LESSON NOTES

FOR P.3

LITERACY 1A

TERM III

HEALTH IN OUR SUB COUNTY

DISEASE VECTORS

- **Health** is the general well being of a person, mentally, physically and spiritually and not merely absence of disease .

What is a disease?

What is a disease vector?

- A diseases vector is an organism that spreads disease causing germs.
- Germs are tiny organisms that cause diseases.

Examples of disease vectors

- Houseflies - Mosquitoes - Tsetse flies - Cockroaches
- Black fly - Lice -Fresh water snails - rabid dogs
- Rat fleas - Fleas - Ticks

Dangers of vectors

- They spread diseases to people
- They bite people
- Some vectors suck blood from our bodies

Activities

1. Give the meaning of a vector
2. Differentiate between a vector and a germ
3. In which way are vectors dangerous to people?
4. State one element of a clean home
5. Give two ways of keeping pit latrines clean
6. Name one vector which lives in water

Lesson 2

Vocabulary

- Cycle
- Metamorphosis
- Development
- Adult
- Complete
- Incomplete
- Larva
- Pupa

Metamorphosis of insect

- Metamorphosis are stages of development of an insect

Types of metamorphosis (life cycle)

- Complete metamorphosis
- Incomplete metamorphosis

What is a complete metamorphosis?

- A complete metamorphosis is a type of metamorphosis where an insect undergoes four stages of development

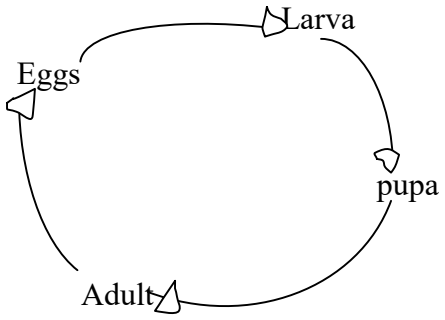
Stages of complete metamorphosis

- Eggs
- Larva
- Pupa
- Adult

Examples of insects which undergo complete metamorphosis

- Housefly
- Butterfly
- Lady bird
- Wasps
- Moths
- Tsetsefly
- Mosquitoes
- Beetles

A complete metamorphosis



Activity

1. Identify any two common vectors
2. Why is a house fly grouped under vectors
3. State one difference between a mosquito and a cockroach
4. Give any two examples of insects which undergoes complete life cycle
5. State one use of bees to people

Lesson 3

INCOMPLETE METAMORPHOSIS (audio visual)

- Incomplete metamorphosis is the type of metamorphosis where an insect undergoes 3 stages of development.

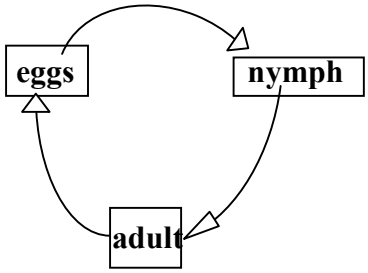
Stages of incomplete metamorphosis

- Eggs - Nymph - Adult

Examples of insects that under go incomplete metamorphosis.

- Cockroach - Grasshopper - White ants - Termites
- Locusts - Crickets -

Incomplete life cycle



Activity

1. Define incomplete metamorphosis
2. Name three stages of incomplete metamorphosis.
3. Mention at least four insects that pass through incomplete metamorphosis
4. How important are grasshoppers to people?
5. Why is it important to slass tall grass around homes

Lesson 4

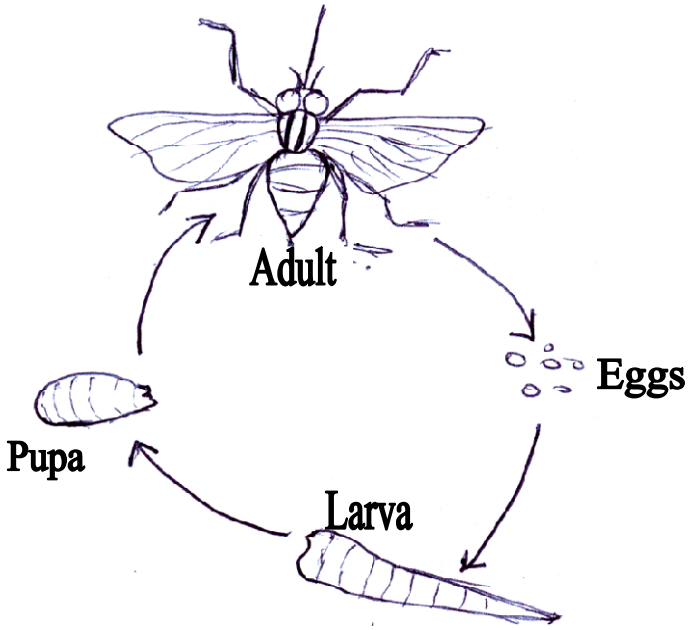
HOUSEFLY

- A housefly is a vector.
- **A** housefly is able to spread diarrhoeal / feacal diseases because it has a hairy body.

Diagram of lifecycle of a housefly

- A female adult housefly lays eggs in heaps of manure, rotting bodies, and faeces

A lifecycle of a housefly



- The dormant stage of a housefly is pupa.
- The scientific name of larva is maggot
- Maggots move by wriggling.
- Maggots eat up faeces in latrines.
- The adult stage of a housefly is dangerous because they spread faecal diseases.

The dangerous stage of a housefly is an adult.

The useful stage of a housefly is larva (Maggot)

Activity

1. Why is a housefly called a vector?
2. How is a housefly able to spread many diseases?
3. What name is given to the larva stage of a housefly?
4. Which structures on the body of a housefly helps it to spread diseases
5. How do maggots move?
6. How are maggots useful to man?
7. Identify the dangerous stage of a housefly.
8. Why is the above mentioned stage dangerous to man?

Lesson 5

Vocabulary

- Diarrheal
- Faecal
- Cholrela
- Typhoid
- Trachoma
- Chlamydia

Breeding places for houseflies

- Faeces
- Latrines
- Manure heaps
- Rubbish pits

Why do houseflies breed in the above named places?

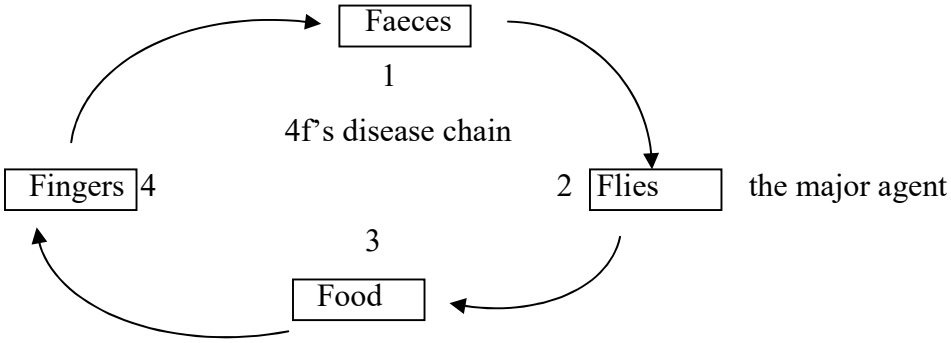
- To enable maggots get food easily

Ways houseflies spread diseases.

- Using the hairy bodies to carry diseases causing germs.
- By vomiting germs on human food.

The 4F's germ path

4F's in full as in the spread of diseases.



Diseases spread by a housefly

- Cholera
- Diarrhoea
- Typhoid
- Dysentery
- Trachoma for eyes

Prevention of diseases spread by houseflies

- Covering food
- Covering pit latrines
- Proper disposal of human wastes (faeces and urine)
- Smoking pit latrines.
- Burning rubbish
- Spraying using insecticides
- *Proper disposal of rubbish*
- *Boiling water for drinking - out of class lesson*

Activity

1. Mention three places where houseflies stay and breed
2. State two ways houseflies spread diseases.
3. Write 4f's in full as in disease chain.
4. Name the disease of eyes spread by the housefly.
5. Give any four ways of preventing diseases spread by a housefly.
6. *Why should we cover left over the food?*

Lesson 6

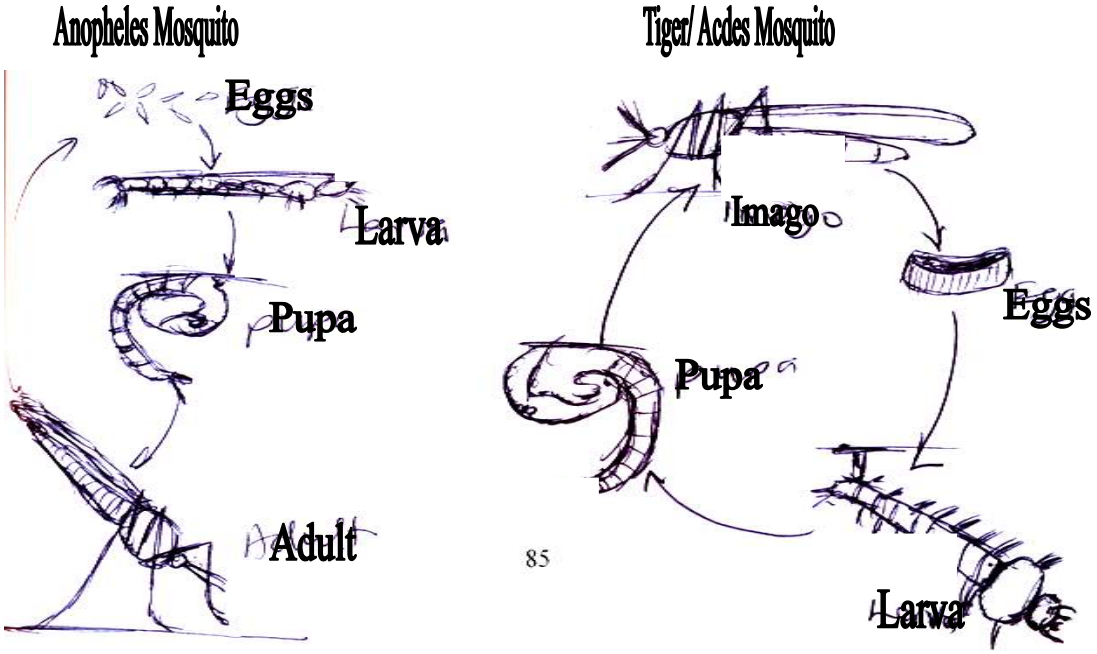
MOSQUITOES

- They spread malaria, yellow fever and elephantiasis to people
- *They lay eggs in stagnant water*

Types of mosquitoes

- Culex mosquito
- Anopheles mosquito
- Aedes/ tiger mosquito

Diagrams life cycle of anopheles and culex mosquito



- The larva stage of a mosquito is called a wriggler.
- The larva moves by wriggling

Active stage	**Dormant stage**
- Larva stage (wriggler)	- Pupa stage

Adult

Dangerous stage

- Adult stage why? It spreads malaria, yellow fever and elephantiasis to people

Breeding areas of mosquitoes

- Stagnant water

Activity :-

1. Name the one type of mosquitoes.
2. What name is given to the larva stage of a mosquito?
3. Identify the active stage of mosquitoes.
4. Which stage of a mosquito is dormant?
5. Point out the dangerous stage of a mosquito.
6. How dangerous is the above mentioned stage of a mosquito?
7. Where do mosquitoes lay their eggs?
8. ***Why is the adult stage of mosquito dangerous?***
9. ***How do mosquitoes spread diseases.***

HOW MOSQUITOES SPREAD DISEASES.

- Mosquitoes spread diseases through bites

Feeds of mosquitoes

- Blood (female mosquitoes)
- Juice and nectar (male mosquitoes)

Diseases spread by mosquitoes / mosquito to borne diseases

1. ***Malaria***
2. ***Elephantiasis***
3. ***Yellow fever***

a) Malaria

- ***It is caused by plasmodia germs.***
- ***It is spread by infected female anopheles mosquitoes***

How malaria spreads

- ***Through bites of infected female anopheles mosquitoes***

symptoms of malaria

1. ***Headache***
2. ***Stomach ache***
3. ***Joint pain***
4. ***Fever***
5. ***Body weakness***

Sign of malaria

1. Vomiting

b) Elephantiasis

1. ***It is caused by filarial worm***
2. ***It is spread by culex mosquitoes***

Sign of elephantiasis

- ***The legs swell like those of an elephant.***

c) Yellow fever / dengue fever

1. ***It is caused by a virus***
2. ***It is spread by aedes or tiger mosquito***

symptoms of yellow fever

1. ***Headache***
2. ***Backache***

Prevention/ control of diseases spread by mosquitoes / mosquito borne disease

- Sleeping under treated mosquito nets.
- Draining stagnant water near homes.
- Slashing tall grass near homes.
- Spraying with insecticides to kill mosquitoes.
- Keeping fish in ponds and dams to eat the mosquito larva.

Activity

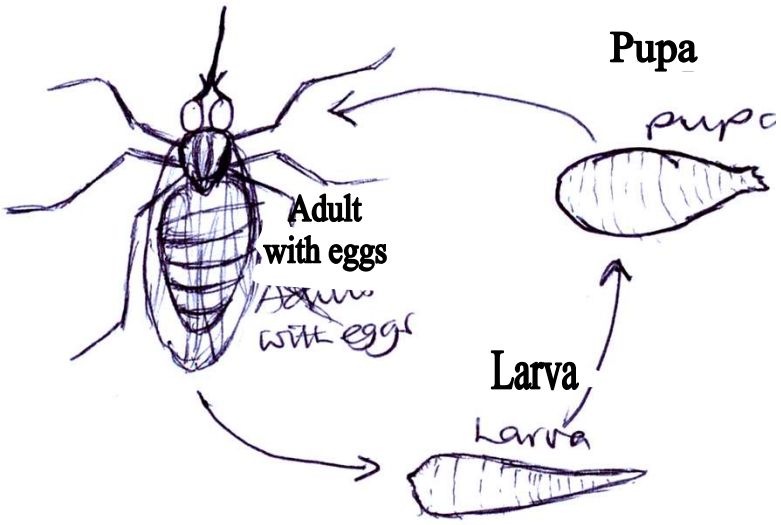
1. How do mosquitoes spread diseases?
2. Why do mosquitoes suck blood?
3. Which germ causes malaria?
4. How is malaria spread to a person?
5. Why are male anopheles mosquitoes unable to spread diseases?
6. Name the worm which causes elephantiasis
7. How do you tell that Joseph has elephantiasis?
8. How is elephantiasis spread to man?
9. Match the diseases to the mosquito.

A	**B**
Elephantiasis	Aedes mosquito
Malaria	Culex mosquito
Yellow fever	Female anopheles mosquito

10. Give at least 4 ways of preventing and controlling the spread of diseases spread by mosquitoes.

LIFECYCLE OF A TSETSE FLY

NB: ***the eggs of a tsetse fly hatch inside the body of the female. It under goes a complete lifecycle***



Active stage **Dormant stage**

Larva and adult pupa

Dangerous stage and why?

- Adult stage because it spreads sleeping sickness

Breeding areas of tsetse flies

- Dry sandy soil.
- Under dry leaves

Food for tsetse flies

- They feed on blood (female tsetse flies
- Male ones feed on nectar

Germs that causes sleeping sickness (parasite

- Trypanosomes

Diseases spread by tsetseflies

- Sleeping sickness in man
- Nagana in farm animals (goats, cattle, sheep)

Symptoms of sleeping sickness

- Fever
- Body weakness

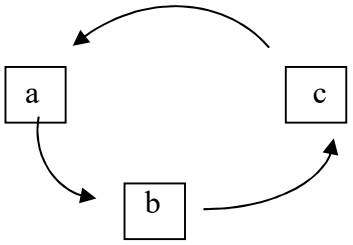
- Loss of appetite

Prevention and control of diseases

- Spraying with insecticides.
- By using tsetse flytraps to kill adult tsetseflies.
- By clearing bushes.
- Avoid grazing animals very early and late.

Activity

1. Which insect has 4 stages but does not lay eggs?
2. Name the stages of development of tsetse fly below.



3. Name the following stages of development of a tsetse fly
4. How is the adult tsetse fly dangerous to man?
5. State two breeding area of tsetse flies
6. Identify the germ that causes sleeping sickness
7. Mention two diseases causes by the germ names above.
8. Point out four ways of preventing and controlling tsetse flies.
9. Name the insect that do not lay eggs.

Summary table for the lifecycle of insects

Insect	**Larva**	**Adult**
Housefly	Maggot	Imago
Mosquito	Wriggler	Imago
Butterfly	Caterpillar	Imago
Bees	Grub	Imago
Wasps	Grub	Imago
Ants	Grub	Imago

Activity Evaluation:-

1. Draw and name the stages of a butterfly.
2. Name the most active stage of a butterfly

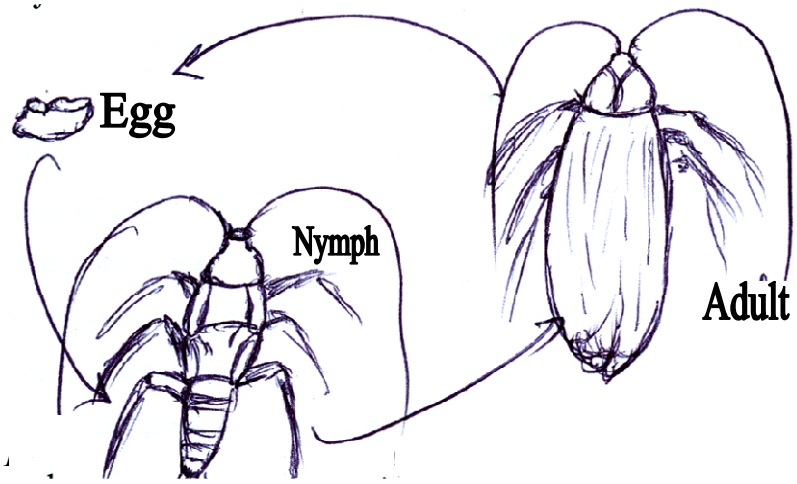
3. Identify the dangerous stage of a butterfly.
4. How dangerous is the above mentioned staged to plants?
5. What name is given to the larvae stage of a butterfly?
6. Identify the dormant stage of a butterfly.
7. How useful is the adult butterfly?
8. Point out one breeding area of butterflies.
9. Name the larva stages of the following insects.
   a) Housefly
   b) Tsetse fly
   c) Mosquito
   d) Ants
   e) Butterfly
   f) Bees.

Lesson

COCKROACHES

- They spread polio, dysentery and typhoid

Lifecycle of a cockroach



Active stage

- Nymph
-

Dangerous stage

- Adult stage because it spreadsfaecal diseases to man.

Breeding areas of a cockroach.

Behind cupboards – they live in dark places like

1. Old cookers

2. Refrigerators
3. In boxes
4. In book shelves
5. In latrines or toilets.

Why cockroaches move at night.

- To look for food and water.

Diseases spread by cockroaches

- Polio
- Dysentery

Prevention and control of cockroach

1. Spraying using insecticides
2. Allow much light in a room/ house
3. Clean all dirty dark places.

Dangers of cockroaches at home

1. They spread faecal diseases
2. They destroy paper and books
3. They eat furniture

Activity

1. How is a cockroach able to spread many diseases?
2. Name the stages of development marketed below.
3. Identify and name the following in stages of a cockroach.
   a) Active stage
   b) Dangerous stage
4. How dangerous is the above mentioned in (b) to man?
5. Mention at least three breeding areas of cockroaches
6. Why do cockroaches move at night?
7. Give four diseases spread by cockroaches.
8. State three dangerous of cockroaches.
9. Point out tow ways of preventing and controlling cockroaches.

DOGS, CATS, TICKS AND ITCH MITES

- ***Rabid / infected dogs***

  They spread rabies to man

Rabies is caused by a virus

Sign of rabies

- Rabies makes a person wild, becomes mad and barks like a dog after 6months.

Prevention and control ofrabies

1. Vaccinate dogs
2. Kill mad dogs
3. Avoid playing with mad dogs.
4. People should get vaccination as soon as a mad dog bites you.

Ticks

- Ticks are commonly found on bodies of wild and domestic animals.

Feed of ticks

- Blood of man and animals

Disease spread by ticks

- Relapsing fever

Black fly

- *It is also called the simulium fly.*
- *It breeds in first flowing water in river bank where it lays its eggs*
- *It spreads river blindness.*

How river blindness spreads

- *Through bites of black fly/ Jinja fly.*

Why is it called river blindness?

- *Stays along river and spreads a worm which causes blindness.*

Signs and symptoms of river blindness.

- *Itching skin rashes (symptom)*
- *Lumps appear on the hips and legs (sign)*

Control of river blindness

- *Spraying using insecticides to kill adult black flies*

ITCH MITES

- Itch mites spread a worm which lives and multiplies inside our skins.

Diseases spread by itch mites

- Scabies

Sign of scabies

- Scabies causes a lot of itching and scratching.
- It is also contagious(spread by people teaching each other)

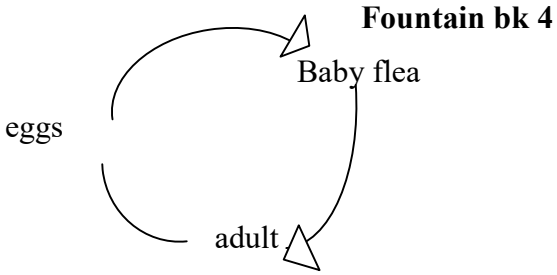
Activity

1. What name is given to animals kept at home?
2. Identify a disease spread by wildly dogs.
3. What helps you knows that one has rabies?
4. How can you control wildly dog diseases?
5. What will happen to Emmanuel who has been bitten by a rabid dog?
6. Where do ticks live?
7. Name the food for ticks.
8. What diseases do ticks spread?
9. Mention the disease spread by itch mites.
10. How does scabies affect a person?

Rat fleas

- Fleas living on man bite him causing irritation, pain and scratching but do not spread any disease.
- Fleas living on rats are called Rat fleas.

Life cycle of a rat flea



Places where rat fleas live

- **Animal hair**
- **Cracks on walls**

Disease spread byrat fleas.

- Bubonic plague

Sign of bubonic plague

- Swelling in the neck, arm pits and groins

Prevention of bubonic plague

1. Kill the rats
2. Spray with insecticides to kill fleas.
3. Smearing the floor with cow dung

Types of lice

- Body lice
- Hair lice
- Crab lice (found on pubic hair)

Disease spread by lice

- Typhus fever

Prevention of lice

- Observe personal hygiene
- Cut off infected hair
- Use fine combs to remove the eggs and dead lice.
- Treat people with typhus fever

Ways of controlling vectors

1. Proper disposal of rubbish
2. Drawing stagnant water
3. Slashing tall grass around homes
4. Smoking pit latrines

Activity

1. What do fleas found on man cause?
2. What do we call fleas living on rats?
3. Name the disease spread by rat fleas.
4. Write down the sign of the above mentioned diseases.
5. Point out two ways of preventing the spread of rat flea diseases.
6. Give three types of lice.
7. Mention the diseases spread by lice.
8. How do we prevent lice?
9. State two places where bedbugs live.

10. What do bedbugs cause to man?
11. How can Damalie prevent the bedbugs in her home?

WATER SNAILS

- Water snails are vectors because the worm which causes bilharzias develops in them.

The worm in water snails.

- Bilharzia fluke

Breeding places of bilharzias fluke

1. In bladder
2. In liver
3. In lungs

Ways bilhazia flukes enter our bodies

1. *Through drinking contaminated water.*

2. *Through the skin when you bathe and swim in contaminated water.*

Sign of bilharzia

1. Blood in urine
2. Blood in stool
3. The liver and spleen become big.

Prevention of bilharzia

- Avoid walking, washing, bathing and swimming in water bodies.
- Wear shoes or gumboots while standing in streams and swamps.
- *Proper disposal of human wastes*
- Boil water for drinking .
- Remove water snails from water sources.

Activity

1. Why are water snails called vectors?
2. Which diseases do water snails spread?

3. Identify the worm that causes the above mentioned disease.
4. Mention three places where bilharzia flukes can be found.
5. Why is one advised to put on shoes?
6. How can one tell that Pulunyi has got bilharzia?
7. How will Moses prevent bilharzia?

A summary vectors and their diseases

A table showing vectors and the diseases they spread. (comprehensive bk4 page 125.

Disease vector	**Disease spread**
Housefly	Diarrhoea, typhoid, cholera, trachoma, dysnetry
Tsetse fly	Sleeping sickness, nagana
A female anopheles mosquito	Malaria
A culex mosquito	Elephantiasis
An aedes mosquito	Yellow fever
Bilharzia fluke	Bilharzia
Itch mites	Scabies

The 4f's chain

Diseases can spread through the 4f's as

- Faeces
- Flies
- Food
- Fingers

Preventing and controlling vectors (general

- Sweeping the houses, compound.
- Slashing tall grass around our homes.
- Spraying using pesticides
- Digging around the house. etc

HIV AND AIDS

- HIV in full is Human Immunodeficiency virus.

  AIDS in full and the meaning of each term

  Acquired – get from

  Immune – protected against

  Deficiency – lack of

  syndrome– different signs and symptoms

- AIDS in full is Acquired Immune Deficiency Syndrome
- HIV is a virus that causes AIDS
- AIDS is a serious disease that destroys the white blood cells.
- White blood cells help to fight against diseases causing germs in our bodies.

How AIDS is spread

- HIV is spread through having unprotected sex with an infected person.
- HIV is spread through sharing sharp skin piercing instruments or objects with an infected person .
- HIV is spread through transfusion with infected blood.

Other ways how HIV/ AIDS can spread.

- *Sharing toothbrushes*
- *Sharing sharp piercing instruments.*

Effects HIV/ AIDs to a victim (individual)

- *Death*
- *Pain and suffering*
- *Poor job performance*

To the family

- *Poverty*
- *Loss of beloved ones*

To the community

- *Loss of labour*
- *Increased number of orphans and street children.*
- *Retardation in development.*

Organizations that help preventing HIV/AIDS

- ***TASO – The AIDS support organization.***
- ***AIC – AIDS information Centre***

- ***ACP – AIDS Control programme***

Cultural practices that lead to the spread of HIV/ AIDS

- *Wife sharing*
- *Wife inheritance*
- *Body tattooing*
- *Circumcision*

Ways in which HIV/ AIDS may not spread

- *Sharing food on one plate.*
- *Hand shaking*
- *Hugging*
- *Playing with infected people.*
- *Mosquito bites*
- *Sharing the same bed.*

People at risk of getting HIV/ AIDS

- *Bar maids*
- *Long distance travelers*
- *Youth*
- *Prostitutes*
- *Health workers*

Why can't mosquitoes transmit HIV

- They have enzymes that kill the HIV in their gut.

Sign and symptoms of AIDS

- Herpes zosta
- Prolonged diarrhea
- Rash all over the body
- Emaciation
- Loss of weight

Symptoms of HIV/ AIDS

- Fever especially in the evening
- General body weakness
- Headache

Activity

1. Write the following in full.
   a) HIV

b) AIDS
c) SYFA

2. Name the virus which causes AIDS.
3. Give one danger of AIDS to human body.
4. What is the work of white blood cells in one's body?
5. Mention three ways AIDS is spread.
6. State two effects of AIDS to an individual

CARE FOR AIDS PATIENT

1. Proper feeding
2. Encouraging them to take medicine
3. Taking them for guidance and counseling
4. Washing for them
5. Giving them company

Ways of controlling AIDS

1. Abstain from sex
2. Avoiding sharing skin piercing objects

Controlling AIDS

1. Condom use
2. Having one trusted partner
3. Sterilizing instruments used in tribal circumcision and tattooing

Activity

1. Give any ways of caring for Aids patients.
2. Give at least two control measures for AIDS.
3. Write ABC in full as used in the control of HIV/ AIDS.

PIASCY

- PIASCY in full is Presidential Initiative on AIDS Strategy for Communication to the Youth.

PIASCY messages

- Avoid bad touches
- Avoid bad peer groups
- AIDS has no cure
- Do not share sharp unsterilized objects.
- Avoid lifts from strangers.
- Avoid sex before marriage
- AIDS is a deadly disease
- Care for AIDS victims.
- Respect your body.
- Virginity is health

Importance of PIASCY message

- To create awareness about HIV/AIDS

ACTIVITY

1. Write PIASCY in full
2. Identify any two PIASCY messages.
3. In which way are PIASCY messages important in a school.
4. Write TASO in full.

Give one way through which HIV may not spread.

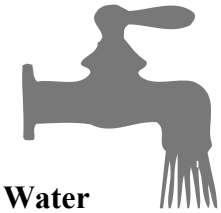
PERSONAL HYGIENE

- Personal hygiene is keeping of our bodies clean and the things we use .
- The general cleanliness of our bodies.

Things used to keep our bodies clean.

- Soap
- Water
- Towel
- Brush
- Tooth brush
- Tooth paste
- Comb
- Ear pads
- Basin
- Nail clipper
- Shoe polish
- Vaseline

Diagrams



Water

Soap

Comb

Importance of good personal hygiene

- Leads to good body smell.
- Leads to easy spread of disease/ skin diseases

How to keep our bodies clean.

- Bathing daily.
- Washing our faces regularly.
- Brushing our teeth after daily meal.
- Washing hands after visiting the latrine.
- Cutting our finger nails short.
- Washing clothes.

Activity

1. What is personal hygiene?
2. Name at least ten things sued to keep our bodies clean.
3. Draw and name five things used to keep our bodies clean.
4. How can Abiji keep her body clean?
5. Why are P.3 children advised to wash hands after visiting the latrine?
6. How useful is cutting off fingernails short?

WHY DO WE BATHE?

- To remove dirt from our bodies
- To control bad body smell

- To remove germs which come during sweating and dirt.

Why do we wash clothes?

- To remove dirt from clothes.
- To prevent lice.
- To control the bad smell.

Why do we iron clothes?

- To kill germs
- To kill lice and their eggs.
- To look smart and clean.

Why do we wash our hands?

- To remove germs.
- To kill germs using soap.
- To prevent spreading germs and dirt which may make us sick

Why do we brush our teeth?

- To control the bad breath
- Prevent tooth decay

Activity

1. How useful is brushing teeth to a p.3 child?
2. Why do you think p.3 pupils wash their clothes?
3. Give two reasons why your mother irons clothes?
4. Why does Pulunyi wash his hands after visiting the latrine?
5. Two reasons why people brush their teeth.
6. How good is washing hands with soap after visiting the toilet/ latrines?
7. How do you control bad breathe?

HOW TO KEEP OUR CLOTHES CLEAN?

- Washing clothes when they are dirty.
- Ironing clothes after washing.

- Hanging washed and ironed clothes.

Activity

1. Give two ways of keeping clothes clean.
2. Why are P.3 pupils advised to iron their clothes?
3. How can Ainomuhangi keep her bedroom clean?
4. Write down three dangers of improper hygiene

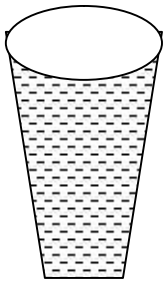
FOOD HYGIENE

- Food hygiene is the keeping of food safe or clean.

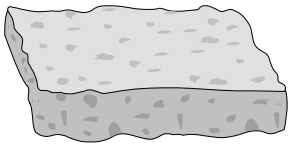
Things used in food hygiene

- Water
- Towel for drying utensils.
- Soap
- Sponge

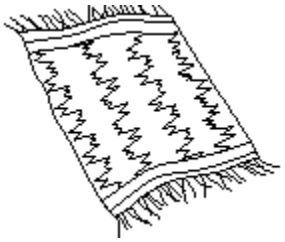
Diagrams of some things used in food hygiene



Water



Sponge



towel

Proper ways of handling food.

- Washing hands before preparing food.
- Washing food before cooking.
- Covering the food while cooking.
- Keeping the kitchen clean alway
- Washing the kitchen clean always.

- Washing hands before serving food.
- Serving food in a clean place.
- Washing plates before and after serving food.
- Washing hands before and after eating.
- Washing foods or fruits eaten raw.

Activity

1. What is food hygiene?
2. Mention any six examples of things sued in food hygiene.
3. Write down at least six ways of handling food properly.
4. Draw and name any four tings used in food hygiene.
5. How do we keep drinking water safe?
6. Why does Jjajja boil drinking water?

FOOD CONTAMINATION

Food contamination:*The way food gets dirty or spoilt..*

Ways food gets contaminated

- When houseflies land on food.
- *Handling food with dirty hands*
- *Putting food in dirty containers*
- *Cooking food in dirty places*
- *Serving food on dirty places*

Importance of proper handling of food

- To avoid food contamination

Prevention of food contamination

-Putting food in clean container.

- Handling food with clean hands.

- Covering cooked food

Activity

1. Give four ways food can be made dirty.
2. How important is proper handling of food to P.3 pupils?

3. Give four ways of keeping the classroom clean.
4. Why are P.3 pupils advised to clean their classroom regularly?
5. Of what value is a dust bin in to a P.3 classroom?

FOOD PRESERVATION

- Food preservation is the keeping of food safe

Methods/ ways of preserving food

- Salting
- Smoking
- Sun drying
- Refrigerating

Why should one preserve food?

- Food is also preserved for future use.
- Easy transportation

Activity :-

1. Define food preservation.
2. Write down four ways of preserving food.
3. List down at least two examples of food preserved by each method mentioned above.
   a) Smoked
   b) Sun dried
   c) Refrigerated
   d) Salted
   e) Canned/ tinned
4. State four reasons of preserving food.

ENERGY

Energy is the ability to do work.

Sources of energy
There are two main source of energy
i) Natural sources
ii) Artificial sources

Natural source
A natural source of energy is a source of energy produced by nature.

Examples of natural sources
- The sun
- Wind
- Running water

Activities that require energy in our daily life
- *Dancing*
- *Running*
- *Jumping etc.*

The sun
The sun provides solar energy as the main energy.
The sun produces two forms of energy
i) Heat energy`
ii) Light energy

Exercise
1. What is energy?
2. Name two sources of energy.
3. Give three examples of natural sources of energy?
4. Write three types of energy got from the sun.

Uses of the sun
- Heat from the sun helps us to feel warm
- Heat from the sun helps in the rain formation.
- Plants use sunlight energy to make food.
- Heat from the sun helps to kill some germs on our bodies
- Sun light provides energy that our skins use to make vitamin D.
- Heat from the sun.

Solar energy as a source from the sun
It is trapped using solar panels.
It is stoned in solar batteries as solar electricity.

Uses of solar electricity
- It is used for lighting in homes
- It is used for cooking food

- It is used for ironing clothes
- It is used for charging phones, etc
- It is used to run domestic appliances like radios, televisions etc.

Activity

1. Give at least four uses of the sun.
2. Where is solar energy stored?
3. Mention any four uses of solar electricity.

Dangers of too much sunshine

- The sunshine spoils our eyes when we look at it directly.
- Too much sunshine spoils our crops by drying them.
- Too much sunshine leads drought and famine.
- Too much sunshine reduces the level of water in water bodies.
- The sun has dangerous rays which leads cancer and asthma.

Wind

Wind is the moving air. Air is a mixture of gases.

Uses of wind energy

- It's used for sailing boats
- It's used for driving wind mills
- It's used for winnowing
- It's used in seed dispersal
- Wind mills are used for pumping water and producing electricity.

Dangers of wind energy

- Strong wind blows off roofs of houses
- Strong wind destroys crops
- Strong wind breaks trees.
- Moving air spreads diseases such as mumps, chicken pox, measles, Tuberculosisetc

How to control dangers of too much wind

- Planting trees and grass in our compounds.

Activity

1. What is wind?
2. Name energy got from wind

3. Give at least four uses of wind
4. State any four dangers of wind
5. Point out any one ways of controlling too much wind.
6. Mention any three diseases spread through air.

Running water

Uses of water as a source of energy

- Water is used to produce hydro electricity

Dangers of too much water

- Too much water leads to floods
- Too much water can spoil plant growth
- Some diseases can be got from water eg cholera, bilharzias etc
- Floods lead to loss of life and property

Safe use of water

- Plant grass and trees to reduce on the speed of running water
- Avoid destroying swamps
- Avoid dumping wastes in water sources
- Avoid urinating or defecating in water sources
- Ensure that water containers and water pipes do not leak.
- Harvest rain water from roofs of buildings for domestic and other uses.

Activity

1. Name three sources of energy from water
2. Which energy is got from geothermal springs?
3. State any four dangers of too much water.
4. Write down at least four safe ways of using water.
5. Why is water said to be life?

Artificial sources of energy

Examples of artificial sources of energy

- Fuel
- Electricity

Fuel
Fuel is anything that can burn to produce heat.

Types of fuel
- Liquid fuel
- Solid fuel
- Gaseous fuel

Examples of each type of fuel
- Liquid fuel
    - Kerosene (paraffin)
    - Diesel and
    - Petrol

- Solid fuel
    - Wood fuel is the commonest solid fuel.

Examples of solid fuels
    - Charcoal
    - Firewood
    - Coal
- Gaseous fuel
    - Natural gas
    - Bio gas

Activity
1. Define artificial sources of energy
2. Give two examples of artificial sources of energy
3. What is fuel?
4. Mention three types of fuel
5. Point out two examples in each type of fuel
    a. Liquid fuel
    b. Solid fuel
    c. Gaseous fuel
6. Name any six examples of fuels.

USES OF EACH EXAMPLE OF FUEL

Examples of fuel	Uses
Kerosene	• For lighting kerosene lamps • For cooking food using stoves • For dissolving certain paints
Petrol and diesel	• For running vehicle engines • For running generators • For running engines of machines like grinding mills
Charcoal	• For preserving/ roasting food like fish • For ironing clothes • For cooking food
Firewood	• For cooking food • For preserving / roasting food • For boiling water
Coal	• For heating • For lighting • For generating thermal electricity
Gas	• For welding • For cooking food • For lighting

Activity

1. Give at least three uses of each of the following fuels
    a. Paraffin
    b. Petrol and diesel
    c. Fire wood
    d. Charcoal
    e. Coal
    f. Gas

Dangers of different fuel energy

	Dangers	Safe use
Paraffin	• Cause fire	• Avoid playing with fire while having petrol,

Petrol and diesel	outbreaks • Can easily catch fire	diesel or paraffin
Charcoal Fire wood	• Can burn people and property • Gives off a dangerous gas in the atmosphere	• Plant more trees • Use energy saving stoves
Coal	• Cause pollution	• Following in

Ways of saving energy

i) Using energy saving stoves and bulbs
ii) Switching off electric appliances when not in use
iii) Putting out fire after use
iv) Planting more trees to replace the cut ones
v) Enforcing laws to control deforestation

Importance of saving energy

i) To avoid wastage
ii) To reduce costs ie money paid for electricity or for buying wood fuel
iii) To conserve the environment.