the spontaneous responses and reactions of the players during the game. Practicing this game aids in developing coordination abilities, improves hand-eye reflexes and improves agility.
- **Improved body coordination and balance:** In ice hockey, players must pass and receive pucks that are traveling quickly across the ice, and field hockey players must do the same with a ball. In either version, players must react quickly in order to accurately respond to or make a play. Developing these skills can lead to improved overall balance and agility, and hand-eye coordination is also positively affected.
- **Develops the spirit of team work:** Playing with a team of 11 people develops a sense of teamwork as everyone works towards successful achievement of goals and victory.
- **Improves communication:** Playing hockey involves the communication of messages through eyes and gestures. Being able to effectively communicate with a teammate in the middle of a fast play not only leads to success on the ice, but it also leads to the overall improvement in the communication skills of the players.
- **Brain boost:** Exercise itself can improve your mood because of the endorphins that are released, easing feelings of depression, stress and anxiety. As a form of exercise, hockey provides this benefit, but there's an added brain boost that comes with the sport as well. Hockey demands good decision-making, and honing these skills on the ice or field can also be transferred to everyday life.

**C. Drawing and labeling of the hockey stick**




**ASSESSMENT TEST**

1. Name three (3) equipment used in hockey
2. What are the health benefits of hockey?
3. The two types of hockey sticks are?

**Physical Health Education, JSS 3,**

**Week 4**

**Topic: Pathogens, diseases and their prevention**

**Communicable diseases**

Communicable diseases are diseases that can be transferred from one person to another. Mode of transmission can be through direct contact, infected air droplet, contaminated food and water, or vector including insects. Some communicable diseases are often referred to as infectious diseases.

To be classified as a communicable disease, an infection has to be present only in people affected by it and not those who are otherwise healthy and the healthy individuals who come into contact with the elements causing the infection have to fall ill as well. For an abnormality to be considered an infection the adverse agents have to come into the body, live for long enough to multiply and should be passed to other hosts easily. Communicable diseases are illnesses that are caused by viruses, bacteria, parasites, and prions, and are easily transferable from person to person. Communicable diseases cause infections that in most cases produce various kinds of symptoms, while the adverse agents responsible for the infections also need a weakened immune system to which they will make a problem. The stronger the badverse element, or a pathogen, coupled with a weak immune system, the stronger the infection. As a result, pathogens are classified based on the severity of destruction they cause for the organism. Primary pathogens are very strong, and will result in an infection in healthy individuals, while also affecting other animals, as well. The extent of the infection produced by a primary pathogen depends on both its strength and the strength of the person it's affecting. Another kind of pathogens are the opportunistic pathogens, which otherwise live in the body without causing any problems, but when the opportunity presents itself are likely to cause an infection. Opportunistic pathogens can also come in contact with a person through various external means, such as through wound infections, blood transfusions, poisoning and so on. In order for the opportunistic pathogens to produce an infection, the person's immune system has to be susceptible and unable to fight it off. Communicable diseases can occur from time to time, have regular presence in a population or a geographic area, be present in lots of people at once, or be spread globally.

**Transmission**

There are many ways in which the elements that cause communicable diseases are passed on from individual to individual and some include coming into contact with contaminated food, water, bodily fluids, or an infected person. In any case, there has to be a source of an infection and identifying it helps to a great extent with dealing with an infection once it becomes a problem. There are those infections that are passed on very easily through minor physical contact, such as hand shaking, sneezing, kissing and so on, and there are instances in which the road to an infection is well known, such as having sexual relations with an infected person. In some instances, there are pathogens that survive on external objects, such as money and coming into contact with them leads to an infection. There are various insects, such as the flies or mosquitoes, which can transmit infectious agents from an animal or an object to a person.

**Diagnosis**

Many relatively common infectious diseases are diagnosed by the presentation of symptoms. The adverse agents are easily identifiable, the treatment relatively simple and the consequences minor or nonexistent. In many cases, identification of the pathogen is done only when it can help with the advancement of prevention or treatment. There have been various kinds of advancements that lead to better diagnostics, such as the use of molecular diagnostics to identify the HIV virus in individuals who haven't developed infections yet. As a result, clinicians and researchers are able to follow the virus and its development, while at the same time the person in question is aware that he or she is carrying an HIV. For the most part, the inspection of the symptoms coupled with the patient's medical history and culture tests of pathogens usually make up the course of diagnosis. In some cases, various scans will be employed for identifying skeletal communicable illnesses.

**Prevention**

In order to prevent the spreading of an infection, it first has to be established what the pathogens are and where they are coming from. There are also other elements that have to be taken into consideration, such as the time it takes for the infection to be passed on, and how contagious it is in the first place. For instance, there are many viruses that upon entering the system will kill the person relatively quickly, such as the Ebola virus, so there isn't that much opportunity for the spreading. However, viruses such as HIV take a long time to develop into an infection, and

there are many cases in which the virus is being spread without the person carrying it even being aware. Some beneficial ways to stop the spreading of agents that cause communicable diseases include introduction of programs such as needle exchange among the populations of intravenous drug users, vaccination of individuals who are susceptible to viral infection, and pest control. In many cases, however, when it comes to the most common infections, washing hands regularly will decrease the spreading of infectious diseases.

**Types of communicable diseases**

- Air borne diseases
- Water borne diseases
- Contaminated food diseases
- Contagious/ skin contact diseases
- Animal/ insect bites disease

**Air borne disease**

There are two main ways by which diseases become air borne

- Droplet infection
- Dust infection

In droplet infection, when the patient coughs

In dust infection, spitting from a patient deposits the microbes in the dust, the siliva dries up and the bacteria forms spores. When the dust is disturbed, the spores are spread in the air and when it is breathed in by other people, it causes infection. Common air borne diseases are- whooping cough, flu, tuberculosis, cold catarrh etc

**Water borne diseases**

There are two main types of water borne diseases,

- The one transmitted by intestinal infection
- The one by parasite in animals that live in water. Common water borne diseases are: cholera, typhoid, amoebic dysentery etc

**Contaminated food diseases**

These diseases are transmitted by flies, dirty hands or 'night-soil' on crops. Common food diseases are: cholera, dysentery, typhoid

**Contact disease or contagious disease**

Diseases spread by skin contact are called contagious diseases, diseases transmitted this way are : ring worm, yaws, syphilis, scabies etc. Also certain animal parasites are transmitted by skin contact, they are fleas, body lice, head lice, ticks, mites and leeches

**Animal bites**

Some diseases are caused by animal bites e.g. rabies which can be caused by dog bite (rabid dogs or other carnivorous animals)

**Common communicable diseases**

- Whooping cough
- Flu
- Tuberculosis
- Yellow fever
- Cholera
- Typhoid fever
- Malaria fever
- Ring worm
- Scabies
- Dysentery
- Measles
- Sleeping sickness
- Cold
- Gonorrhea
- Syphilis
- Warts
- Tinia
- I.D.S

**Prevention of communicable diseases**

- Wash the properly before eating and after using the toilet
- Cook your food properly before eating it e.g. Pork and beef
- Fresh fruits that are not cooked must be thoroughly washed with clean water.
- Avoid moving near an infected person e.g. Cough and catarrh
- Always boil your water, where treated water is not available.
- Keep your fingers clean and cut short your finger nails
- Avoid sharing personal effect with other people things like cups, combs, pants, singlet, towel tooth brush and others
- Treat wounds and sores and never leave them exposed.
- Ensure good environmental sanitation both in and outside the house
- Destroy all vectors
- Always eat adequate diet, maintain high personal cleanliness
- Fumigate your surroundings regularly
- Regular medical checkup is highly important
- Regular vaccination and immunization are essential

**General control of communicable disease**

Infectious disease often cause epidemics, therefore proper care must be taken to contain the spread once they are observed. The measure to take include

- A suspected patient should be isolated
- All materials used must be reserved for him.
- The room and the clothing must be disinfected always
- Only specially trained nurses should care for him
- People living with him should be observed
- Vaccination or inoculation should be taken to give immunity.
- Some of the pathogens can be eliminated through perfect cleanliness

**Other control measure**

- Heat

All articles should be sterilized by boiling and heating

- Cold

Freezing and extremely cold conditions slow the rate of reproduction down of bacteria

- Sunlight

Room that have good sunlight never encourage bacterial and viral growth and development

- Fresh air

Rooms should be well ventilated

- Antiseptics and germicides

**Assessment**

- List types of communicable diseases
- Mention five ways to prevent communicable diseases

**Physical Health Education, JSS 3, FIRST TERM**

**Week 5**

**Topic: Non-communicable diseases**

## Non-communicable diseases

Non-communicable diseases (NCDs) are disease processes that are not contagious or transferable from one human to another. Random genetic abnormalities, heredity, lifestyle or environment can cause non-communicable diseases, such as cancer, diabetes, asthma, hypertension and osteoporosis. Autoimmune diseases, trauma, fractures, mental disorders, malnutrition, poisoning and hormonal conditions are in the category of non-communicable diseases.

## Types of Non-communicable diseases

### Cancer

Cancer is a non-communicable disease that affects all ages. As stated by the CDC in 2005, the three most common cancers among women are breast, lung and colorectal. The three most common cancers among men are prostate, lung and colorectal. Lung cancer is at the top of the list for cancer deaths in men and women.

### Diabetes

Diabetes affects the way the body uses blood glucose. The Mayo Clinic states that type 1 diabetes develops when the immune system destroys the insulin-producing cells in the pancreas, allowing a buildup of glucose in the blood. In type 2 diabetes, the cells resist the insulin and cause an increase of glucose in the blood.

### Hypertension

Hypertension is a non-communicable disease diagnosed when the systolic reading (top number of the blood pressure reading) is consistently higher than 140 and/or the bottom number, or diastolic reading, registers higher than 90. A blood pressure of 140/90 millimeters of mercury (mmHg) or higher indicates hypertension. Causes of hypertension include excessive salt intake, smoking, diabetes, obesity and kidney disease.

**Osteoporosis**

Osteoporosis, also known as porous bone, is a non-communicable disease resulting from low bone mass. Brittle bones weaken and break from a minor fall or movement. The National Osteoporosis Foundation states that of the 10 million Americans with osteoporosis, 80 percent are women. High risk factors for osteoporosis include low sex hormone levels, inactivity, smoking and diseases such as rheumatoid arthritis.

**Alzheimer's**

Alzheimer's disease is the leading cause of dementia among people over the age of 60. Symptoms progress from memory loss to include difficulty managing money and daily tasks, getting lost, personality changes, delusions and loss of bodily function control.

**Heart Disease**

Heart disease is a broad category of non-communicable diseases that affect the way the heart and circulatory system performs. Heart disease includes rhythm irregularities, heart attack, congenital heart disease, heart failure, mitral valve prolapse, unstable angina, mitral stenosis, endocarditis, aortic regurgitation and cardiogenic shock.

**Fibromyalgia**

Fibromyalgia is a non-communicable disease involving the soft tissues of the body. Common symptoms include widespread pain, sleep disturbance patterns, irregular heartbeat and extreme exhaustion. Symptoms that intensify at times include memory and concentration difficulty, jaw pain, headaches, nasal congestion and irritable bowel syndrome.

**Assessment**

- Name types of non-communicable diseases you know

**Physical Health Education, JSS 3,**

**Week 6 & 7**

**Topic: Recreation, dance and leisure**

**What is recreation?**

Recreation can be defined as participation in sporting activities during our leisure time through which one may better develop physically, mentally and emotionally and socially .It is a voluntary effort in which we don't expect monetary gain. It is done for enjoyment at ones free time after the day work. Recreation is for fun, enjoyment, mental and physical benefits. Recreation is voluntary participation in leisure activities that are meaningful and enjoyable to the person involved.

**What is leisure**?

Dictionary Definition: The condition of having one's time free from the demands of work or duty. Macquarie Dictionary

- Freedom or spare time provided by the cessation of activities;
- Free time as a result of temporary exemption from work or duties;
- A time at one's own command that is free of engagements or responsibilities;
- A period of unemployed time;
- Opportunity provided by free time

Webster's Third New International Dictionary Free time that can be used for rest, recreation e. t. c

**What is dance?**

Dance is a recreational activity mostly done at leisure, aside for people who decide to take it as a profession. Dance involves the movements of body parts e. g arms, legs, thighs etc in a quick and lively manner. It could be an up and down movement or a side by side movement. Dance however involves the movement of the body which is a means to achieve physical fitness through the five fundamental movements of walking, running, jumping, leaping and hopping .There are different dance steps to different beats, songs and sounds .Since the beginning of time people have danced to celebrate important events in their lives. Dance is an

expressive movement of turning, twisting and rolling of the body (parts) to con form with the rhythm of a sound, beat or music .It is a way of expressing our inner feeling of joy and happiness.

**Differences between leisure, dance and recreation**

Leisure is the spare or rest time in the daily life of a person when he is not occupied by work, studies, sleep etc.

- Recreation is indulging in thrilling and exciting activities, to derive some pleasure and have fun in one's leisure time.
- While some people just take rest, sleep, watch TV, or play video games on computer in their leisure time, there are many who like to go out for recreation and indulge in activities like cycling, hiking, sailing, surfing, swimming, fishing, etc to have some fun.

Recreation is doing activities that recharge and freshens up in one's leisure time.

Dance on the other hand is a physical activity that is done with the parts of the body .The difference between recreation, leisure and dance, is that dancing apart from it being physical it is also a mental activity that is done during leisure, and the leisure is referred to as the time that one sets out to relax himself after work. Dance is specific in relation to leisure and recreation, because those ones refer to general time and also general activities done for the purpose for enjoyment and fun, and dance refer to the particular form of body movement done during leisure and for recreation.

**Benefits of recreation and dance**

- Refreshment of both body and mind
- Create room for fun and enjoyment
- Carry over values of skills learnt during physical and health education exercise.
- Promotion of mental alertness, social and emotional stability
- It helps one relax
- Take one mind of daily strains and demands
- Helps eliminate stress
- helps revitalize a person
- Gives a sense of fulfillment
- Increases blood circulation

- Helps to burn calories
- Manage weight

The activities altogether helps one keep fit and consequently one will not be prone to lifestyle related diseases.

**Difference between folk and modern dance**

1. Traditional dance is a simple dance form for group performance created for a reason like harvest of food, while modern is for enlightenment
2. The movements in traditional dance values the tradition of different people while modern dance is highly stylish, meant for performance
3. Modern dance is quite recent while traditional dance has been existing for generations
4. Modern dance moves are a combination of different dance moves, while traditional dance moves are calculated and show patriotism
5. Modern dance is generally associated with younger generations, while the traditional is more associated with the older generation

**Assessment**

- Briefly explain he following terms; Recreation, Dance, and Leisure
- Give 6 benefits of recreation and dance

**Physical Health Education, JSS 3 Third Term**

**Week 8**

**TOPIC : Types of Computer Games**

**Computer games**

A computer is an electronic device which possesses the ability to receive information (input), store information for a period of time, and able to process data as output.

**Examples of computer games**

- Nature park
- Beach rally
- Vehicle rally
- Play station
- Tennis
- Scrabble
- Cricket
- Soccer
- Volley ball
- Hand ball
- Golf
- Tennis
- Table tennis
- Badminton

**Types of computer games**

Basically there are four types of computer games. The first is strategy, second is first person shooters, third is 3rd person views and the fourth is racing. Each type of game gives a different type of gaming experience and a different type of challenge.

**Strategic games** consist of games like War Craft, Red Alert, Sim City, Generals, Command and Conquer and so on. These games need to be played with caution and patience. For example you will have to first start building your city. To build you need to have an income which usually

consists of things like gold, silver, wood, stone, coal, oil and so on. When building your city you will have to use the necessary upgrade at the necessary time; build the right type of building and upgrade them accordingly. You will have to create workers for labor and soldiers to defend and attack cities. It requires a great sense of balance and patience. These types of games have become very popular amongst skilled players who are capable of concentrating on more than one thing at a time.

**First person shooters** have become one of the most popular types of games available in the market. Games with the first person view give a unique experience, a feeling like you are inside the game. There are many types of games, including shooting games, which has given the nick name for this type of game mode as first person shooters.

**3rd person viewed games** have a wide variety. Starting from 3rd person controllers or 3rd person shooters where you control a figure or person; but unlike in first person mode in this mode you view the game from an observer's point of view. This gives the ability to create games which have a wide variety of games like 3rd person shooters, strategic games, fighting games and so on. Most sports games also fall under this category.

Finally **the racing games** come into play. These types of games are separately shown because the player has the option of changing the view of the game from first person to third person. The experience of racing differs from each type of view. For example if a player is using the dash board view he/she will not be able to see the car and only the upcoming track will be seen. This allows the player to make sharp turns and make close up maneuvers. If you look from the first person view of the driver you will be able to see the inside of the car which will of course reduce the tight bends you can take. The player can opt to look from above the car as well, which is a third person view.

These are the basic types of games available in the market, each of which is designed to create a unique gaming experience. Different people prefer different types of game depending on their individual taste. This does not imply that one type is superior to the other. It just depends on the taste of each gamer.

**Assessment**

Define a computer and give types of computer games you know

**Physical Health Education, JSS 3 FIRST TERM**

**Week 9**

**TOPIC : Physical fitness and body conditioning programmes**

**Physical Fitness**

Physical fitness is the ability of an individual to perform his daily work well without feeling too tired and still have reserved energy. Physical fitness is also a state of health and well-being, and, more specifically, the ability to perform aspects of sports, occupations and daily activities. Physical fitness is generally achieved through proper nutrition, moderate-vigorous exercise and sufficient rest.

**Components of physical fitness:**

The attempt to define the term physical fitness, has led to the identification of the components that make up physical fitness. This account for the reason experts have attempted to group the components into two;

1. The health related components
2. Skill or performance related components

**The health related components** are directly and affect the health of an individual .They are essential for survival regardless of the persons –sex, -age, -religion or –occupation. These include;

- muscular strength
- muscular endurance
- cardio -vascular –muscular endurance

**The performer related components** are essential for skill performance. They are regarded as additional to health related components. They include

- coordination
- Muscular strength
- agility
- accuracy

- balance
- Body composition.

**Description of health related components**

**Muscular strength**

Muscular strength is the maximal one-effort exertion a group of muscles can make**.**

**Muscular endurance**

Muscular endurance is the ability of a group of muscles to contract for a period of time without fatigue.

**Cardio-vascular-respiratory endurance**

Cardio-vascular-respiratory endurance is the ability of the heart and respiratory system to utilize oxygen and persist in strenuous activity for a considerable length of time.

**Flexibility**

Flexibility is the ability to move easily the joints I .e the ability of the joints to move easily without hindrance.

**Description of skill related components coordination**

Is the effective orderly working of the skeletal, nervous, muscular system, and the senses of touch, sight and hearing.

**Muscular power**

Power is a dynamic source of strength per unit of time

**Speed**

Speed is the way at which force can be applied. The formula is:

$$\textbf{Speed} = \frac{\textbf{distance}}{\textbf{Time}}$$

**Agility**

Agility is the ability to move quickly in different directions from different positions.

**Accuracy**

Accuracy is the ability to control and direct the movement of one object towards the other. Example is shooting in basketball.

**Factors that contributes to physical fitness**

- Heredity plays a major role in physical fitness, the form and structure of the body set certain direction and limitation to development.
- Good nutrition is essential for the development of the body
- Good health habits such as proper rest, relaxation, sleep, medical and dental care.
- **Diet:** Diet plays a major role in fitness. It influences the level of physical fitness and wellness of an individual. Lack of proper nutrition in diet affect our physical fitness
- **Amount of Training:** The amount of training we perform also influences the physical fitness. Excessive training affects our physical fitness, we should always perform right amount of training
- **Rest and Relaxation:** Relaxation and rest additionally influence the physical fitness of a person. We should take proper rest in order to maintain our fitness.
- **Regular Exercise**: Regular exercise is one of the most critical factors which affects the physical fitness of an individual.
- **Age:** Age is also one of the major factors which affects the physical fitness and wellness of an individual. As we grow up, our physical fitness affects a lot.
- **Stress and Tension:** Stress and tension have a very negative effect on physical fitness and wellness of an individual. We should try to avoid taking stress and tension. We can try yoga and meditation to cope with stress and tension.
- **Gender:** Gender also affects the level of physical fitness and wellness. Man and woman are completely different in physical fitness
- **Illness:** Illness also affects the physical fitness and wellness of an individual. If a person is ill for a long time it affects his physical fitness.
- **Heredity:** Sometimes, heredity also plays a critical role in influencing the physical fitness.
- **Postural Deformities:** Postural deformities also affect the physical fitness and wellness of a person.
- **Lifestyle:** Lifestyle of a person also affects the physical fitness and wellness. If a person adopts the healthy lifestyle, he will have good physical fitness and wellness.

**Benefits derived from physical fitness**

1: Reduces risk of disease

People who participate in regular exercise have a decreased risk of developing:

- Heart disease
- Diabetes
- Metabolic syndrome
- Colon cancer
- Lung cancer
- Breast cancer

2. Development of physical fitness components

Development of physical fitness components such as muscle strength and endurance, cardiovascular endurance, flexibility, agility, speed, bone density etc and improvement of muscle tone.

3. Provide better health

Regular physical exercise increases both the size and strength of the heart. It can pump more blood with less effort and becomes more efficient. This will lower pulse and lower the blood pressure which can increase lifespan. The circulatory system is also improved because of increased blood volume providing more oxygen to the muscles. These effects will translate into a reduced risk for heart disease, heart attack, and stroke.

Significant cardiovascular health benefits can be attained with long-term participation in cardiovascular exercise.

4. Lower your Cholesterol levels

The benefits of physical fitness extend to their ability to help you control your cholesterol. They raise your levels of ‘good’ cholesterol and drop your levels of ‘bad’ cholesterol.

5. Builds stronger Bones, Joints and Ligaments

Physical activity results in the strengthening of our bones and muscles. It can substantially reduce the risk or arthritis and other bone diseases. Weight bearing exercise is shown to increase bone density and also prevent bone loss as we get older. This can reduce the onset

and severity of osteoporosis. Resistance training does a great job. The strain that it puts on your body helps build bigger, stronger bones.

Different kinds of strength training put strain on your joints. This actually helps your body strengthen connective tissue in those joints. These tissues become stronger, more flexible and less prone to injury. Increased blood supply means better nutrition for the tissues and better removal of waste products which helps improve the health and durability.

6. Maintenance of Optimal Body Weight

Physical activity increases the muscle mass, reduces fat and thus controls weight. It is proven that physical fitness can control your body weight and prevent obesity and other weight-related problems.

By combining the right physical workouts with a proper and balanced diet, you can expect weight loss, reduced body fat and a more firm and fit body. Aerobic exercise burns calories during the duration of the exercise and strength training burns calories in the 24 hour period following the training.

7. Improves your sleeping habits

One of the benefits of physical fitness is that it provides you sound sleep and improves your sleeping habits. Studies show that people who exercise regularly and are physically fit – fall asleep more easily and sleep longer than those who do not exercise and are physically unfit. Because of cooling off after exercise, your body temperature drops leading to deeper sleep.

8. Boost in energy level

Exercise improves the blood flow in the body and promotes better sleep, both of which boost energy. A regular exercise program, especially in the mornings, will give you energy and drive for the rest of the day. This effect is related to the increased metabolism associated with a fitter body.

9. Improved Appearance

Physical activity build muscle mass and burns excess fat. It tones body muscles helping you to look fit and healthy. Healthy active people almost always have great skin tone and look fresh, less fatigued.

10. Relaxation and Stress relief

There are so many stress factors in our day to day life. Because of lifestyle changes, change in the environment, people live under extreme stress in this competitive world. Regular physical activity, fitness workouts releases the hormones which have “feel good factor.”It helps in reducing your stress levels and gives you more strength to fight life’s challenges.

11. Fights Depression

Effects of physical activity and exercise on mood are immediate. Blood flow to the brain is increased, endorphins are released and your mood lifts. These endorphins make you feel better and fight stress and depression.

12. Causes Delayed Aging

Among the several benefits of physical fitness, delayed aging leading to positive thinking and improved self perception is the most sought after.

Regular physical activity reverses the natural decline in the metabolism of the body. Daily exercise is found to keep a person productive and energetic for a longer period of the day. Regular physical activity postpones the process of aging and increases the longevity of life.

13. Makes you feel happier

Physical activity has important role in keeping your body fit. Exercise causes your body to release endorphins which has a “feel good factor”. Because of these endorphins you feel happier.

14. Postpones fatigue

The benefits of physical fitness include the postponement of fatigue and reduced recovery time after vigorous activity.

15. Boost your Confidence

Physical fitness provides correct posture, figure, body image, and good appearance along with increased energy levels. It gives you a sense of accomplishment, which is a boost to confidence.

16. Utilization of Time

Through Participation in physical fitness program, leisure (free) time is properly utilized and make you fit and healthy.

17. Improve your overall health

Physical fitness provides you the optimum physical health, general well being and mental stability. In other words it improves your overall health and you can live your life to the fullest.

18. Healthier, longer Life

All together, the benefits of physical fitness give you healthy and more efficient body. Thus it increases your chance of leading a healthier, longer and more fulfilling life.

These are some of the more prominent benefits of physical fitness. Everyone can and should participate in a fitness program to improve their quality of life. Living an active and healthy life will make your overall lifestyle much better.

**Assessment**

- State 5 factors that contributes to physical fitness
- Mention benefits derived from physical fitness

# JSS 3

# PHYSICAL HEALTH EDUCATION

# SECOND TERM

# TABLE OF CONTENT

**Physical Health Education, JSS 3 Second Term**

**Week 1**

**Topic: Group/Combined events**

**Content**

1. Classification as:
   - Pentathlon
   - Decathlon

2. List of various events under (a) Decathlon (b) Pentathlon
3. The duration of the competition of decathlon
4. Scoring the events

**Group/combined events**

Combined events are a combination of track and field events. It started during the ancient Olympic games to test the all round athletic ability of the competitors. There are three types of combined events:

- Penthalon (for men)
- Decathlon (for men)
- Heptathlon

**Pentathlo**n

Pentathlon consists of five events which are held in the following order:

- Long jump
- Javelin throw
- 200m race
- Discus throw
- 1,500m race

**Decathlon for men**

Decathlon consists of ten events which are held on two consecutive days in the following order:

| Day one | Day two |
|---|---|
| • 100m race | 110m hurdles |
| • Long jump | discus throw |
| • Shot put | pole vault |
| • High jump | javelin throw |
| • 400 race | 1,500m race |

**Heptathlon for women**

Heptathlon for women consists of seven events that are held in two consecutive days in the following order:

| Day one | Day two |
|---|---|
| • 100m hurdles | long jump |
| • High jump | javelin |
| • Shot put | 800m |
| • 200m | |

**CONDUCT OF THE COMPETITION**

Particular Safety Regulations

1. Safety Regulations are to be established by the LOC in accordance with the respective national laws of the organising country. The LOC is responsible for informing all event participants of these rules and providing for their application.
2. ii) The safety of all event participants and spectators requires self-discipline, careful attention to pistol handling and caution in moving about the competition area by everybody concerned. It is the responsibility of pentathletes and team representatives to ensure they handle their pistols (and cartridges) safely and efficiently.

iii) The UIPM TD/NTO, Shooting Director or Range Officers may stop the combined event at any time in the interest of safety. Pentathletes and team officials must immediately notify Range Officers of any situation that may be dangerous or which may cause an accident.

1. iv) Dry firing (i.e. the release of an air pistol trigger mechanism by a fitted device which enables the trigger to be operated without discharging any propellant air or gas) and aiming exercises are permitted, but only upon authorization of the Combined Event Director or Shooting Director and only on the firing line.
2. v) Pistols must not be touched when any person is forward of the firing line.
3. vi) Pellet pistols must be made safe by opening the cocking handle and/or loading part.

vii) At the firing station, pistols must always be pointed in a safe direction. In the combined event area, when the pistol is not on the firing point, it must always be in its box.

viii) Pistols may be loaded only at the firing station, and only after the command to 'uncase and prepare weapons' is given and only after the command "warming up START" is given.

1. xi) If the command "STOP" is given, all pentathletes must stop shooting immediately and place the pistol on the table pointing in a safe direction, not cocked and untouched.
2. x) After the last shot of each shooting series the pentathlete must ascertain before leaving the firing point, and the Range Officer will verify that there are no pellets in the chamber. Pellet pistols must be made safe by opening the cocking handle and/or loading part. Laser pistols are automatically in "safe mode" (the shot cannot be triggered) if the pentathlete does not "reload" (reset the trigger) and must be rendered safe in this way.

The Start

1. i) The handicap start must use three gates: two gates A and B and one additional Penalty ("P") Gate. The Start Line for running shall be denoted by a white line 5cm wide on the ground.
2. ii) Pentathletes with a handicap after the previous events of more than 2 minutes will start in a pack start at 2'00".

iii) The Combined Event has a staggered start at the beginning of the competition (and starts from the shooting line for pentathletes who do not succeed in the shooting series after 50 seconds).

1. iv) In the event of a false start from the shooting line the same rules for a false start will be applied: a 10 second penalty for a false start and disqualification in the case of a blatant attempt to start too early
2. v) Pentathletes are responsible for knowing their own start time, for being at the start line on time and for starting on time. 96 as at 1 January 2014
3. vi) The Announcer will announce “10 minutes” and “5 minutes” prior to the start of the combined event. The Announcer, under the command of the Combined Director, will declare warming up on the shooting range finished. All pentathletes must be at the start area and the Starter/Starter Assistants will begin lining up the pentathletes. One minute before the start, all pentathletes must be at the corresponding gates assembled in the order of their start time.

vii) The Starter will announce – “One minute to start”; “30 seconds”, “20 seconds” and “10 seconds to the Start.” After the OK has been given by the Timekeepers and the Combined Event Director, the Starter will tell the first pentathlete “Take your Marks”, followed by the start signal. All timing equipment will start at the start signal. At the start area, a start clock must be placed so that it is easily readable from the start line and by the timekeepers. The start time for the first pentathlete will be ‘00.00’. Pentathlete No 1 starts at time ’00.00’. Pentathlete No 2 starts at ‘x’ seconds depending on the points difference at that stage, and so on.

viii) Pentathletes must run a short distance (± 20 meters) to the shooting range and start the first shooting series of 5 targets.

**Timing**

Times for all finishers shall be recorded. Three alternative methods of timekeeping are recognized as official: Manual Timing; Fully Automatic Timing obtained from a Photo Finish System; Timing provided by a Transponder System. In Category “A” Senior UIPM competitions manual timing is not allowed. When automatic judging and timing equipment is provided, it must be used to determine the winner, placing and times for each athlete. The results and time so determined has precedence over the decisions of Timekeepers. In the case of a breakdown or mechanical failure, the timekeepers’ decisions will take precedence and reference must be made to all manual times recorded. In all UIPM Senior Category “A” Competitions video recording is compulsory at the finish line.

1. **i) Manual Timing**:

2. a) Timekeepers shall be in line with the finish and where possible.
3. b) Timekeepers shall use manually operated electronic timers with digital readouts.
4. c) Three official Timekeepers (one of whom shall be the Chief Timekeeper) shall time all the athletes.
5. d) Each Timekeeper shall act independently and without showing his watch to, or discussing his time with, any other person, shall enter his time on the official form and, after signing it, hand it to the Chief Timekeeper who may examine the watches to verify the reported times.
6. e) For all manually-timed races, times shall be read and recorded as an exact 1/10th of a second.
7. f) If, after converting as indicated above, two of the three watches agree and the third disagrees, the time recorded by the two shall be the official time. If all three watches disagree, the middle time shall be official. If only two times are available and they disagree, the greater time shall be official.
8. g) The Chief Timekeeper,

Acting in accordance with the Rules mentioned above, shall decide the official time for each athlete and provide the result for distribution.

1. ii) Fully Automatic Timing obtained from a Photo Finish System:
2. a) Fully Automatic Timing and Photo Finish System approved by UIPM should be used at all Olympic Competitions. It shall be started automatically by the Starter.
3. b) The System must record the finish through a camera with a vertical slit, positioned in the extension of the finish line, producing a continuous image. The image must also be synchronized with a uniformly marked time-scale graduated in 1/100th of a second.
4. c) The placing of the athletes shall be identified from the image by means of a cursor with its reading line perpendicular to the time scale.
5. d) The System must automatically determine and record the finish times of the pentathlete and must be able to produce a printed image which shows the time of every pentathlete.
6. e) There should be at least two photo finish cameras in action, one from each side. Preferably, these timing systems should be technically independent, i.e. with different power supplies and recording.

7. f) The Running Director shall determine the placing of the pentathletes and their official times. He shall ensure that these results are correctly entered in or transferred to the competition results system and conveyed to the Results team.
8. g) Times from Photo Finish System shall be regarded as official unless for any reason the appropriate official decides that they obviously must be inaccurate. If such is the case, the times of the back-up Timekeepers, if possible adjusted based on information on time intervals obtained from the Photo Finish image, shall be official. Such back-up Timekeepers must be appointed where any possibility exists of failure of the timing system.
9. h) Times shall be read and recorded from the Photo Finish image as follows;

The time shall be read to 1/100th of a second and recorded to 1/10th of a second. 98 as at 1 January 2014

iii) Timing provided by a Transponder System:

1. a) None of the equipment used at the start, along the course or at the finish line should constitute a significant obstacle or barrier to the progress of a pentathlete.
2. b) The weight of the transponder and its housing carried on the pentathletes' uniform, bib or shoe is not significant.
3. c) The System is started by the Starter's gun or synchronized with the start signal.
4. d) The System requires no action by an athlete during the competition, at the finish or at any stage in the result processing.
5. e) The resolution is 1/10th of a second (i.e. it can separate athletes finishing 1/10th of a second apart). For all races, time shall be read to 1/10th of a second and recorded to the whole second.
6. f) When transponders are used on the feet Article 5.4.7 still applies.

**SCORING**

500 Modern Pentathlon points are awarded for obtaining the following times ±1 point for each second faster or slower.

Individual Relay Distance 500 pts Distance 500 pts Senior, Junior, Under 19 (YA) 3200m 13'20" 3200m 13'20" Under 17 (YB) 2400m 10'30" 3200 m 13'20" Under 15 (YC) 1600m 7'40" 1600m 7'40" Under 13 (YD) 800m 5'20" 800m 5'20" Under 11 (YE) 400m 4'00" 800m 5'20" Under 9 (YF) 400m 4'00" 800m 5'20"

**ASSESSMENT TESTS**

1. Combined events are a combination of ____ events
   (a) track and court
   (b) terrace and field
   (c) court and field
   (d) track and field
2. The three (3) types of combined events are
   (a) tricathlon, heptathlon and decathlon
   (b) penthalon, sixcathlon, heptathlon
   (c) decathlon, bicathlon, tricathlon
   (d) penthalon, decathlon, heptathlon
3. During heptathlon, once the command “STOP” is given, athletes are expected to stop
   (a) running
   (b) crawling
   (c) cycling
   (d) shooting
4. One of these is not an event in heptathlon
   (a) 100m race
   (b) high jump
   (c) short put
   (d) marathon
5. Combined events started during the ancient ____ games
   (a) Commonwealth
   (b) All African
   (c) Roman
   (d) Olympic

**ANSWERS**

1. d
2. d
3. d
4. d

5. d

**Physical Health Education, JSS 3 Second Term**

**Week 2**

**Topic: Facilities and equipment in group/combined events**

**Content:**

- **Facilities and equipment in group/combined events**
- **Rules and regulations**
- **Officiating N.B exposure to practice of various events should be empasized**
- **Safety rules**

**Facilities and equipment in combined sports**

**The field**

The field should be level and large enough, for field events. The grass can be natural or synthetic

**The track**

A track can be located in-doors or outdoors. The lanes should be 1.22m (min) and 1.25m (max)

Types of track are:

- Cinder
- Clay
- Asphalt
- Tartan

**The costumes**

The wears include;

- The short
- The singlet
- The vest
- The track suits
- The socks
- The hose

- The face towel
- The score sheet
- The stop watch
- The score boards
- The pegs
- The starting gun
- The hurdle stand
- The victory stand
- The measuring tape
- The rake
- The clapper
- The draw cards
- The bell
- The pencils/ball pens

**Officials in track and field events**

- The referee
- The chief track judge
- The track judge
- The chief field judge
- The field judge
- The starter
- The recall starter
- The lap recorder
- The marks man/ assistant starter
- The announcer
- The umpire
- The recorder
- The time keepers
- The press
- The security officers
- The stewards

- The first aider
- The clerk of the course

**Duties of the officials**

**The referee**

- He presides over the sport meetings
- He allocates duties to other officials
- He ratifies and sings all results
- He has the final say in all decisions

**The track/ judges**

- They shall decide the order in which the competitors finish
- The chief track judge is the head

**The field judges**

- The chief field judge is the head
- They shall judge, measure and
- Record valid trial of the competitors in all jumping and throwing events

**The starter**

- He shall start all races, using the whistle or gun
- He has the right to disqualify any competitor that beats the gun twice

**The recall starter**

- He shall start all races using the whistle gun
- He has the right to disqualify any competitor that beats the gun twice

**The marks man/ assistant starter**

- He shall assist the starter

- He shall lanes for the competitors
- He make sure that the starting rules are followed.

**The lap recorder**

- They shall keep the record of laps covered by the competitors in races from 1,500mupward.
- They shall ring the bell to signify final lap.

**The announcer**

- He shall read the names and numbers of the competitors taking part in each event to the public
- He shall announce the result of each event

**The umpire**

- They shall watch the competitors closely and report any violation of rules to the referee
- They shall also record the results of all the events

**The time keeper**

- They shall take the time of the competitors
- They shall record them and hand over to the chief time keeper for the ratification of the referee.

**The clerk of the course**

- Usually the school sports officers/ director
- He is the secretary of all the committees
- He is the organizer of the meeting
- He shall supply all the materials needed
- He is the host of all the officials

**ASSESSMENT TEST**

1. List four (4) types of tracks available in combined sports
2. Name six (6) officials in combined sports
3. List two (2) duties of each official mentioned in question 2 above

**Physical Health Education, JSS 3 Second Term**

**Week 3**

**Topic: Nigeria's Sports heroes**

**CONTENT:**

- **Career guidance in physical education**
- **Past and present sports heroes and their contributions in Nigeria**
- **Professionals Physical Education in Nigeria**

**Nigerian sport heroes**

- Harding James
- Jerry Enyeazu
- Falilat Ogunkoya
- Mary Onyali
- Segun Odegbami
- Dick tiger
- Thunder Balogun
- Christian Chukwu
- Isaac Akiode

**Sport heroes and their contributions**

- Falilat Ogunkoya ( born 12 May 1986) she is a Nigerian athlete, Ogunkoya has won has a number of national championships including a gold medal in 1996 in the 400 metres, gold in the 200 metres and 400 metres in 1998 an d gold again in 1999 and 2001 in the 400 metres. At the 1987 all African games, in Kenya she won the silver medal in the 200metres in 1995 in the Zimbabwe games she won the silver in the 400 metres at the 1996 summer Olympics she won a bronze medal in the 400m in a personal best and African record of 49.10, which is currently the 12 fastest of all time.
- Sir Jerry Amadi Enyeazu, He found Eyimba football club in 1976. He was the first Director of sports in the then newly created Imo state, in southeastern Nigeria.

- Mary-Onyali Omagbemi ( was born February 3, 1968) is a nigerian sprinter who won the bronze medal in 4×100 metres relay race at the 1992 summer Olympics. She also won the 1996 common wealth games
- Patrick Oluwasegun Odegbami (born august 27, 1952 in lagos) he won 46 caps and scored 23 goals for his country, and guided Nigeria to its African Nations cup title at the 1980 African Nations cup
- Dick Tiger born August 14, 1929 his boxing career record was fought 81 times: won 60, lost 18, drew 3. Dick Tiger was one of the greatest fighters to come out of the African continent. Dick became a two time undisputed world middle weight champion.
- Christian Chukwu, he was the first Nigerian captian to lift the African nation's cup trophy
- Teslim Thunder Balogun, the first Nigerian to play professional football in England at Peterborough united, holbeach united and queens park rangers and also the first coach to lead the National team to the Olympic games at Mexico'68
- Other professionals are: Adedeji, Udoh, Amuchie, Nwana, Ajala, Fawole Owie, Osodin, Adedoja, Danladi, Musa, Ikulayo, Boroffice, Iganogo, Emiola, okunrotifa, adeniyi, Adeyanju, awosika, achalu, Okafor and Ojeme

**Career guidance in physical and health education**

Before you can be qualified as a physical and health education specialists you must have obtained one of the following:

- Diploma in physical and health education
- C.E in physical and health education
- ED/BA/BSC in physical education and human kinetics
- Masters in education (M.ED), Masters in arts(MA), Masters in science(MSC) in physical and health education
- PhD in physical and health education

**Functions of physical education professionals**

- Teaching
- Coaching
- Physical trainer
- Sports psychologist

- Sports marketer
- Exercise therapist
- Sports sociologist
- Sports doctors

**Functions of health education specialists**

- Teaching
- Community development workers
- IEC developers
- Health journalism
- Consultancy
- Ground men
- Sports administrator
- Health planners
- Health promoters
- Recreation management/ administrators
- Safety educationists etc.

**ASSESSMENT TESTS**

1. Name 10 past Nigerian sporting heroes
2. Mention 10 present day Nigerian sporting heroes
3. List 5 contributions of Nigerian sporting heroes

**Physical Health Education, JSS 3 Second Term**

**Week 4**

**Topic: Personal, school and Community Health**

**Content:**

- **Family Life Education**
  - meaning and types of families
  - Duties of members of the family

**Meaning and types of family**

The family is the basic unit of the society that is responsible for supporting, caring for and preparing the children for adulthood.

Family can be defined as a group of people related to one another by blood, marriage or law. The family is usually the first environment of every child, the personality development of the child is highly influenced by the family.

**Types of family**

There are two types of family

- Nuclear family
- Extended family

Other types of modern day family

- Foster family
- And adopted family

**The nuclear family**

The nuclear family is made up of the husband, wife or wives and their children. A nuclear family could be monogamous or polygamous.

**Monogamy**

Monogamy is a marital relationship between one husband, one wife and their children

**The extended family**

The extended family consists of the husband, wife or wives, their children, grandparents, aunts, uncle and cousins. If it is polygamous family I will include co-wives and their children. This kind of family provides care and support for dependent relatives and interdependence among members of the family unit.

**Foster family**

The foster family is made up of the adults acting as parents to the children who may or may not be related to them, compensations are awarded to the parents.

**Adopted family**

Children whose biological parents are unable to cater for are given out to another family by legal action. In adopted family, children are given rights of a child born into the family. The parents receive no compensations, but are expected to perform all the duties of natural parents.

**Roles and responsibility of each member**

Every member of the family has a role played within the family. The parents are to provide love, food, clothes, shelter and guidance. The role of the child is to be obedient, assist with house chores and child care, perform well in school and prepare for a meaningful adult life.

**Responsibility of the family**

- It is the responsibility of the family to raise children
- To care for the children from childhood till are old enough to care for themselves.
- It is responsible for the transmission of societal norms and culture to such children
- It is the responsibility of the family to provide emotional, psychological, moral and material support to them.
- It is responsible for the provision of physical security such as food, clothing, shelter and other needs.

**Roles of the father**

Provision of food, shelter and money for the family, and making important decisions

**Roles of the mother**

- Preparation of food
- Keeping the house in order
- Nurturing and raising children
- Teaching the children morals and values

**Roles of the children**

- Obeying their parents
- Assisting in performing household chores
- Performing well in school
- Living up to the family's expectations

**ASSESSMENT TEST**

1. ____ is the basic unit of the society

(a) school

(b) church

(c) family

(d) individual

2. Members of a family can be related to one another through all these except

(a) school

(b) blood

(c) marriage

(d) law

3. The type of family made up of the husband, wife or wives and their children is

(a) nuclear

(b) extended

(c) complex

(d) simple

4. The adult acting as parents in a foster family receive _____for looking after the children

(a) insult

(b) bribe

(c) compensation

(d) loan

5. One of these is not a role of children in the family

(a) preparing the food

(b) assisting in performing household chores

(c) performing well in school

(d) obeying their parents

**ANSWERS**

1. c
2. a
3. a
4. c
5. a

**Physical Health Education, JSS 3 Second Term**

**Week 5**

**Topic: Personal, school and Community Health**

**Content:**

- **Puberty in boys and girls**
- **Teenage pregnancy and its consequences**

**Puberty in boys and girls**

Puberty is the stage in human physiological development, when somebody becomes capable of sexual reproduction. It is marked by genital maturation, development of secondary sex characteristics in puberty, both boys and girls experience a swift increase in body size, a change in shape and composition of the body, and a rapid development of the reproductive organs and other characteristics marking sexual maturity.

**Physical changes that take place in boys**

- Boy voice gets deeper
- His muscles develops
- His chest gets broader
- Hair starts growing under his arm , on his chest and face
- During this time his penis and testicles will grow bigger and longer
- Hair also develops at the base of his penis.

**What is an erection?** An erection is when a boy's penis hardens and lengthens. Most erections are not straight and tend to either have a curvy bend upward or to either side.

**What is a wet dream?**

A wet dream is when some semen (the sticky liquid that sperm is part of) comes out from a boy's penis while he is asleep. A boy may remember he has a sexual dream, or he may just notice a wet patch on his pyjamas or on the sheets when he wakes up.

**Changes that takes place in girls during puberty**

- The nipples starts to enlarge
- Few pubic hair development
- Enters into a period of rapid growth
- The ovaries begin to produce estrogen
- Breast will start to grow
- Her face gets rounder

**What is menstrual period?**

**A period, or menstruation, is the shedding of the endometrium – the lining of the uterus (womb). Menstruation is also known as menses. Menses are part of normal sexual health for women during reproductive age. When a girl ‘’has her period” , a small amount of bleeding takes place from her vagina.**

Menstruation that includes bleeding from the vagina is found mainly among humans and similar animals, such as primates

In humans, a period is a shedding of endometrial tissue from the womb that is released through the vagina.

Women have a period approximately every 28 days; however, there is some variation in this cycle, ranging from a 24-day to a 35-day cycle. A period is part of the woman’s menstrual cycle.

**Differences between male and female puberty**

Two main differences between puberty in boys and puberty in girls are the age at which it begins, and the major sex steroid involved.

The hormones that dominate females’ development are estradiol and estrogen, while estradiol promotes growth of breast and uterus.

**Teenage pregnancy and it’s consequences**

**Teenage pregnancy**, also known as **adolescent pregnancy**, is pregnancy in females under the age of 20. A female can become pregnant from sexual intercourse after she has begun to ovulate, which can be before her first menstrual period (menarche) but usually occurs after the onset of her periods. In well-nourished females, menarche usually takes place around the age of 12 or 13.

Pregnant teenagers face many of the same pregnancy related issues as other women. There are, however, additional concerns for those under 15 of age as they are less likely to be physically developed enough to sustain a healthy pregnancy or to give birth. For girls aged 15–19 risks are associated more with socioeconomic factors than with the biological effects of age.

**Consequences of teenage pregnancy**

**Emotional Crisis**

A teenager may suffer an emotional crisis if she becomes pregnant and does not want the baby. This crisis may lead to rash behavior such as attempting to self-abort the baby or a suicide attempt.

**Worries about Future**

Uncertainty about the future may arise when a teen is pregnant. A teen may feel she does not have enough knowledge to be a mother. She may also have fears about how having a baby will impact her own life and dreams for the future.

**Delayed Education**

Education may be put on hold when a teen becomes pregnant. Some pregnant teens may decide to leave high school. Others who were planning to attend college in the future may put off that experience after becoming pregnant. They may decide to focus on the baby or getting married rather than pursuing further education.

**Smoking & Drugs**

Smoking and drug use may be problematic during a teen pregnancy. A teen may not have the willpower to stop using substances that can harm the developing baby.

**Exhaustion**

Exhaustion may arise during a pregnancy. A pregnant teen should try to exercise during the pregnancy; however, if exhaustion arises it is important to know that this is often a normal part of pregnancy. Getting the standard 8 hours of sleep every night (or more) is important.

**Depression**

Depression may arise when a teenager is pregnant. The teen may fall into a depression while trying to handle the emotions a pregnancy creates and all of the possibly negative feedback about the pregnancy from friends and family. The fluctuating hormones that a pregnancy causes may also prompt depression.

**Neglect of Baby**

Once their baby is born, teenagers may not be willing or able to give it the undivided attention it needs. A teen may not be an adequate mother because she is overwhelmed by the constant needs of the baby. She may grow annoyed at the lack of freedom to interact with her peer group due to the baby.

**Trouble with Finances**

Financial difficulty may arise during a teen pregnancy or after the baby is born. It is expensive to raise a baby. Teens who do not have full-time employment may struggle to cover the basic expenses of life.

**ASSESSMENT TEST**

1. The stage in human physiological development when a person becomes capable of sexual reproduction is known as
   (a) liberty
   (b) kiberty
   (c) puberty
   (d) doberty
2. Only boys experience puberty
   (a) true
   (b) false
   (c) none of the above
   (d) all of the above
3. One of these is not a physical change that occur in boys during puberty
   (a) voice gets deeper
   (b) muscles develops

(c) chest gets broader

(d) breast will start to grow

4. Menstruation is also known as

(a) denses

(c) strensis

(c) menses

(d) benses

5. Pregnancy in females under the age of 20 is known as

(a) adult pregnancy

(b) toddler pregnancy

(c) children pregnancy

(d) teenage pregnancy

**ANSWERS**

1. c
2. b
3. d
4. c
5. d

**Physical Health Education, JSS 3 Second Term**

**Week 6**

**Topic: Career Guidance**

**Content:**

- **Career Guidance**
- **Sports promition agencies and bodies in Nigeria**
- **(a) Sports associations**
  **(b) NAPHER-SD**
  **(c) Nigeria Institute of Sports**
- **Assertiveness and Communicative skills**

**Career Guidance**

Before you can be qualified as a physical and health education specialists you must have obtained one of the following:

- Diploma in physical and health education
- C.E in physical and health education
- ED/BA/BSC in physical education and human kinetics
- Masters in education (M.ED), Masters in arts(MA), Masters in science(MSC) in physical and health education
- PhD in physical and health education

**Functions of physical education specialist**

- Teaching
- Coaching
- Physical trainer
- Sports psychologist
- Sports marketer
- Exercise therapist
- Sports sociologist
- Sports doctors

**Functions of health education specialists**

- Teaching
- Community development workers
- IEC developers
- Health journalism
- Consultancy
- Ground men
- Sports administrator
- Health planners
- Health promoters
- Recreation management/ administrators
- Safety educationists etc.

**Sport promotion agencies in Nigeria**

**Need for promotion of sport in our society**

Apart from the life- enriching and fulfilling role of sport, it is also part of man's common culture in that it responds to an inherent human physical and mental desire as well as being a way of responding to the inherent desire of humans to move their bodies, it also does the following;

- Fosters stamina and physical health
- Relieves mental stress
- Helps to prevent the habitual life style disease
- It enhances the nations interest in sports
- Makes a deep emotional impression
- It fosters sense of personal responsibility
- It promotes self control and spirit of fair play
- Sport also fosters in the young a communication ability
- It promotes sound education for children and youth
- Promotion of a new sense of cohesion in our regional communities
- Create employment opportunities
- Contributes to the economic development of our community

- It is an element of the world's common cultural heritage

**Sport promotion agencies and their bodies in Nigeria**

- Nigeria Sport Association
- Nigeria Association of physical Health and Recreation (NAPHEP)
- Nigeria Institute of Sports

**Agencies Promoting Health Education in Nigeria**

- Ministry of Health
- Nigerian Drug Law Enforcement Agencies(NDLEA)
- Federal Road Safety Corps(FRSC)
- National Agency for Food Drug Administration and control(NAFDAC)
- United Nations Educational, Scientific and Cultural Organization(UNESCO)
- United State Agency for International Developments(USAID)
- World Health Organization(WHO)
- The United Nations Children's Fund

**Career Opportunities in Physical and health Education**

Several different career opportunities are available for individuals interested in a career in physical education or health education. Below are a few of the most common choices an online degree in education can help prepare you for.

- **Athletics coach**

Coaches in elementary and secondary schools teach students the basic rules of team sports, as well as proper form and techniques. They run practice sessions and manage the team during competitions or games with other teams.

- **Health teacher**

Health teachers teach students about various mental, physical, emotional and sexual health issues in a classroom setting. They provide information and lead discussions on topics such as nutrition, safe sex, tobacco use, drug and alcohol abuse, and medicine.

- **Physical education teacher**

Physical education teachers, also known as PE or gym teachers, teach students the rules and motor skills necessary to participate in individual and team sports. PE teachers at elementary schools usually teach half-hour classes to various groups of students throughout the day, while teachers at secondary schools might teach fewer but longer classes.

- **Athletics Administration**

Athletic administration programs also offer those who currently work in the field of sports a chance to broaden their knowledge and explore other career possibilities within the sports industry.

- **Gym teacher**

A gym teacher, also called a physical education teacher, instructs students on principles of fitness and health. Topics covered may include nutrition, well-being, and exercise.

- **Fitness Instructor**

Fitness instructors may work with individuals or groups. They demonstrate and teach proper techniques when exercising or using gym equipment. These fitness professionals assist clients with cardiovascular workouts, strength training and stretching.

- **Group Executive Instructor**

By demonstrating proper technique, correcting participants and explaining the value of particular movements, group exercise instructors help individuals get the most out of their exercise experience.

**ASSESSMENT**

1. List the five (5) qualifications needed to be a physical and health education specialist.
2. What are the functions of a physical and health education specialist?
3. Name two (2) agencies promoting sports in Nigeria

**Week 7**

**Topic: Non-contact Games**

**Content:**

- **Swimming**
  - Basic swimming styles(crawl, breast stroke, butterfly)
  - Swimming skills
  - Swimming equipment

**Swimming: Basic swimming styles**

Swimming is the sport or activity of moving through water by moving your arms and legs. Competitive swimming became popular in the nineteenth century. **Swimming** is an individual or team sport and activity. Competitive **swimming** is one of the most popular Olympic sports, with events in butterfly, backstroke, breaststroke, freestyle, and individual medley.

The goal of competitive swimming is to beat the competitors in any given event. Swimming in competition should create the least resistance in order to obtain maximum speed. However, some professional swimmers who do not hold a national or world ranking are considered the best in regard to their technical skills.

Typically, an athlete goes through a cycle of training in which the body is overloaded with work in the beginning and middle segments of the cycle, and then the workload is decreased in the final stage as the swimmer approaches competition.

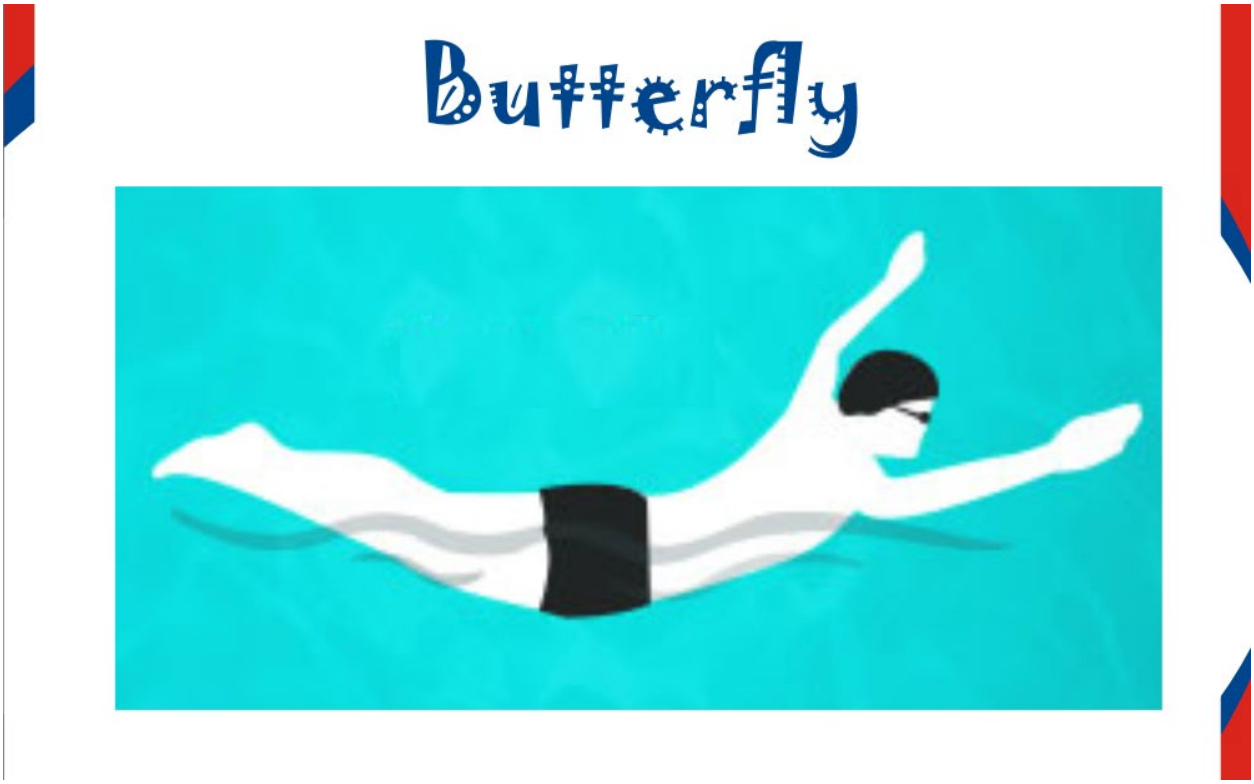
The final stage of swimming is referred to as "shave and taper": the swimmer shaves off all exposed hair for the sake of reducing drag and having a sleeker and more hydrodynamic feel in the water.

Swimming is an event at the Summer Olympic Games, where male and female athletes compete in 16 of the recognized events each. Olympic events are held in a 50-meter pool, called a long course pool.

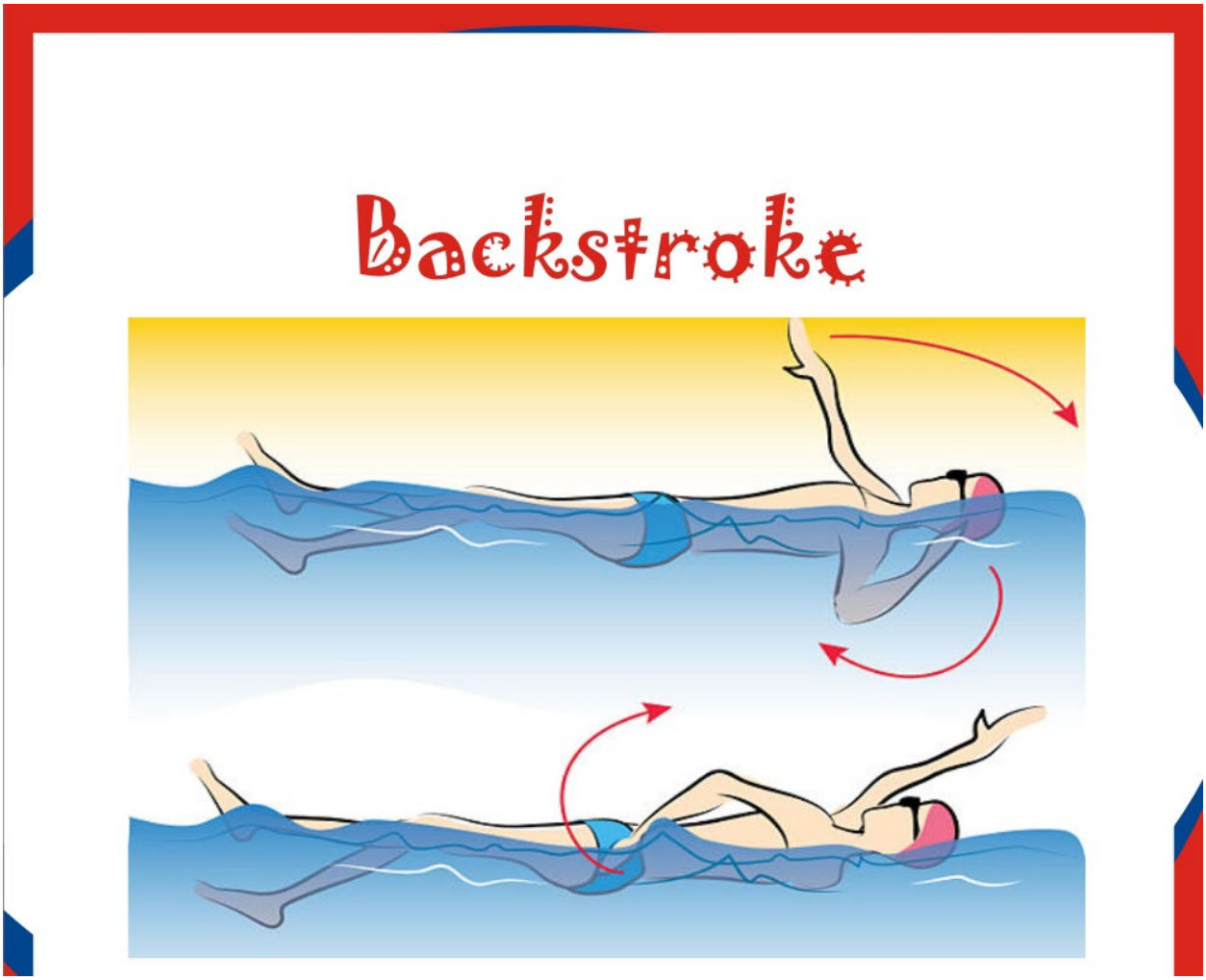
**Swim styles**

In competitive swimming, four major styles have been established. These have been relatively stable over the last 30–40 years with minor improvements. The four main strokes in swimming are:

- **Butterfly (fly)** – The butterfly stroke stands out among the competitive strokes because of it's unique and spectacular technique. It uses a symmetrical arm stroke with an above water recovery. It also uses a wave-like body undulation and a dolphin kick. Butterfly is the second fastest swim stroke after freestyle. It has a reputation of being hard to learn and is quickly exhausting.




- **Backstroke (back)** – Backstroke is swum on the back. It uses alternating circular arm movements and an above water recovery. The legs execute a flutter kick similar to the one used in freestyle. Backstroke is faster than breaststroke but slower than butterfly. Physicians often prescribe backstroke swimming to people experiencing back problems because it gives the back an excellent workout.




- **Breaststroke (breast)** – Breaststroke is the most popular swim stroke of all. In breaststroke, both arms execute half-circular arm movements at the same time under water in front of the swimmer. The arm recovery also occurs under water. The legs

simultaneously execute a whip kick.


Breaststroke is often the first swimming stroke taught to beginners. In fact, many casual swimmers can only swim this stroke. The advantage of breaststroke is that beginners can keep their head above the water. This avoids breathing and orientation issues. More experienced swimmers however submerge their head during the stroke cycle to improve efficiency. Breaststroke is the slowest of the competitive strokes

- **Freestyle (free)** – The Freestyle Stroke or front crawl is often the preferred stroke of seasoned swimmers. It uses alternating arm movements with an above water recovery. The legs execute a flutter kick. Freestyle is fast and efficient. In fact it is the fastest of all swimming strokes.


Events in competition may have only one of these styles except in the case of the individual medley, or IM, which contains all four. In this latter event, swimmers swim equal distances of butterfly, then backstroke, breaststroke, and finally, freestyle.

**Swimming Equipment**

Equipment refers to the materials and items used for swimming that are movable and expendable such as:

- The swimming suit or trunks
- The head gear for women
- The floaters for novices
- The protective device for beginners and drivers
- The light bamboo poles
- The rubber tubes
- The whistles etc.

**Pool's dimension**

- Length -50m
- Width -21 minimum
- Depth -2.0m minimum
- Walls -shall be parallel
- Number of lanes -8
- Width of a lane -2.5m each
- Water temperature -$25^{0}$-$28^{0}$ Celsius

**ASSESSMENT**

1. Swimming is the sport or activity of moving through water by moving your
   (a) knees and toes
   (b) head and shoulder
   (c) eyes and face
   (d) arms and legs
2. Competitive swimming became popular in the ____ century
   (a) tenth
   (b) eighteenth
   (c) seventeenth
   (d) nineteenth
3. The goal of competitive swimming is to
   (a) learn how to swim
   (b) beat the competitors in any given event
   (c) survive in water
   (d) win money
4. All of these are swimming styles except
   (a) breaststroke
   (b) mosquito
   (c) butterfly
   (d) freestyle
5. The final stage of swimming is referred to as "shave and ____"
   (a) break

(b) taper

(c) cut

(d) sleek

**ANSWERS**

1. d
2. d
3. b
4. b
5. d

**Physical Health Education, JSS 3 Second Term**

**Week 8**

**Topic: Gymnastics**

- Stunts and tumbling e.g. forward roll, head stand and crab walks, cat, wheel, limp, frog.
- Floor activities
  - classification of floor activities
  - values of floor activities

**Gymnastics**

The performance commences when the gymnast raise his hand to indicate '' readiness'' and comes to an end when he raises his two hands to signal end of the performance. The grading is done according to how complex the events are.

**Gymnastic activities**

Gymnastics cover a range of activities which includes:

- The stunts
- The tumbling/ agility
- The activities on rope
- The activities on beams
- Compensatory

**Stunts (individual)**

They are:

- The rabbit jump
- He frog jump
- The cat spring
- The duck walk
- The cycling in the air
- The sit-up
- The push- up

- The trunk curl

**Stunts with partner**

- They are the cock fight
- The duck fight
- The rocking chair
- The lift the log
- The wheel barrow
- The Chinese get up
- The fireman's lift
- The leg wrestling

**Tumbling**

Performed without apparatus they are;

- The forward roll
- The backward roll
- The side roll
- The drive forward roll
- The tip –up
- The head stand
- The hand stand
- The cartwheel

**Activities on the rope**

- The climbing using hands only
- The swinging on rope
- The hanging
- The heave vault using rope
- The stand on rope
- The crossed leg climbing

**Activities on the beam**

They are;

- The heave vault
- The gate vault
- The face vault
- The oblique back vault
- The balance walk
- The upward and downward circle

**Stunts on horse**

They are:

- The squat vault
- The straddle vault
- The front vault
- The side vault

**Stunts on bar**

They are:

- The dips
- The travelling
- The heave vault
- The cycling under
- The skin the cat
- The chinning
- The swing and dismount
- The swing from shoulder
- The forward roll from straddle position

**Stunts on rings**

They are;

- The bird's rest
- The monkey hang
- The inverted hang

**Box Work**

Box work involves activities that are performed on the box e.g. the vaults.

**Mata work**

Mat work involves activities that are performed on the mat e.g. the activities like forward roll

**The Values of Gymnastics**

- It develops the muscles of the arm, shoulder, chest and abdomen
- It develops physical strength and power
- It develops physical fitness, agility and mobility and flexibility
- It develops the ability to coordinate and balance
- It is designed for alertness
- It develop skills that are useful for sports and games
- It develops courage
- It provides means of livelihood
- It develops ability to break falls
- It improves body posture

**ASSESSMENT**

1. In gymnastics, grading is done according to how ____ the events are
   (a) complex
   (b) simple
   (c) long
   (d) short
2. The performance commences when the gymnast raise his hand to indicate
   (a) start
   (b) begin

(c) readiness

(d) commencement

3. A gymnastic performance ends when the person performing
   (a) lands
   (b) raises his two hands
   (c) bends down
   (d) signals to the umpire
4. One of these is not an activity in gymnastics
   (a) stunts
   (b) tumbling
   (c) rope
   (d) water
5. Mat work involves activities that are performed on the
   (a) carpet
   (b) rug
   (c) mat
   (d) tile

**ANSWERS**

1. a
2. c
3. b
4. d
5. c

**Physical Health Education, JSS 3 Second Term**

**Week 9**

**Topic: Officials of Gymnastics and their duties**

**Content**

1. Safety Rules for non-contact games

**Officials of Gymnastics**

The officials are:

- Referee
- Judges
- Scorers
- The announcer
- The doctor
- The clerks
- The mat chair man
- The time keeper

**Duties of the spotter in gymnastics**

- To prevent the performer from sustaining injuries
- To support and assist the performer
- To aid mastery of skills
- To help correct a wrongly performed skill
- To give confidence to the performer

**Safety precautions**

- Have a proper warm- up before activity
- Check the areas and make sure they are free from hazards
- Wear the correct costumes
- Never manage any apparatus

- Master the fundamental skills before performing
- Proceed from simple to complex activities
- Ask questions when in doubt
- Always follow instructions
- Be sure of a spotter before performing a difficult activity
- Avoid distractions
- Practice skills within your capabilities
- Avoid wearing ornaments during your activities e.g. earrings
- Correct matching of partners
- Provide enough landing foam
- Provide enough flood light in activity area.

**ASSESSMENT**

1. List seven (7) officials of gymnastics
2. Mention 4 duties of the spotter in gymnastics
3. Enumerate ten (10) safety cautions in gymnastics

# JSS 3

# PHYSICAL HEALTH EDUCATION

# THIRD TERM

# TABLE OF CONTENT

**Physical Health Education JSS3 Third Term**

**Week 1**

**Topic: Family Health**

**Content**

- Types of diseases and mode of transfer
- Disease vectors
- Types of disease vectors
- Life cycle of the mosquito and other vectors

**Types of diseases and mode of transfer**

Disease means illness or disorder of the body and mind. The agents causing diseases are called pathogens. There are basically two types of diseases:

- Communicable
- Non- communicable diseases

**Communicable diseases**

Communicable diseases are diseases that can be transferred from one person to another. Mode of transmission can be through direct contact, infected air droplet, contaminated food and water, or vector including insects. Some communicable diseases are often referred to as infectious diseases.

To be classified as a communicable disease, an infection has to be present only in people affected by it and not those who are otherwise healthy and the healthy individuals who come into contact with the elements causing the infection have to fall ill as well. For an abnormality to be considered an infection the adverse agents have to come into the body, live for long enough to multiply and should be passed to other hosts easily. Communicable diseases are illnesses that are caused by viruses, bacteria, parasites, and prions, and are easily transferable from person to person. Communicable diseases cause infections that in most cases produce various kinds of symptoms, while the adverse agents responsible for the infections also need a weakened immune system to which they will make a problem. The stronger the badverse element, or a pathogen, coupled with a weak immune system, the stronger the infection. As a result, pathogens are classified based on the severity of

destruction they cause for the organism. Primary pathogens are very strong, and will result in an infection in healthy individuals, while also affecting other animals, as well. The extent of the infection produced by a primary pathogen depends on both its strength and the strength of the person it's affecting. Another kind of pathogens are the opportunistic pathogens, which otherwise live in the body without causing any problems, but when the opportunity presents itself are likely to cause an infection. Opportunistic pathogens can also come in contact with a person through various external means, such as through wound infections, blood transfusions, poisoning and so on. In order for the opportunistic pathogens to produce an infection, the person's immune system has to be susceptible and unable to fight it off. Communicable diseases can occur from time to time, have regular presence in a population or a geographic area, be present in lots of people at once, or be spread globally.

**Transmission**

There are many ways in which the elements that cause communicable diseases are passed on from individual to individual and some include coming into contact with contaminated food, water, bodily fluids, or an infected person. In any case, there has to be a source of an infection and identifying it helps to a great extent with dealing with an infection once it becomes a problem. There are those infections that are passed on very easily through minor physical contact, such as hand shaking, sneezing, kissing and so on, and there are instances in which the road to an infection is well known, such as having sexual relations with an infected person. In some instances, there are pathogens that survive on external objects, such as money and coming into contact with them leads to an infection. There are various insects, such as the flies or mosquitoes, which can transmit infectious agents from an animal or an object to a person.

**Diagnosis**

Many relatively common infectious diseases are diagnosed by the presentation of symptoms. The adverse agents are easily identifiable, the treatment relatively simple and the consequences minor or nonexistent. In many cases, identification of the pathogen is done only when it can help with the advancement of prevention or treatment. There have been various kinds of advancements that lead to better diagnostics, such as the use of molecular diagnostics to identify the HIV virus in individuals who haven't developed infections yet. As a result, clinicians and researchers are able to follow the virus and its development, while at the same time the person in question is aware that he or she is carrying an HIV. For the most part,

the inspection of the symptoms coupled with the patient's medical history and culture tests of pathogens usually make up the course of diagnosis. In some cases, various scans will be employed for identifying skeletal communicable illnesses.

**Prevention**

In order to prevent the spreading of an infection, it first has to be established what the pathogens are and where they are coming from. There are also other elements that have to be taken into consideration, such as the time it takes for the infection to be passed on, and how contagious it is in the first place. For instance, there are many viruses that upon entering the system will kill the person relatively quickly, such as the Ebola virus, so there isn't that much opportunity for the spreading. However, viruses such as HIV take a long time to develop into an infection, and there are many cases in which the virus is being spread without the person carrying it even being aware. Some beneficial ways to stop the spreading of agents that cause communicable diseases include introduction of programs such as needle exchange among the populations of intravenous drug users, vaccination of individuals who are susceptible to viral infection, and pest control. In many cases, however, when it comes to the most common infections, washing hands regularly will decrease the spreading of infectious diseases.

**Types of communicable diseases**

- Air borne diseases
- Water borne diseases
- Contaminated food diseases
- Contagious/ skin contact diseases
- Animal/ insect bites disease

**Air borne disease**

There are two main ways by which diseases become air borne

- Droplet infection
- Dust infection

In droplet infection, when the patient coughs

In dust infection, spitting from a patient deposits the microbes in the dust, the siliva dries up and the bacteria forms spores. When the dust is disturbed, the spores are spread in the air

and when it is breathed in by other people, it causes infection. Common air borne diseases are- whooping cough, flu, tuberculosis, cold catarrh etc

**Water borne diseases**

There are two main types of water borne diseases,

- The one transmitted by intestinal infection
- The one by parasite in animals that live in water. Common water borne diseases are: cholera, typhoid, amoebic dysentery etc

**Contaminated food diseases**

These diseases are transmitted by flies, dirty hands or 'night-soil' on crops. Common food diseases are: cholera, dysentery, typhoid

**Contact disease or contagious disease**

Diseases spread by skin contact are called contagious diseases, diseases transmitted this way are : ring worm, yaws, syphilis, scabies etc. Also certain animal parasites are transmitted by skin contact, they are fleas, body lice, head lice, ticks, mites and leeches

**Animal bites**

Some diseases are caused by animal bites e.g. rabies which can be caused by dog bite (rabid dogs or other carnivorous animals)

**Common communicable diseases**

- Whooping cough
- Flu
- Tuberculosis
- Yellow fever
- Cholera
- Typhoid fever
- Malaria fever
- Ring worm
- Scabies

- Dysentery
- Measles
- Sleeping sickness
- Cold
- Gonorrhea
- Syphilis
- Warts
- Tinia
- I.D.S

**Prevention of communicable diseases**

- Wash the properly before eating and after using the toilet
- Cook your food properly before eating it e.g. Pork and beef
- Fresh fruits that are not cooked must be thoroughly washed with clean water.
- Avoid moving near an infected person e.g. Cough and catarrh
- Always boil your water, where treated water is not available.
- Keep your fingers clean and cut short your finger nails
- Avoid sharing personal effect with other people things like cups, combs, pants, singlet, towel tooth brush and others
- Treat wounds and sores and never leave them exposed.
- Ensure good environmental sanitation both in and outside the house
- Destroy all vectors
- Always eat adequate diet, maintain high personal cleanliness
- Fumigate your surroundings regularly
- Regular medical checkup is highly important
- Regular vaccination and immunization are essential

**General control of communicable disease**

Infectious disease often cause epidemics, therefore proper care must be taken to contain the spread once they are observed. The measure to take include

- A suspected patient should be isolated

- All materials used must be reserved for him.
- The room and the clothing must be disinfected always
- Only specially trained nurses should care for him
- People living with him should be observed
- Vaccination or inoculation should be taken to give immunity.
- Some of the pathogens can be eliminated through perfect cleanliness

**Other control measure**

- Heat

All articles should be sterilized by boiling and heating

- Cold

Freezing and extremely cold conditions slow the rate of reproduction down of bacteria

- Sunlight

Room that have good sunlight never encourage bacterial and viral growth and development

- Fresh air

Rooms should be well ventilated

- Antiseptics and germicides

**Non-communicable diseases and their prevention**

Non-communicable diseases are disease are disease that cannot be transmitted from one person to another. They have many causes but never caused by germs, bacteria, or other living organisms that attack the body.

They are caused by

- By atomic fall-out
- By chemical fall-out

**Common non-communicable diseases**

| Disease | Causes |
| --- | --- |

| | |
|---|---|
| Rheumatism, heart attack, stroke, cancer, migraines, cataract | Physiological failure of the tissues |
| Snake bite, cough from smoke, stomach ulcer, alcoholism, allergies, asthma | Chemical or atomic fall-outs |
| Marasmus, pellagra, anaemia, goiter, kwashiorkor, cirrhosis | Malnutrition, dietary imbalance |
| Hare lip, crossed eye, epilepsy, retarded brain, birth mark, other deformities | Congenital problem or heredity |
| Paranoia, anxiety, neurosis, schizophrenia, phobias, psychosis, hypochondria | Brain damage or emotional disturbance |

Non-communicable diseases also known as chronic diseases tend to be of long duration and are the result of a combination of genetic, physiological, environmental and behaviours factors. The main types of communicable diseases are cardiovascular diseases (like heart attack and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease) and diabetes.

**Prevention of non-communicable disease**

**Government/society responsibility**

- Focus on reducing the risk factor associated with these diseases. Monitoring progress and trends of non-communicable diseases and their risk is important for guiding policies and priorities.
- To lessen the impact of non-communicable diseases and society, a comprehensive approach is needed requiring all sectors, including health, finance, etc.
- Management of non-communicable disease, which includes detecting, screening and treating these diseases and provide care for people in need, and this can be achieved through primary health care facilities.
- The government should provide health insurance to manage these diseases, it is essential for achieving a global target, and the prevention of the risk of mortality.

**Personal efforts**

- Exercise every day, physical activities removes disease causing toxins through sweats. It also prevent cardiovascular disease, respiratory problems and reduces the risk of cancer and diabetes. It is recommended to perform at least 30 minutes of the exercise.
- Eat food high in lecithin is a potent substance that regulates cell nutrients. It also helps you

Maintain an ideal body weight and help prevent your body from accumulating unnecessary fat

- Consume food in high anti-oxidants. The active ingredient in high antioxidant are called flavournoids
- Train the brain. Playing video games and solving cross word puzzles everyday can help exercise the brain and prevent memory loss and deterioration

Do yoga everyday yoga strengthens the mind and body. It prevents life style diseases, especially cardiovascular and respiratory illness.

**Disease vectors**

Vectors are animals which transmit disease causing organism (pathogens) from an infected person to an uninfected person without being infected. Examples are: mosquito, rats, house fly etc.

**Mosquitoes**

Mosquitoes cause more deaths than any other disease vector. Over 3 billion people are at risk from mosquito-borne diseases such as malaria, dengue fever and lymphatic filariasis (elephantiasis). The most dangerous mosquitoes are:

*Aedes aegypti*, *Ae. albopictus*, and other *Aedes spp*: Chikungunya virus, dengue virus, West Nile virus, yellow fever virus, Zika virus, lymphatic filariasis/ elephantiasis (parasitic roundworm);

*Anopheles* species (60+ species transmit diseases): malaria (parasitic protozoan), lymphatic filariasis (parasitic roundworm), West Nile virus;

*Culex* species: West Nile virus, lymphatic filariasis/ elephantiasis (parasitic roundworm);

*Haemagogus* species; Sabethes species: yellow fever virus.

Many other species of mosquito can transmit diseases but are not so prevalent in the human environment or as effective at transmission as the genera and species listed.

There is no vaccine for the majority of mosquito-borne diseases, and no specific treatment for viruses such as dengue, Chikungunya, Zika or West Nile virus — there is a vaccine only for yellow fever. Therefore disease reduction and elimination is totally dependent on vector control for all these other diseases.

For more information see:

Insect-borne diseases;

Zika.

**Rodents**

Rats (both *Rattus norvegicus* the brown or Norway rat; and *R. rattus* the black or roof rat) and the house mouse are the most significant rodent pests or urban environments. Ground squirrels, chipmunks, woodrats and marmots are also significant vectors of disease in some areas.

Diseases: rodents carry a large number of diseases including bacteria, viruses, protozoa and helminths (worms). Specific diseases of importance include:

Leptospirosis via urine, caused by two bacteria *Leptospira interrogans* and *L. biflexa* (it is also common in the urine of other wild and domestic animals and causes illness in them). Rodents cannot control their urine so contaminate every surface they run across;

various food-borne diseases such as Salmonella, from rodents contaminating food with faeces and filth;

murine typhus and the plague carried via fleas;

many other diseases carried by rodent ectoparasites: flea, tick, lice and mite-borne diseases.

Rodents have been associated with human activities for millennia, infesting homes, domestic buildings, food stores, businesses handling food, and ships and vehicles carrying food. They are a major health and economic threat worldwide for homes and businesses.

For more information see:

Rodent-borne diseases;

Pest control in food processing;

Pest control in the hospitality sector;

Connected rodent control.

Cockroaches

The main pest species are: German Cockroach, *Blattella germanica*; American Cockroach, *Periplaneta americana*; Oriental Cockroach, *Blatta orientalis*.

Diseases: a wide range of pathogenic bacteria,

including *Salmonella*, *Staphylococcus*, *Listeria*, *E. coli*, *Campylobacter* and viruses, fungi, protozoans and parasitic worms. They also produce particles that can cause asthma.

Cockroaches are one of the most serious pests of homes and businesses wherever there is food, such as in food storage facilities, food processing factories, restaurants, healthcare facilities and pharmaceutical manufacturing plants. They feed on virtually any source of food including mould, decaying and faecal matter, which they can then carry on their bodies to hygiene-critical areas. In addition: they defecate as they travel, secrete saliva to taste their surroundings, and cast skins and egg cases, leaving a foul odour wherever they travel — on surfaces and in equipment, furnishings, packaging and food.

Flies

Filth flies, including house flies, drain flies, black flies and flesh flies.

Diseases: Flies are known to carry over 100 disease-causing bacteria, viruses and parasites, such as *Salmonella spp.*, *E. coli*, *Campylobacter sp.*, *Trypanosoma brucei* (a protozoan parasite that causes African trypanosomiasis), *Onchocerca volvulus* (nematode worm parasite that causes onchocerciasis, carried by *Simulium* species of blackfly).

Flies are a hazard from contaminating surfaces and food. They are attracted to food sources around homes and businesses, including food waste. They also feed and breed on dead animals, drains and faeces, where they come into contact with many pathogenic microorganisms.

Fleas

Rodent fleas, *Xenopsylla cheopis* and *Nosopsyllus fasciatus*; cat flea, *Ctenocephalides felis*; human flea, *Pulex irritans*; *Oropsylla montana* on ground squirrels in the US.

Diseases: Bubonic plague, bacteria *Yersinia pestis*; flea-borne typhus (also called murine typhus, endemic typhus, urban typhus), bacteria *Rickettsia typhi*.

There are over 2,200 flea species worldwide, but most are only found on specific animal hosts. Fleas are usually brought into contact with humans by domestic or wild animals, including rats and mice, cats, dogs, foxes, birds, and rabbits. They generally prefer to feed on their host animal, but will attempt to feed on other hosts when they cannot find their preferred host.

The most important pest fleas are rodent fleas, which carry disease, and cat fleas which are a biting pest. They are a serious urban pest for humans and other urban animals. Both species are nest fleas, which means they are therefore dependent on the host animals returning to their nests each day for feeding. When the animals permanently leave their nest or are exterminated, the fleas will then move out of the nests to seek new hosts. This is often the cause of infestation of buildings.

Rat fleas become infected by feeding on an infected rat. The bacteria multiplies in the rat intestine, but does not appear in saliva, so the flea bites do not transmit the plague or typhus. People are infected when a rat flea (or rarely other species of flea) defecates onto its host's skin and the person scratches a flea bite or squashes the flea. The bacteria enter the bite wound or an existing break in the skin.

Louse

Body louse, *Pediculus humanus humanus*; Head louse, *Pediculus humanus capitis*.

Diseases: epidemic typhus, *Rickettsia prowazekii*; murine typhus, *Rickettsia typhi*; trench fever/ bartonellosis, *Bartonella quintana*; relapsing fever, *Borrelia recurrentis*.

The head louse and body louse are the same species and virtually indistinguishable even using genetic analysis, but are thought not to interbreed. Lice can be passed from person to person by close contact in situations of poor sanitation such as in homeless person shelters and refugee camps. They can also be spread by contact with clothing and personal items such as hats and scarves.

In developed countries head lice most commonly affect children and are not known to transmit disease. They are more of an irritant, causing itching and distress.

People catch the infections from the lice faeces when scratching and rubbing bites, which carries the bacteria into broken skin and from hands can be passed into mucous membranes.

Sandflies

Phlebotomine sandflies are the most important disease vectors. *Phlebotomus* species occur from Europe across Africa and Asia to Australia and the Pacific. *Lutzomyia* and other genera occur in North and South America.

Diseases: The most important diseases are cutaneous and visceral leishmaniasis caused by *Leishmania* species of protozoa. Sandflies also transmit several bacterial and viral diseases including bartonellosis and pappataci fever. The majority of cases worldwide occur in India, Sudan, Nepal, Bangladesh and Brazil.

Sandflies live for about a month, of which 20 days are as larvae. The females lay eggs in soil and cracks and crevices with relatively cool and humid a environment and dead organic matter for the larvae to feed on. This can include dense vegetation, animal burrows, household rubbish. In areas such as rural India the construction of homes with mud walls plastered with cow dung creates an ideal environment.

Only the females feed on blood to produce eggs. Human to human transmission via sandfly bites is the main means of transmission. However, dogs, foxes and other canids are animal reservoirs of the parasite in parts of South America, Mediterranean and the Middle East. Rodents have been found with the parasite in Sudan.

Control methods include residual insecticide spraying inside houses, insecticide treated nets, environmental protections and personal protection.

For more information see the WHO Leishmaniasis page.

Ticks

There are around 900 species of tick, classified into two main families: hard ticks, *Ixodidae*, which includes most ticks of medical importance, and soft ticks, *Argasidae*.

Diseases: Some of the main diseases are: Lyme disease (bacteria), Crimean-Congo haemorrhagic fever (virus), Kyansur Forest disease (virus), tick typhus (bacteria), tularaemia (bacteria), Crimean Congo haemorrhagic fever (virus), relapsing fever (bacteria), tick-borne encephalitis (virus). The US Centers for Disease Control and Prevention (CDC) lists 15 diseases carried by ticks in the US. Even in developed countries new diseases are being discovered. In the US two new tick-borne viruses have recently been discovered: Heartland virus in 2012 and the Bourbon virus in 2014.

The reservoirs of these diseases are rodents, dogs, cattle, rabbits, other mammals and birds.

Ticks cause more cases of disease in Europe and North America than any other arthropod (insects and arachnids), according to WHO — the most common disease in all areas being Lyme disease.

Ticks occur in forests shrubland, grassland and moorland, where they feed on many kinds of wild and domestic animals, and passing humans. Carried by farm animals, rodents, birds and pets, ticks can infest buildings in rural and urban environments.

Homes in rural and semi-urban areas are also at risk of having ticks in the surrounding vegetation. Increasing suburbanisation is bringing more homes into contact with tick infested areas in both Europe and North America. Ticks can be controlled near properties surrounded by vegetation by spraying the vegetation with a residual insecticide.

Birds

Pigeons, gulls and sparrows are the main pests in the human environment.

Diseases: Birds carry many human diseases including viruses, bacteria, fungi and protozoa. The more common pathogenic microorganisms include *Salmonella*, *E. coli* and *Campylobacter*. Strains of bird flu such as H1N1 can be carried long distances by migrating wild birds, but are mainly a threat to people working close to farmed birds.

Bird nesting and roosting sites can be sources of infestations of arthropods such as bird mites and fleas. Many wild bird species can spread ticks that are vectors of a number of diseases, including Lyme disease.

Birds are mainly a health threat in urban and industrial environments where they are attracted by food and shelter. Their droppings foul buildings, vehicles, paved areas and building entrances. The droppings, nesting material and feathers can contaminate sensitive surfaces, machinery and food products.

Triatomine bugs

The main species causing human infection are *Triatoma infestans* in S. Peru, *Rhodnius prolixus* in Colombia, Venezuela, and Central America, *Triatoma dimidiata*, Central America. However, over 150 species of Triatomine bug carry the disease.

Disease: Chagas disease/ American trypanosomiasis. Protozoan parasite, *Trypanosoma cruzi.* The disease occurs only in the Americas, from about 42°N in California and Maryland to 42°S in Argentina. Cases of Chagas disease occur mainly in rural areas of Mexico and Central and South America.

Chagas disease has been recorded in over 100 species of domestic and wild mammal. In domestic situations, cats and dogs are the most important hosts. In some towns in Argentina and Venezuela, infection rates in dogs were found to be around 40%, and in the high Andes where guinea pigs are a common domestic animal, 10-60% were infected with the parasite. (WHO, 2003 c).

Triatomine bugs occur in the wild in forested and dry areas in burrows and nests of wild animals, including birds, bats, squirrels, opossums. Near human habitation they will feed on both domestic animals and humans.

They are night time feeders, hiding during the day in small spaces such as cracks and crevices of walls made from coarse brick and plaster work, furniture, beds, thatched roofs, and piles of firewood. The parasite is carried in the faeces of the bug and can infect a person when scratching the skin around a bite or from touching a contaminated surface and then the eyes, mouth, skin break or food.

Vector control for triatomine bugs includes residual insecticide spraying of walls in homes, home improvement to remove cracks in walls and floors, replacing thatch with corrugated iron roofing, bednets and general hygiene practices.

Tsetse fly

*Glossina* species.

Disease: African trypanosomiasis/ sleeping sickness, caused by two subspecies of the protozoan *Trypanosoma brucei*: *T. b. gambiense* and *T. b. rhodesiense*.

As the name of the disease suggests, it mainly occurs in Africa, between 15°N and 20° S. The subspecies *T. b. gambiense* is mainly caught in areas with dense vegetation near rivers and lakes. The parasite is carried from human to human by the tsetse fly.

For *T. b. Rhodesiense*, however, the reservoir of the parasite is wild animals and cattle in savannah and forested areas. It causes a more acute infection but occurs more sporadically due to the habitats where it occurs being more remote. This subspecies is also a cause of serious disease in cattle.

The disease was virtually eliminated by the 1960s but vector control and surveillance programmes lapsed and it became an epidemic again in several places in the 1970s.

Vector control techniques for sandflies include the sequential aerosol spraying technique (SAT); ground spraying; insecticide-treated targets or live animals; baited traps or screens, and the sterile insect technique (SIT).

In 2015 WHO announced the lowest number of new cases in 75 years (below 4,000) and that it was on track to eliminate the disease by 2020.

Snails

Freshwater snails in the tropics and

subtropics: *Biomphalaria*, *Bulinus*, *Oncomelania* and *Neotricula* species.

Disease: Schistosomiasis, trematode worm, primarily *Schistosoma mansoni*, *S. japonicum*, and *S. haematobium*. Other species infect humans in localised areas.

The snails live in shallow areas of freshwater bodies, ranging in size from ponds and streams to lakes and rivers. They are more abundant where there are water plants and organic matter present, such as from human sewage.

Schistosomiasis has been documented in 78 countries and is prevalent in 52 (WHO, 2014), infecting about 250 million people in 2012. The larvae of the trematode worm live in freshwater and penetrate the skin of people spending a long time in water, such as for bathing, fishing, farming rice and swimming. The adults live in blood vessels of the host and lay eggs that are expelled in faeces and urine. If they reach fresh water, the eggs hatch to release the larvae. These have to penetrate snails and undergo phases of development before being released into the water again, then find a human or animal to complete the cycle.

Infections are spread through poor sanitation, building of dams and irrigation projects, and migration of populations. It is thought that the parasite was introduced into the Americas by the slave trade.

The main strategy for controlling Schistosomiasis is by providing at-risk populations with anthelmintic drugs, improved sanitation, hygiene education and snail control.

Dogs and other mammals

Dogs, bats, other carnivorous mammals.

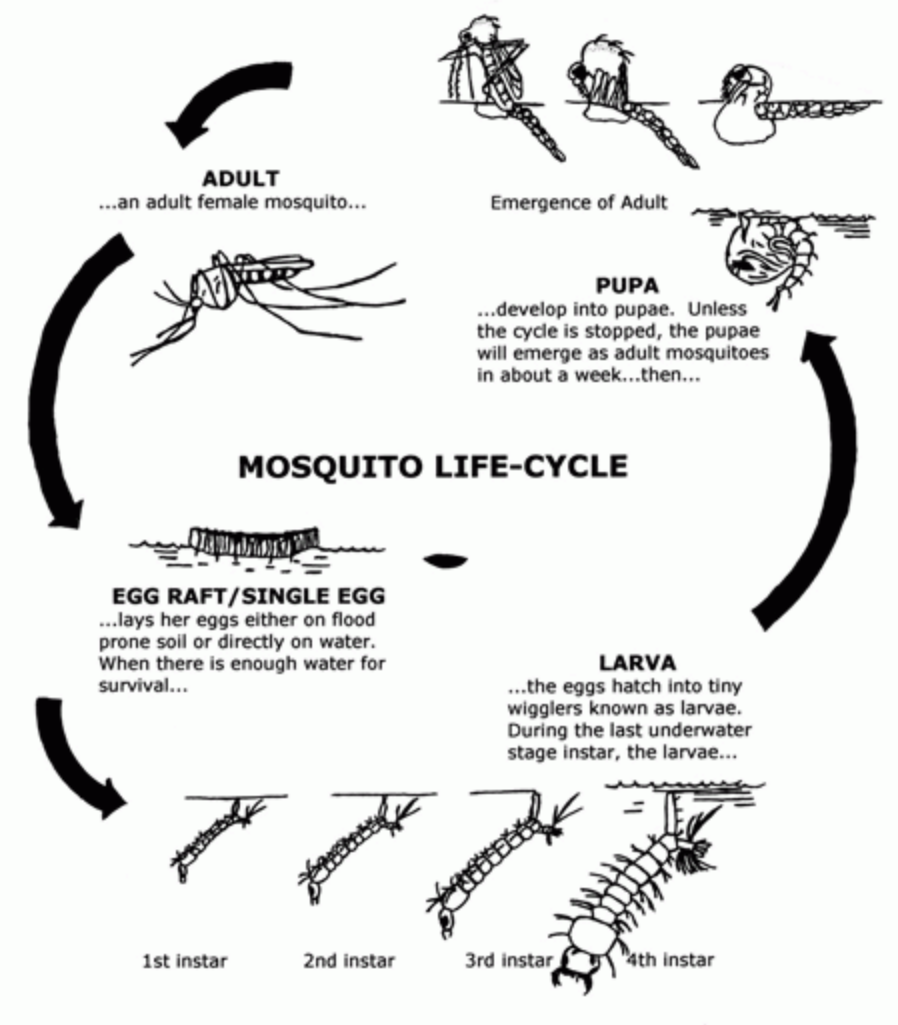
Disease: Rabies virus.

Rabies is present in over 150 countries and causes an estimated 59,000 deaths a year. However, it is believed to be greatly under-reported (Hampson, 2015) as most cases occur in poor communities in developing countries. Around 99% of cases are caused by dog bites or

saliva coming into contact with broken skin or mucosa (eye, nose, mouth). In the Americas bats are also significant vectors. Rabies is almost always fatal and has no diagnostic tests to determine infection before symptoms show.

The disease usually takes 1-3 months to incubate but it can vary from one week to one year before symptoms start to show. Symptoms start as fever and pain, then after the virus progresses through the central nervous system it causes fatal inflammation of the brain and spinal cord. People can also show hydrophobia (fear of water) or aerophobia (fear of flying).

There is a safe vaccine for both humans and dogs and if immediate treatment is given following a bite the disease can be avoided. Post-exposure prophylaxis (PEP) involves washing the wound with soap and water for at least 15 minutes, application of povidone iodine (or equivalent) to kill the virus and vaccination.




**ASSESSMENT**

1. The two types of diseases are
   (a) communicable and non-communicable
   (b) computable and non-computable
   (c) malaria and typhoid
   (d) fever and non-fever
2. Air borne disease can be contracted through one of these
   (a) water
   (b) undergroud
   (c) dust
   (d) sand
3. All of these are examples of communicable diseases except
   (a) cancer
   (b) scabies
   (c) measles
   (d) cold
4. Disease causing orgasms are also known as
   (a) patholites
   (b) patholics
   (c) pathogens
   (d) pathosics
5. Rats, fleas, coackroaches, birds are all examples of
   (a) vector
   (b) radar
   (c) compass
   (d) demons

**ANSWERS**

1. a
2. c
3. a
4. c
5. a

**Physical Health Education, JSS 3 Third Term**

**Week 2**

**Topic: Control Measures**

**Content:**

- **Water drainage, oil spreading/spraying**
- **Disease transmission**

**Control Measure**

**Environmental management**

Environmental management seeks to change the environment in order to prevent or minimize vector propagation and human contact with the vector-pathogen by destroying, altering, removing or recycling non-essential containers that provide larval habitats. Such actions should be the mainstay of dengue vector control. Three types of environmental management are defined:

**Environmental modification** – long-lasting physical transformations to reduce vector larval habitats, such as installation of a reliable piped water supply to communities, including household connections.

**Environmental manipulation** – temporary changes to vector habitats involving the management of "essential" containers, such as frequent emptying and cleaning by scrubbing of water-storage vessels, flower vases and desert room coolers; cleaning of gutters; sheltering stored tyres from rainfall; recycling or proper disposal of discarded containers and tyres; management or removal from the vicinity of homes of plants such as ornamental or wild bromeliads that collect water in the leaf axils.

**Changes to human habitation or behavior** – actions to reduce human–vector contact, such as installing mosquito screening on windows, doors and other entry points, and using mosquito nets while sleeping during daytime.

The choice of approach should be effective, practicable and appropriate to local circumstances. Actual or potentially important container types that cannot be removed from

the area should be dealt with summarizes the main actions used to control immature Aedes larval habitats.

**Improvement of water supply and water-storage systems**

Improving water supplies is a fundamental method of controlling *Aedes* vectors, especially *. Aegypti*. Water piped to households is preferable to water drawn from wells, communal standpipes, rooftop catchments and other water-storage systems. However, potable water must be supplied reliably so that water-storage containers that serve as larval habitats – such as drums, overhead or ground tanks and concrete jars – are not necessary. In urban areas the use of cost-recovery mechanisms such as the introduction of metered water may actually encourage household collection and storage of roof catchment rainwater that can be harvested at no cost, resulting in the continued use of storage containers. Traditional water storage practices may also persist even when reliable supplies are available. The installation of reliable piped water supplies in houses should therefore be accompanied by a communication strategy that discourages traditional storage practices.

**Mosquito-proofing of water-storage containers**

Water-storage containers can be designed to prevent access by mosquitoes for oviposition. Containers can be fitted with tight lids or, if rain-filled, tightly-fitted mesh screens can allow for rainwater to be harvested from roofs while keeping mosquitoes out. Removable covers should be replaced every time water is removed and should be well maintained to prevent damage that permits mosquitoes to get in and out.

Expanded polystyrene beads used on the surface of water provide a physical barrier that inhibits oviposition in storage containers from which water is drawn from below via a pipe and from which there is no risk of overflow. These beads can also be placed in septic tanks, which *Aegypti* sometimes exploits.

**Solid waste management**

In the context of dengue vector control, “solid waste” refers mainly to non-biodegradable items of household, community and industrial waste. The benefits of reducing the amount of solid waste in urban environments extend beyond those of vector control, and applying many of the basic principles can contribute substantially to reducing the availability of *Aegypti* larval habitats. Proper storage, collection and disposal of waste are essential for protecting public

health. The basic rule of “reduce, reuse, recycle” is highly applicable. Efforts to reduce solid waste should be directed against discarded or non-essential containers, particularly if they have been identified in the community as important mosquito-producing containers.

Solid waste should be collected in plastic sacks and disposed of regularly. The frequency of collection is important: twice per week is recommended for housefly and rodent control in warm climates. Integration of *Aegypti* control with waste management services is possible and should be encouraged.

It is also important to provide information on these activities to encourage and promote them. Globally, recycling is on the increase. This practice places value on many items previously classified as waste products, leading to growth in the recycling market and profit for both small and large-scale businesses as a consequence. But although recycling can contribute to significant economic improvements, the recycling market can potentially impact dengue vector populations. For there to be an impact, however, containers of importance must have value in the marketplace, be it real (e.g. plastics or tyres for recycling) or created (e.g. beverage container deposit laws), and advertising and promotion must be sustained.

Used tyres are common and sometimes highly productive larval habitats that may warrant special attention in urban areas. Discarded tyres should be collected, recycled or disposed of by proper incineration in waste transformation facilities (e.g. incinerators, energy-production plants, or lime kilns fitted with emission control devices). Regulation of the sale of new tyres mandating the payment of an additional deposit and return charge may also be an incentive for better management and disposal of old tyres. Tyres can be recycled in a variety of ways, including for use as shoe soles, flooring, industrial rubber gaskets or household hardware (e.g. buckets, rubbish bins). Industrially shredded tyres can be incorporated into road surfacing materials. Sanitary regulations may require that whole tyres are buried in a separate area of a landfill to avoid their rising upwards under compaction and disrupting soil cover.

**Street cleansing**

A reliable and regular street cleansing system that removes discarded water-bearing containers and cleans drains to ensure they do not become stagnant and breed mosquitoes will both help to reduce larval habitats of *Aegypti* and remove the origin of other urban pests.

**Building structures**

During the planning and construction of buildings and other infrastructure, including urban renewal schemes, and through legislation and regulation, opportunities arise to modify or reduce potential larval habitats of urban disease vectors, including *Aegypti, Culex quinquefasciatus* and *An. stephensi*. For example, under revised legislation in Singapore, roof gutters are not permitted on buildings in new developments because they are difficult to access and maintain. Moreover, property owners are required to remove existing gutters on their premises if they are unable to maintain them satisfactorily.

**Chemical control**: larvicides

Although chemicals are widely used to treat *Ae. aegypti* larval habitats, larviciding should be considered as complementary to environmental management and – except in emergencies – should be restricted to containers that cannot otherwise be eliminated or managed. Larvicides may be impractical to apply in hard-to-reach natural sites such as leaf axils and tree holes, which are common habitats of *Ae. albopictus*, or in deep wells. The difficulty of accessing indoor larval habitats of *Ae. aegypti* (e.g. water-storage containers, plant vases, saucers) to apply larvicides is a major limitation in many urban contexts.

As *Ae. aegypti* often deposits eggs in water-storage containers, the larvicides should have low toxicity to other species and should not significantly change the taste, odour or colour of the water.

The International Programme on Chemical Safety (IPCS) has assessed the toxicity of the active ingredients methoprene, pyriproxyfen and temephos and those in *Bacillus thuringiensis serovar israelensis (Bti)* to determine their safety for use as mosquito larvicides in drinking-water at dosages that are effective against *Aedes* larvae. However, the safety of the active ingredients in the final formulation varies from product to product and requires further study, as does the possible microbiological contaminants in formulations of *Bti. WHO's Guidelines for drinking-water quality* (3) provide authoritative guidance on the use of pesticides in drinking-water. Understandably, placing chemicals in domestic water, particularly drinking-water, is often viewed with suspicion and may be unacceptable in some communities.

**Target area**

Productive larval habitats should be treated with chemicals only if environmental management methods or other non-chemical methods cannot be easily applied or are too costly. Perifocal treatment involves the use of hand-held or power-operated equipment to spray, for example, wettable powder or emulsifiable-concentrate formulations of insecticide on larval habitats and

peripheral surfaces. This will destroy existing and subsequent larval infestations in containers of non-potable water, and will kill the adult mosquitoes that frequent these sites. Perifocal treatment can be used to treat containers, irrespective of whether they hold water or are dry at the time of application. The internal and external walls of containers are sprayed until they are covered by a film of insecticide, and spraying is also extended to cover any wall within 60 cm of the container. Perifocal treatment thus has both larviciding and residual adulticiding characteristics. This method is suitable only for collections of non-potable water (such as in large piles of tyres or discarded food and beverage containers).

**Insecticides** lists the mosquito larvicides that are suitable for application to non-potable water containers. For treatment of drinking-water, temephos and methoprene can be applied at dosages of up to 1 mg of active ingredient (a.i.) per litre (1 ppm); pyriproxyfen can be applied at dosages up to 0.01 mg a.i. per litre (0.01 ppm) and *Bti* at1–5mg per litre
WHO-recommended compounds and formulations for control of mosquito larvae in container habitats.
. Application procedures
Hand-operated compression sprayers are suitable for applying liquid insecticides to larger larval habitats. Knapsack sprayers are also suitable, especially for delivering wettable powder formulations. A syringe or pipette can be used for treating indoor flower vases and ant traps. Granule and certain other solid formulations are applied directly by (protected) hand to confined larval habitats or by a convenient standard measure (e.g. a dessert spoon or teaspoon). When treating containers of drinking-water, sufficient insecticide should be added for the volume of the container even if the container is not full of water (e.g. 1 g of 1% temephos granules for 10 litres of container volume).
3.2.2.4. Treatment cycle
The treatment cycle will depend on the species of mosquito, seasonality of transmission, patterns of rainfall, duration of efficacy of the larvicide and types of larval habitat. Two or three application rounds carried out annually in a timely manner with proper monitoring of efficacy may suffice, especially in areas where the main transmission season is short.
3.2.2.5. Precautions
Extreme care must be taken when treating drinking-water to avoid dosages that are toxic for humans. Label instructions must always be followed when using insecticides.
3.2.3. Chemical control: adulticides

Methods of chemical control that target adult vectors are intended to impact on mosquito densities, longevity and other transmission parameters. Adulticides are applied either as residual surface treatments or as space treatments.

3.2.3.1. Residual treatment

Perifocal treatment, as described above, has both adulticiding and larviciding effects. Suitable insecticides can be applied with hand-operated compression sprayers. Power sprayers can be used to treat large accumulations of discarded containers (e.g. tyre dumps) rapidly. Care must be taken not to treat containers used to store potable water Space sprays and their application

**Space spraying** is recommended for control only in emergency situations to suppress an ongoing epidemic or to prevent an incipient one. The objective of space spraying is the massive, rapid destruction of the adult vector population. However, there has been considerable controversy about the efficacy of aerosol insecticide applications during epidemics of dengue and yellow fever. Any control method that reduces the number of infective adult mosquitoes, even for a short time, should reduce virus transmission during that time, but it remains unclear whether the transient impact of space treatments is epidemiologically significant in the long run. There is no well-documented example of the effectiveness of this approach in interrupting an epidemic. Nevertheless, if space spraying is used early in an epidemic and on a sufficiently large scale, the intensity of transmission may be reduced, which would give time for the application of other vector control measures that provide longer-term control, including larviciding and community-based source reduction. Thus, if disease surveillance is sensitive enough to detect cases in the early stages of an epidemic, and if the resources are available, emergency space spraying can be initiated at the same time as source reduction measures and larviciding are intensified.

Not only insecticide susceptibility but also droplet size, application rate and indoor penetration of the insecticide are all crucial to the efficacy of this method for controlling *Ae. aegypti*. Indoor penetration of an insecticide depends on the structure of the building, whether doors and windows are left open during spraying and, when applied from vehicle-mounted equipment, residential block configuration, the route of the spray vehicle and meteorological conditions. Where indoor penetration of droplets is likely to be poor, indoor application with portable equipment will be more effective against *Ae. aegypti*. However, rates of coverage are much lower and accessibility may be difficult, particularly in large cities.

Vector populations can be suppressed over large areas by the use of space sprays released from low-flying aircraft, especially where access with ground equipment is difficult and extensive areas must be treated rapidly. Indoor penetration of insecticide droplets is again a critical factor for efficacy. In applying space sprays from the air, careful consideration must be given to meteorological conditions, especially wind speed at spray height and at ground level, and to the droplet size spectrum obtained at the flying speed of the aircraft. For all aerial spraying operations, clearance must be obtained from the civil aviation authority. For safety reasons, populated areas must usually be sprayed from twin-engined aircraft. Modern aircraft are fitted with global positioning systems so the exact position of the aircraft while the insecticide is being applied can be accurately recorded.

**Target area**

Since total coverage can rarely be achieved during ground applications, space spraying should focus on areas where people congregate (e.g. high-density housing, schools, hospitals) and where dengue cases have been reported or vectors are abundant. Selective space treatment up to 400 metres from houses in which dengue cases have been reported is commonly practised (and is sometimes also referred to as “perifocal spraying”). However, by the time a case is detected and a response mounted, the infection is likely to have spread to a wider area. Thorough planning is required to ensure that adequate resources (equipment, insecticide, human and financial resources) can be deployed in a timely manner to ensure proper coverage. Only if resources permit should area-wide treatment be considered.

*Insecticides*

Table 3.3 lists the insecticides that are suitable for space spraying as cold aerosols or thermal fogs. The choice of insecticide formulation for space spraying in and around dwellings should be based on its immediate environmental impact and the compliance of the community. Only insecticide products with high flash-points should be used for thermal fogging. Space-spraying formulations are usually oil-based, as the oil carrier inhibits evaporation of small fog droplets. Diesel fuel has been used as a carrier for thermal fogging agents, but it creates thick smoke, has a strong smell and creates oily deposits, which may lead the community to reject its use. Water-based formulations are also available, some of which contain substances that

prevent rapid evaporation. Label instructions should always be followed when using insecticides.

Selected insecticides for cold aerosol or thermal fog application against mosquitoes.

*Application procedures*

Space sprays can be applied either as thermal fogs at 10–50 l/ha or as ultra-low-volume applications of undiluted or slightly diluted technical-grade insecticide in the form of a cold aerosol of droplets of controlled size (15–25 µm) at a rate of 0.5–2.0 l/ha. Portable or vehicle-mounted thermal or cold-fog generators can be used for ground application. If the target area exceeds 1000 ha or cannot be covered by ground equipment within 10 days, aerial cold fog application is sometimes used. However, several factors must first be considered – including safety, timeliness, cost, meteorological conditions, vector behaviour, biological effectiveness and availability of equipment, operational sites, and highly skilled air and ground crews. The difficulties of ensuring penetration of insecticide droplets into the resting sites of the target species are similar to those for aerosols dispensed from road vehicles. For ground applications, maps of the areas to be sprayed showing all passable roads are helpful in planning routes. The development of Geographic Information Systems (GIS) may also be helpful. A communication plan should be prepared to inform the population, encouraging them to open their doors and windows in order to improve the effectiveness of the spraying programme.

Application rates vary with the susceptibility of the target species and environmental considerations. Wind speed has a strong effect on droplet distribution and contact with insects. In most situations, a wind speed of 1–4 metres per second (approximately 3.6–15 km/h) is needed to drift droplets downwind from the line of travel. Furthermore, space sprays should be applied when there are temperature inversions – i.e. colder air closer to the ground – which occur early in the morning or in the evening when the ground temperature begins to fall. Space spray applications should correspond to the activity of the target species. *Ae. aegypti* and *Ae. albopictus* are active during the day, with peak flight activity in the morning and afternoon. For these species, spraying outdoors is therefore usually carried out in the early morning or late afternoon. Indoor treatments with portable cold or thermal fog generators are particularly effective against *Ae. aegypti* because its resting behaviour is mainly indoors. Indoor treatments are the only choice where there is no access for vehicles.

For application from vehicle-mounted equipment in areas with narrow roads and houses close to the roadside, the spray should be directed backwards from the vehicle. In areas with wide

roads and buildings far from the roadside, the vehicle should be driven close to the side of the road and the spray should be directed at a right angle (downwind) to the road rather than directly behind the vehicle. More detailed information on operational guidelines for space spraying is available in the WHO manual on this subject (5).

Cold fog applications from large fixed-wing aircraft are made at approximately 240 km/h and 60 m above the ground, with swath spacing of 180 m. Smaller, fixed-wing aircraft are flown at slower speeds and usually lower altitudes (approximately 160 km/h, 30 m above the ground, with a swath width of 50–100 m). In emergencies, agricultural spraying aircraft can be used so long as they are fitted with rotary atomizers or other suitable nozzles calibrated for the insecticide, its formulation and the desired application rate.

1. PERSONAL PROPHALATIC MEASURES

Use of mosquito repellent creams, liquids, coils, mats etc.

Wearing of full sleeve shirts and full pants with socks

Use of bednets for sleeping infants and young children during day time to prevent mosquito bite

2. BIOLOGICAL CONTROL

Use of larvivorous fishes in ornamental tanks, fountains, etc.

Use of biocides

3. CHEMICAL CONTROL

Use of chemical larvicides like abate in big breeding containers

Aerosol space spray during day time

4. ENVIRONMENTAL MANAGEMENT & SOURCE REDUCTION METHODS

Detection & elimination of mosquito breeding sources

Management of roof tops, porticos and sunshades

Proper covering of stored water

Reliable water supply

Observation of weekly dry day

5. HEALTH EDUCATION

Impart knowledge to common people regarding the disease and vector through various media sources like T.v., Radio, Cinema slides, etc.

6. COMMUNITY PARTICIPATION

Sensitilizing and involving the community for detection of Aedes breeding places and their elimination

**ASSESSMENT**

1. ____ seeks to change the environment in order to prevent or minimize vector propagation
   (a) environmental degradation
   (b) environmental pollution
   (c) environmental administration
   (d) environmental management
2. All of these will help to reduce mosquito propagation except
   (a) installing mosquito screening on windows, doors and other entry points
   (b) using mosquito nets
   (c) leaving the environment dirty
   (d) draining the gutters
3. “Solid waste” refers mainly to all these except
   (a) non-biodegradable items of household
   (b) community waste
   (c) insects
   (d) industrial waste
4. Used tyres are common and sometimes highly productive larval habitats
   (a) true
   (b) false
   (c) nether true nor false
   (d) all of the above
5. _____ is used to control mosquitoes and other insects
   (a) herbicide
   (b) insecticide
   (c) fatricide
   (d) suicide

**ANSWERS**

1. c
2. c
3. c
4. a
5. b

**Physical Health Education, JSS 3 Third Term**

**Week 3**

**Topic: STI, HIV,/AIDS**

**Content:**

- **Consequences of contracting disease on individual, family, society**
- Disease prevention
  - sanitation
  - education
  - immunization
  - choice of life partner

Sexually transmitted diseases are diseases that are spread through sexual intercourse. There are many STDs that affect both male and female. The germs that causes STDs could be protozoa, fungi or viruses.

**Signs of STDs for girls**

1. Unusual discharge or wetness from the vagina though it is normal for girls to have some wetness or discharge. So don't worry unless the wetness

- Changes colour
- Begin to have an unpleasant smell
- Become sticky
- Becomes excessive
- Makes you uncomfortable
- Sores near the vagina
- Rash around the vagina and anus
- Pain in the lower the belly
- Bleeding when not on menstrual period
- Pain when you passing urine
- Pain when you have sex
- Itching around the vagina

**For boys**

- Swelling on the testes
- Pain when you have sex
- Pain when you pass urine
- Discharge or wetness from the penis
- Sore near the penis or anus
- Rash near the anus or penis
- Itching on the penis

**Problems encountered when STD is not properly treated**

- You will pass infection to anybody that have sex with you
- You might not be able to have children in future
- It will become easier for you to have AIDS
- You may not be able to pass urine easily

**Consequences of STDs**

Some STDs are easily treated and some STDs stay with you for life. Other STDs are more of a nuisance than a health risk. Pubic lice, or 'crabs,' for example, itch a lot but don`t do any permanent damage. If you get an infection and you want to know how serious it could be, talk with your health care provider. There are four serious health consequences of some STDs:

- Blockage of the fallopian tubes which can lead to infertility and ectopic pregnancy
- Pregnancy loss and increased newborn deaths caused by transmission of the infection to the infant during pregnancy and childbirth
- Genital cancers for males and females
- Enhanced transmission of HIV/AIDS

Social and Psychological Consequences: The psychological impact of having a sexually transmitted disease can be severe. Some persons become depressed or anxious. They fear recurrent outbreaks, transmission to sex partners, and difficulties in developing new relationships. Fortunately, proper treatment and knowledge about the true risks can greatly lessen all these effects.

**HIV/ AIDS**

**HUMAN IMMUNE DEFICIENCY VIRUS (HIV)**

The virus is passed from one person to another through unprotected sex, from needles contaminated with infected blood. Through blood transfused or organ donated from people with the virus or from mother to baby.

**WHAT IS AIDS?**

**AIDS(** means acquired immune deficiency syndrome) it is diagnosed when the immune system has been weakened so much by HIV that it can't fight certain life threatening infection and illnesses.

**Consequences of HIV/AIDS**

HIV gradually weakens your natural defenses, signs and symptoms will occur. Find out what happens when the virus enters your body and interrupts its systems.

Balance and coordination problems are among some of the neurological symptoms of HIV and AIDS.

Once the human immunodeficiency virus (HIV) enters your body, it launches a direct attack on your immune system. How quickly the virus progresses will vary by your age, overall health, and how quickly you're diagnosed. The timing of your treatment can make a huge difference.HIV targets the type of cells that would normally fight off an invader like HIV. As the virus replicates, it damages or destroys the infected CD4+ cell and produces more virus to infect more CD4+ cells. Without treatment, this cycle can continue until your immune system is badly compromised, leaving you at risk for serious illnesses and infections. Acquired immunodeficiency syndrome (AIDS) is the final stage of HIV. At this stage, the immune system is severely weakened, and the risk of contracting opportunistic infections is much greater. However, not everyone with HIV will go on to develop AIDS. The earlier you receive treatment, the better your outcome will be. Many of the effects described here are related to the failure of the immune system in HIV and AIDS that is progressing. Many of these effects are preventable with early antiretroviral treatment, which can preserve the immune system.

**Immune system**

Your immune system prevents your body from acquiring the diseases and infections that come your way. White blood cells defend you against viruses, bacteria, and other organisms that can

make you sick. Early on, symptoms may be mild enough to be dismissed, but after a few months, you may experience a flu-like sickness that lasts a few weeks. This is often associated with the first stage of HIV, which is called the acute infection stage. You may not have many serious symptoms, but there are usually large quantities of virus in your blood as the virus reproduces rapidly. Acute symptoms can include:

- fever
- chills
- night sweats
- diarrhea
- headache
- muscle aches
- joint pain
- sore throat
- rash
- swollen lymph glands
- mouth or genital ulcers

The next stage is called the clinical latent infection state. On average, it lasts 8 to 10 years. In some cases, it lasts much longer than that. You may or may not show signs or have symptoms during this stage. As the virus advances, your CD4+ count decreases more drastically. This can lead to symptoms such as:

- fatigue
- shortness of breath
- cough
- fever
- swollen lymph nodes
- weight loss
- diarrhea

If the HIV infection advances to AIDS, the body becomes prone to opportunistic infections. This puts you at an increased risk of many infections, including a herpes virus called *cytomegalovirus*. It can cause problems with your eyes, lungs, and digestive tract. Kaposi sarcoma, another possible infection, is a cancer of the blood vessel walls. It's rare among the general population, but common in people who are HIV-positive. Symptoms

include red or dark purple lesions on the mouth and skin. It can also cause problems in the lungs, digestive tract, and other internal organs. HIV and AIDS also puts you at higher risk of developing lymphomas. An early sign of lymphoma is swollen lymph nodes.

**Respiratory and cardiovascular systems**

HIV increases the risk of colds, influenza, and pneumonia. Without preventive treatment for HIV, advanced treatment puts you at an even greater risk for complications like tuberculosis, pneumonia, and a disease called pneumocystis carinii pneumonia (PCP). PCP causes:

- trouble breathing
- cough
- fever

Your risk for lung cancer also increases with HIV. This is caused by weakened lungs from numerous respiratory issues related to a weakened immune system. According to National AIDS Manual (NAM), lung cancer is more prevalent among people with HIV compared to people without it. HIV raises the risk of pulmonary arterial hypertension (PAH). PAH is a type of high blood pressure in the arteries that supply blood to the lungs. Over time, PAH will strain your heart. If you have HIV and have become immunocompromised (have a low T cell count), you're also more susceptible to tuberculosis (TB), a leading cause of death in people who have AIDS. TB is an airborne bacterium that affects the lungs. Symptoms include chest pain and a bad cough that may contain blood or phlegm, which can linger for months.

**Digestive system**

Since HIV affects your immune system, it also makes your body more susceptible to infections that can affect your digestive system. Problems with your digestive tract can also decrease your appetite and make it difficult to eat properly. As a result, weight loss is a common side effect. A common infection related to HIV is oral thrush, which includes inflammation and a white film on the tongue. It can also cause inflammation of the esophagus, which can make it difficult to eat. Another viral infection that affects the mouth is oral hairy leukoplakia, which causes white lesions on the tongue. *Salmonella* infection is spread through contaminated food or water, and causes diarrhea, abdominal pain, and vomiting. Anyone can get it, but if you have HIV, you're at higher risk of serious complications from this infection. Consuming contaminated food or water can also result in a parasitic intestinal infection called cryptosporidiosis. This infection affects the bile ducts and intestines and can be particularly severe. For people with

AIDS, it can cause chronic diarrhea. HIV-associated nephropathy (HIVAN) is when the filters in your kidneys become inflamed, making it harder to remove waste products from your bloodstream.

**Central nervous system**

While HIV doesn't generally directly infect nerve cells, it does infect the cells that support and surround nerves in the brain and throughout the body. While the link between HIV and neurologic damage isn't completely understood, it's likely that infected support cells contribute to nerve injury. Advanced HIV infection can damage nerves (neuropathy). Small holes in the conducting sheaths of peripheral nerve fibers (vacuolar myelopathy) can cause pain, weakness, and difficulty walking. There are significant neurological complications of AIDS. HIV and AIDS can cause HIV- associated dementia or AIDS dementia complex, two conditions that seriously affect cognitive function. Toxoplasma encephalitis, caused by a parasite commonly found in cat feces, is another possible complication of AIDS. With a weakened immune system, having AIDS puts you at an increased risk of inflammation of the brain and spinal cord due to this parasite. Symptoms include confusion, headaches, and seizures. Some common complications of AIDS include:

- memory impairment
- anxiety
- depression

In very advanced cases, hallucinations and frank psychosis can occur. You may also experience headaches, balance issues, and vision problems.

**Integumentary system**

One of the more visible signs of HIV and AIDS can be seen on the skin. A weakened immune response leaves you more vulnerable to viruses like herpes. Herpes can cause you to develop sores around your mouth or genitals. HIV also increases your risk for rashes and shingles. Shingles are caused by herpes zoster, the virus that gives you chickenpox. Shingles causes a painful rash, often with blisters. A viral skin infection called molluscum contagiosum involves an outbreak of bumps on the skin. Another condition is called prurigo nodularin. It causes crusted lumps on the skin, as well as severe itching. HIV can also make you prone to other skin conditions, such as:

- eczema

- seborrheic dermatitis
- scabies
- skin cancer

**Prevention of STDs**

The interventions for preventing the spread of STDs depend on several sociocultural factors such as culture, age, employment, education, religion and gender. These factors can influence sexual conduct and therefore spread of the infections. Some of the main prevention approaches include:

**Abstinence:** One of the best ways to prevent transmission of STDs is to avoid sexual contact with other individuals.

**Barrier contraceptives:** Contraceptives such as condoms provide a barrier against the contraction of STDs from an infected individual. Condoms, however, need to be used correctly to prevent transmission. Used condoms must be removed and disposed of appropriately to prevent spread.

**Sexual health checks:** Attending a sexual health screen before engaging in sexual contact with a partner helps to prevent new cases of infection. Checking is also needed before resuming sexual relations if a partner has engaged in contact with someone else. This may not always be a foolproof method since many infections may go undetected at certain periods of time.

**Vaccination:** Examples of important vaccines now available are those offering protection against hepatitis B and some strains of human papilloma virus (HPV).

**Nonoxynol-9:** This is a spermicidal and microbicidal agent used to lubricate condoms that can kill some of the local vaginal microbes. However, the compound is not completely protective against all STDs.

**ASSESSMENT**

1. _____ are diseases are diseases that are spread through sexual intercourse
   (a) water borne disease

(b) non-communicable disease

(c) air borne diseases

(d) sexually transmitted diseases

2. Psychological effects of STDs include all these except

(a) fear of recurrent outbreaks

(b) fear of transmission to sex partners

(c) difficulties in developing new relationships

(d) difficulty in speaking

3. One of these is not true of HIV /AIDS

(a) the virus can be passed from one person to another through unprotected sex

(b) infection can occur through using needles contaminated with infected blood

(c) the virus can pass through blood transfused or organ donated from people with the virus

(d) the virus can be passed through kissing

4. AIDS means

(a) acquired immune deficiency syndrome

(b) acquired insect deficiency sydrome

(c) acquired innuendo deficiency syndrome

(d) acquired interest deficiency syndrome

5. HIV means

(a) human immune dependency virus

(b) human immune delicacy virus

(c) human immune deficiency virus

(d) human immune delinquency virus

**ANSWERS**

1. d
2. d
3. d
4. a

**Physical Health Education, JSS 3 Third Term**

**Week 4**

**Topic: Contact Games**

**Content:**

- **Taekwando**
  **– basic skills**
  **– importance of Taekwando**
  **– safety rules, regulations and officiating in Taekwando**

**Contact Games**

**Taekwando**

Taekwado as a sport and exercise is popular with people of both sexes and of many ages. Physically, taewando develops strength, speed, balance, flexibility and stamina. An example of the union of mental and physical discipline is the breaking of boards, which requires both physical mastery of the technique and concentration to focus ones strength.

The five tenets of taekwando are: courtesy, integrity, self control, indomitable spirit. Teakwando helps to improve alertness in students, confidence, focus, memory and respect.

**Skills and technique**

- **Stance** ready stance
  Riding/house stance
  Frog /walking stance
  Fighting stance
  Cat stance

- **Hand Attack** Punches
  Open hand technique

- **Kicks** jump kick
  Spin kick
  Jump spin kicks
  Multi-rotational spin

Kicks or jump spin kick.

- **Blocking**

**Importance of taekwando**

**Enhance self-esteem** by heightening your physical and mental powers.

**Build confidence** by encouraging you to succeed and to take control of your life.

**Develop discipline** by thoroughly training your body and mind in the tenets and techniques of Taekwondo.

**Teach self-defense** by training you to recognize situations in which physical self-defense may be necessary, and teaching you how to control such situations to your advantage.

**Strengthen your mind and body** through increased physical coordination and mental discipline.

**THE FAMILY & TAEKWONDO**

Respect, trust and open communication are the foundations of strong families. Taekwondo training promotes values such as honesty, courtesy, loyalty, and cooperation. Each is an essential component in maintaining a good family structure.

**World Martial Arts Academy** provides quality instruction and service with a view toward the overall health and well-being of every participant. Our philosophy ensures that learning will take place in a safe, nurturing environment. We care about our students, families, and staff, and we provide a supportive environment for learning and personal growth.

**Rules guiding teakwando**

General Taekwondo points and rules

- The aim of taekwondo is to land as many kicks and blows as you can on your opponent in the allowed target areas.
- A taekwondo contest comprises three rounds of two minutes each – with a one-minute break between each round.
- The whole taekwondo contest area is a 10m square mat.

- Victory in a taekwondo bout can be achieved by knockout, by scoring the most points, or by default if the opponent is disqualified.

Scoring in taekwondo

- In taekwondo one point is scored for each legitimate strike on the body, and two points are given for kicks to the face. Competitors get an additional point for a knockdown.
- One referee and three judges oversee the contest, and a point is awarded only when two or more judges register a hit at the same time.
- Kicks to the head and body are only awarded points if they are landed with parts of the foot below the ankle.
- Blows to the body must be with the front of the index and middle finger knuckles of a tightly clenched fist if they are to be awarded points. Fighters are not allowed to punch to the head.

Penalties in taekwondo

- Penalties in taekwondo are awarded for offences such as grabbing, holding, feigning injury, pushing, and turning one's back on an opponent.
- The most serious taekwondo offence is 'Gam-jeom', which leads to one point being deducted. Examples of 'Gam-jeom' include throwing an opponent, deliberately stepping over the boundary line, pulling an opponent to the ground, and attacking the face with anything but the feet.
- If an opponent is knocked to the ground then the referee begins a 10 second count. A knockdown occurs if any part of a contestant's body touches the floor apart from the foot. There is a mandatory eight-second count before the referee decides whether the bout should continue.
- A knockdown becomes a knockout if a competitor cannot regain his or her feet by the count of ten seconds or if the referee decides he or she is unfit to continue at the end of an eight count.
- If a contest ends with the competitors level on points, then the contestant with the most points before penalties were deducted is the winner. If the scores are still level after this, then the referee awards the contest to the fighter he believes to have been the most willing to attack. The only exception to these rules occurs in the final of a competition, when a tied

contest will go to an extra ‘sudden death’ round where the first to score a point wins. If no result is achieved during this round then the final decision once again lies with the referee.

Olympic competition rules for taekwondo

- The Olympic taekwondo competition takes the form of an elimination tournament to decide the gold and silver medals.
- After this initial tournament, two groups are then drawn up of all the competitors – except the semi-finalists – who have lost to either of the finalists. Another knockout process then produces two pool winners. Each pool winner then faces the beaten semi-finalist from the other side of the draw, and the winners of these two bouts compete for the bronze medal.
- The weight divisions for an Olympic taekwondo competition are as follows: Men – under 58kg (approx 128 lbs); under 68kg (approx 150 lbs); under 80kg (151 lbs-176 lbs); over 80kg (177 lbs and beyond). Women – under 49kg (approx 108 lbs); under 57kg (109-125 lbs); under 67kg (approx 147.7 lbs); over 67kg. (148 lbs and beyond).

**Officials in Teakwondo**

- Enternal grand master
- Grand master
- Chief master
- Umpire

**ASSESSMENT**

1. Taekwando is a sport for
   (a) children
   (b) teenagers
   (c) adults
   (d) all ages
2. Taekwando develops all these except
   (a) strength
   (b) speed

(c) sight

(d) balance

3. One of these is not a tenet of Taekwando

   (a) courtesy

   (b) integrity

   (c) bullying

   (d) self control

4. Taekwando helps to improve all these in students except

   (a) confidence

   (b) alertness

   (c) focus

   (d) disrespect

5. In Taekwondo ___ number of point(s) is scored for each legitimate strike on the body

   (a) one

   (b) two

   (c) three

   (d) four

**ASSESSMENT**

1. d
2. c
3. c
4. d
5. a

**Physical Health Education, JSS 3 Third Term**

**Week 5**

**Topic: Boxing**

**Content:**

- **Basic Techniques**
- **Safety rules, regulations and officials in boxing**

**Boxing**

Boxing is also called the ''the manly act of self defense''. A sport in which two competitors try to hit each other with their glove encased fists while trying to avoid each other's blows. The competition is divided into a specific number of rounds usually three minutes along with one minute rest period between rounds. Although amateur boxing is widespread and professional boxing has flourished.

When starting out, boxers will usually first be taught how to fight at a distance, also known as 'outfighting', rather than getting in close where they are more likely to be hit. The skills used here include arm's-length punches and quick footwork to enable the boxer to deliver a blow before their opponent can respond. It is the best way to tire out and attack an opponent, and lessens their chance of a counterattack.

The following boxing techniques are described for right-handed boxers (if you are a left-handed or a 'southpaw' boxer then use the opposite arm or leg to what is being described).

**Basic Techniques**

**Good boxing stance**

The importance of a good stance cannot be stressed enough. A good stance provides balance,

and is a key to both attacking and defensive techniques.

Boxers should be able to throw a punch without losing their balance. Being off balance allows an opponent to get in with their own blows. To assume a good boxing stance, you need to do the following:

Stand sideways to the target, so that you lead with the shoulder opposite that of your strong punching hand. A right-handed boxer should point their left shoulder toward the target.

Feet should be kept shoulder width apart, then step forward one pace with the left foot and line up the heel of your left foot with the toes of your other foot.
Turn both feet at a 45 degree angle to your target. Your weight should be evenly distributed to provide a firm, steady platform.
Bend your knees and hips slightly, keeping your back fairly straight and lift your back heel off the floor, no more than about 7.5cm (3in).
Tuck your elbows in close to your sides and raise your forearms so that they shield the chest.
Hold the left glove out at shoulder height and keep it far enough out to attack, but close enough to draw back quickly in defense.
The right glove should be held underneath the chin with the wrist turned inwards.

**The golden rules of boxing footwork**

Good footwork is important to enable the boxer to defend or attack from a balanced position. The golden rules of boxing footwork are as follows:
Keep the weight balanced on both feet.
Keep your feet apart as you move to maintain good balance.
Move around the ring using short sliding steps on the balls of your feet.
Never let your feet cross.
Always move the foot closest to the direction in which you want to move first.
The key to good footwork is speed, and this can be enhanced by improving fitness, with particular attention to the legs. One good activity for improving fitness, used by many boxers, is skipping.

**Punching**

There are four main punches in boxing:
Jab — a sudden punch.
Cross — a straight punch.
Hook — a short side punch.
Uppercut — a short swinging upward punch.

**The jab (left jab)**

This is the simplest but most-used punch in boxing, and likely to be the first punch any beginner would learn. The jab can be used both for attack or defense, and is useful to keep the opponent at bay to set up bigger blows.

Hold your left hand up high with your elbow in close to your body.

Aim for the opponent's chin with the back knuckles.

Rotate the arm so that the punch lands with the thumb making a small clockwise turn inwards.

Slide the left foot forward before impact and snap the hand back ready to deliver another jab.

The chin should be dropped to the shoulder to protect it, and the right hand held high ready to block any counter punches.

**The cross**

**A 'straight right'**

This is the most powerful and damaging punch, but it may leave the boxer open to a counterattack if it fails to connect. It is best used in a combination of punches, usually after the opponent's defense has opened up after being hit with a good left jab.

Drive off the back foot and pivot the hips and shoulders into the punch for maximum power.

Straighten the right arm so that it is at full stretch on impact.

Keep the left hand in a guarding position to avoid a counter.

**A 'straight left'**

This is a good way of keeping an opponent on the back foot.

From the basic stance simply straighten your left arm and twist your hips and shoulders into the punch.

The first will automatically twist so the knuckles are up and the palm downwards just before impact.

If there is room, slide the left foot forward for the blow, but quickly bring up the right foot to maintain balance.

**Hook**

The hook comes from the side so can catch the opponent unaware as it initially comes from out of their vision. The hook requires the boxer to arch and turn their body into a punch. It can be made with either the left or right arm.

**A right hook**

Bring the chin down to the inside of the left shoulder to protect it.

Pivot the toes, hips and hand in the direction of the punch.

Turn your hand over so that at the point of impact, the palm faces down.

**Uppercut**

The uppercut can be a great knockout punch and is delivered at close quarters. It comes up from underneath, has an element of surprise, and is usually aimed at the jaw with either hand. One drawback is that if it doesn't take the opponent out, there is a big chance they will be able to deliver a counterattack.

To make a right uppercut, transfer the weight onto the right foot and twist the shoulders and hips to the left, bringing the right first directly up into the target.

Leaning back too much will send the boxer off balance.

**Conclusion to boxing techniques**

While a right-handed boxer will obviously favour their right hand as it will be their strongest, they should be prepared to work with both hands. In any case, the jab — the most frequently used in a bout — for a right hander will be with the left hand, while he prepares to get through with a big right handed shot.

Here we have focused on just a few of the basic punches from the point of view of a right hander, but the boxer must remember that a left hook or left uppercut, for example, can be just as effective given practice. In some circumstances, it may even be a good tactic for the boxer to change stance and fight as if he were a left-handed boxer.

**Officials in boxing**

**The role of the referee**

The referee has the following roles:

Gives instructions to both boxers before the fight

Determines when to start or stop a count when a fighter is down

Determines when a foul is so egregious that a warning should be given or points taken away

Signals when the round is over

Determines when one fighter's health will be endangered by more blows, and thus, stops the fight.

In the past, referees were involved in judging the fight. However, that role has been progressively replaced by a panel of judges, except for domestic fights in some countries.

**Attire**

Normally, a white or blue Oxford shirt is worn, as well as black slacks, black leather shoes and a black bow tie. Latex gloves are sometimes worn for sanitary reasons. For professional matches a patch is usually worn on the left breast bearing the insignia of the organization sanctioning the fight. The referee may also wear a patch on his left sleeve bearing the flag of his home country. This is especially common in matches between fighters from two different countries.

**ASSESSMENT**

1. Boxing is also called the ''the manly act of ____''
   (a) self attack
   (b) self offence
   (c) self praise
   (d) self defense
2. The hand equipment/kit that encased the fists of boxers is called
   (a) ring
   (b) glove
   (c) sock
   (d) wrap
3. A 'southpaw' is a ___ handed boxer
   (a) left
   (b) right
   (c) centre
   (d front
4. A good boxing stance provides
   (a) balance
   (b) respect

(c) attitude

(d) friendship

5. One of these is not a boxing technique

   (a) uppercut

   (b) jab

   (c) hook

   (d) kick

**ANSWERS**

1. d
2. b
3. a
4. a
5. d

**Physical Health Education, JSS 3 Third Term**

**Week 6**

**Topic: Drug Use**

**Content:**

- **Meaning of drug use, misuse and abuse**
- **Categories of drugs**
  **– prescription of drugs/medicines**
  **– non-prescription of drugs/medicines**
- **Gateway drug**

**Meaning of drug use**

The word drug refers to any biologically active substance that is foreign to the body which is deliberately introduced to affect its functioning. But a medical practitioner, drug is any substance used to manufacture medicine to cure disease and ailment. Therefore, aspirin, antibiotics as well as mind altering drug are included in this definition. Any drug can be harmful to the body if not taken in large doses, too often or in an impure form.

**Uses of drugs**

Drugs are used for the following reasons among others :

- To reduce weight
- To treat sickness and ailment
- To build up the muscles
- To induce sleep (depressants)
- To keep awake(stimulants)
- To relieve and reduce pain
- To stimulate the body for action
- To cure diseases

**What is drug misuse?**

Drug misuse is the intake of drug in the ways that are not medically valid. In other case, drug misuse is the consumption of drugs without the prescription of a medical practitioner.

**Drug abuse**

Drug abuse can be defined in many ways. It can be defined as the excessive use of any substance that measurably damages health or impairs social, emotional and vocational adjustment. It is also defined as drug use that makes a person ill, mentally impaired or unable to carry out the normal activity of daily life. In other words drug abuse is the indiscriminate use of drugs with the hope of getting well, feeling better, feeling relaxed, to be free from pains, to be free from stress, to experience superior emotional state, to feel high and bold etc. The consumption of these drugs is usually without the prescription of a qualified medical practitioner and to the detriment of the social, physical, and emotional wellbeing of the consumer.

**Consequences of drug abuse**

- It can lead to brain damage
- It can lead to death
- It can lead to accident or lead the victim to suicide
- Drug users endanger themselves and people around them
- Users become useless to themselves and the society
- The drugs are expensive, and thus it drains the finance of the users
- The drugs reduces body coordination
- They impair judgment
- They cause over dilation of the blood which leads to high blood pressure
- The user will commit any crime including murder to get the money for the drugs
- As more time and money are devoted to drugs, the family will suffer and this will in effect lead to separation of the family.
- The user becomes wasted as he can no longer contribute to the economy of the country.

**Ways of preventing drug misuse**

While there is no one way or guaranteed way to prevent someone from abusing drugs and alcohol, there are things that everyone can do to prevent substance abuse. Here are the top five ways to prevent substance abuse:

1. **Understand how substance abuse develops.** Substance abuse starts by:

Using addictive drugs (illicit or prescribed) for recreational purposes

Seeking out intoxication every time you use

Abusing prescription medication

2. **Avoid Temptation and Peer Pressure.** Develop healthy friendships and relationships by avoiding friends or family members who pressure you to use substances. It's often said "we become most like those we surround ourselves by," meaning if you surround yourself with people who abuse drugs and alcohol you are more likely to as well. Peer pressure is a major part of life for teens and adults. If you are looking to stay drug free develop a good way to just say no, prepare a good excuse or plan ahead of time to keep from giving into peer pressure.
3. **Seek help for mental illness.**Mental illness and substance abuse often go hand in hand. If you are dealing with a mental illness such as anxiety, depression or post-traumatic stress disorder you should seek professional help from a licensed therapist or counselor. A professional will provide you with healthy coping skills to alleviate your symptoms without turning to drugs and alcohol.
4. **Examine the risk factors.**Look at your family history of mental illness and addiction, several studies have shown that this disease tends to run in the family, but can be prevented. The more you are aware of your biological, environmental and physical risk factors the more likely you are to overcome them.
5. **Keep a well-balanced life.**People often turn to drugs and alcohol when something in their life is missing or not working. Practicing stress management skills can help you overcome these life stressors and will help you live a balanced and healthy life.

Develop goals and dreams for your future. These will help you focus on what you want and help you realize that drugs and alcohol will simply get in the way and hinder you from achieving your goals.

Share these tips for avoiding and preventing substance abuse with your friends and family and help promote a healthier lifestyle free from addiction

**ASSESSMENT**

1. Any biologically active substance that is foreign to the body which is deliberately introduced to affect its functioning is known as
   (a) food
   (b) pain
   (c) drug
   (d) water
2. All these are uses of drug except
   (a) to reduce weight
   (b) to treat sickness and ailment
   (c) to build up the muscles
   (d) to kill people
3. Intake of drug in the ways that are not medically valid is known as
   (a) drug mistake
   (b) drug misspell
   (c) drug missing
   (d) drug misuse
4. The excessive use of any substance that measurably damages health is
   (a) drug respect
   (b) drug disrespect
   (c) drug abuse
   (d) drug cussing
5. One of these is not a consequence of substance abuse
   (a) brain damage
   (b) death
   (c) good health
   (d) judgement impairment

**ANSWERS**

1. c
2. d
3. d

4. c
5. c