



*Dr. Bbosa Science*

Sponsored by  
**The Science Foundation College**  
**Uganda East Africa**  
Senior one to senior six

+256 778 633682 0753 143413

**Based on, Best for Science**

[digitalteachers.co.ug](http://digitalteachers.co.ug)

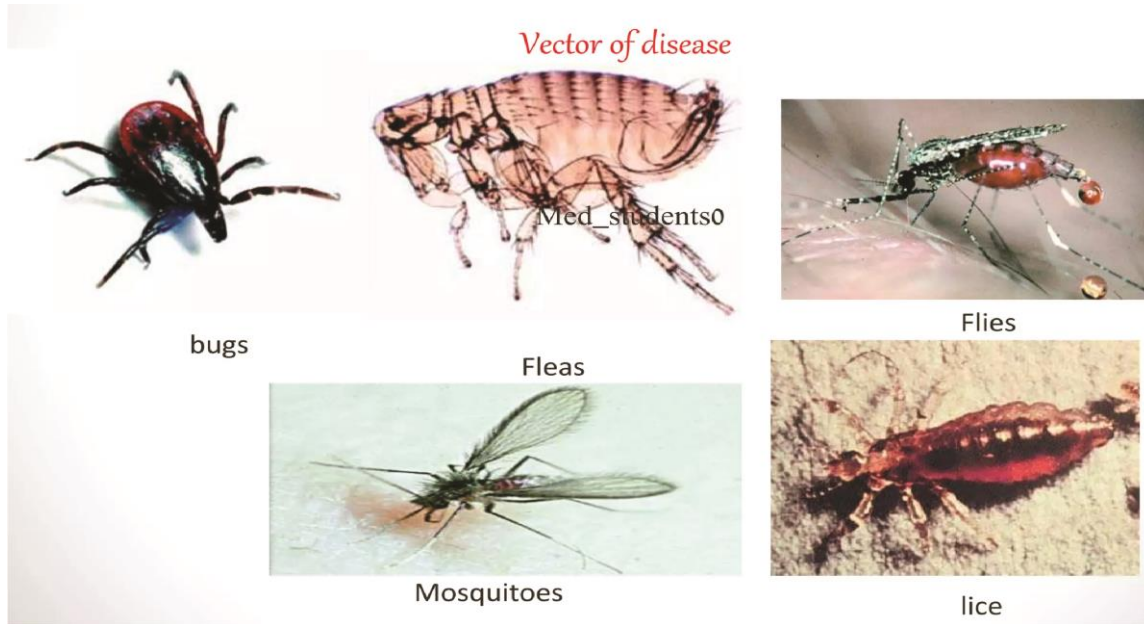


Nuture your dreams

**P4 term 3**

**THEME: Human Health**

**Topic 2/4: Vectors and Diseases**



**Vector**

**A vector is a living organism that spread a disease causing germ.**

**Exercise 1**

Name any three vectors.

### Examples of vectors and the diseases they spread

Vector	Disease
Mosquito	Malaria, elephantiasis, yellow fever
Housefly	Trachoma, diarrhea, dysentery, cholera, typhoid
Tick	Relapsing fever
Bed bugs	Itching, allergy, Bite and damage the skin attracting secondary infection
Fleas	Typhus
Tsetse flies	Sleeping sickness in people, nagana in cattle
Rats	Carry fleas that spread plague
Lice	Typhus, itching, Bite and damage the skin attracting secondary infection
Snail	bilharzia
Dogs and cats	Rabies, cat scratch disease

### Exercise 2

Name any two diseases spread by mosquitoes and two diseases spread by housefly

### How vectors spread disease

- (i) The bite and inject germs into the blood for example mosquitoes, flea, Tsetse fly, dogs and cats, ticks
- (ii) They carry germs over their bodies and the germs then the germs contaminate the food while the vector is feeding for example housefly, cockroach

### Prevention and control of vectors

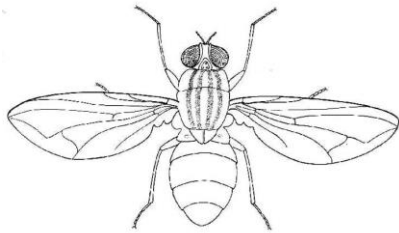
- (i) Spray with insecticides

- (ii) Destroy habitats like draining stagnant water to eliminate mosquitoes and burning/burying decaying mater to eliminate houseflies
- (iii) Sleeping under nets to prevent mosquito bites
- (iv) Covering food to prevent contamination from housefly and cockroaches
- (v) Biological control or using a vectors natural enemy for example small fish to feed on mosquito larvae in stagnant water and water ponds
- (vi) Proper sanitation and hygiene
- (vii) Fly screens should be installed over ventilation covers and drain to prevent house flies from entering

### Example 3

Name two control methods for diseases

Housefly

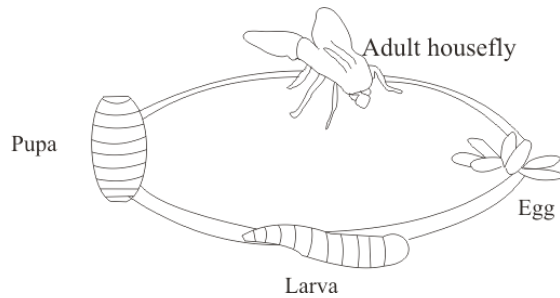


#### Characteristics of housefly

- has a pair of compound eyes for wide field of vision.
- has expanded or club shaped proboscis to absorb food materials
- has simple eyes (Ocelli)
- has a pair of wings and a pair of halteres for balancing.
- The body is hairy.
- Has a pair of short hairy antennae.

#### Life cycle of a housefly

Has a complete life cycle .i.e.



### Economic importance

Transmits diseases e.g. dysentery, cholera, trachoma, typhoid fever and poliomyelitis.

### Control of spread of diseases by housefly

General cleanness and hygiene

Cover food

Eat hot food.

Use insecticides.

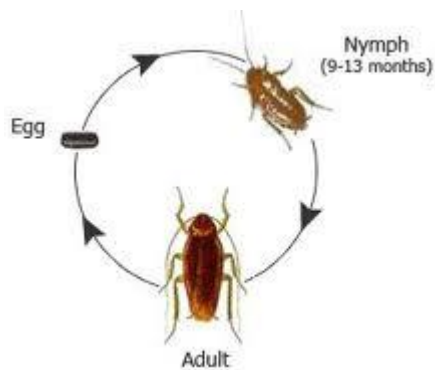
### Example 4

Name four stages of the life cycle of housefly in order.

### Cockroach

Life cycle of the cockroach

Undergo incomplete metamorphosis



Economic importance

- Transmit germs from the toilets over their bodies causing diseases such as dysentery, typhoid
- Their feces stain clothes
- Destroy document and clothes

### Example 6

- (a) Draw the life cycle of cockroach.
- (b) State one disease spread by a cockroach

### Mosquito

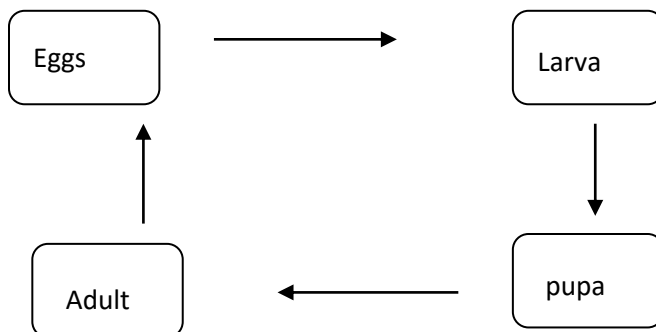


Table showing diseases carried by mosquitoes.

Mosquito	Diseases	Causative organism
Female anopheles	malaria	plasmodium
Aedes	Yellow fever, dengue fever	Virus virus
Culex	Elephantiasis	Filarial worm

### Life cycle of a mosquito

Mosquitoes undergo complete lifecycle



## Control of malaria

- Sleep in a mosquito net
- Draining stagnant water
- Removing bush in and around the house
- Close the house to prevent entry of mosquitoes

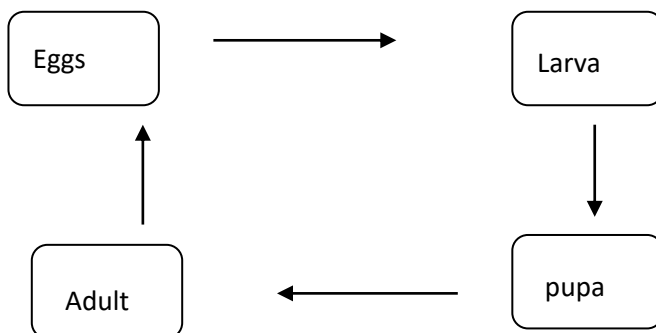
### Example 6

- (a) Name two diseases spread by a mosquitoes  
(b) State two control measures of the diseases spread by mosquitoes.

## Life cycle of Tsetse fly



Tsetse fly undergo complete lifecycle



Tsetse fly transmit sleeping sickness

## Control of tsetse fly

- (i) Using traps

- (ii) Spray with insecticides

### Exercise 7

1. State any **one** way in which the spread of germs by houseflies can be controlled.

Use of insecticides

Cover food

Eat hot food

Keep home clean

Fly screens should be installed over ventilation covers and drain to prevent house flies from entering

2. Why do houseflies lay their eggs in decaying matter?

Decaying matter contain food for maggots

Decaying matter is warm to make eggs hatch fast

Decaying matter is moist to prevent drying out of the eggs

3. State one way by which body lice can be avoided?

**By keeping clothes clean**

**By ironing clothes**

**By bathing regularly**

4. How is a vector different from a pest?

**Vectors spread diseases while pests destroy crops**

5. State the eye disease spread by housefly

Trachoma

6. Give reason why male anopheles mosquito does not transmit malaria parasites

It does not feed on blood

Use the drawing below to answer questions 6 and 6



7. What stage in the life cycle of a cockroach is shown in the diagram?

### Nymph

8. Give a reason answer in question.

**The wings are not yet developed**

9. (a) State two ways by which vectors spread germs to human

(i) through bites

(ii) carrying germs over their bodies and contaminating food

(b) State any two ways of preventing vectors spreading germs to human

(i) proper hygiene

(ii) spray with insecticide

(iii) sleeping under mosquito nets

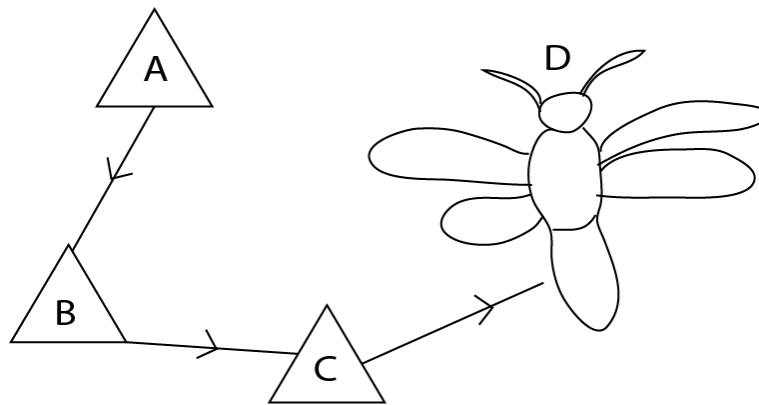
10. The table below shows diseases, the vectors that spread them and disease-causing germs. Study and complete it correctly.

Disease	Vector	Germ
Cholera	housefly	<u>Bacteria</u>
Yellow fever	<u>Aedes/ tiger mosquito</u>	Virus
<u>Rabies</u>	Infected cats	virus
River blindness	Blackflies	<u>Worm/filarial worm</u>

11. In the table below, some of the diseases are given below with their symptoms and prevention/controls. Study it and answer the missing information.

Name of disease	symptoms	Prevention/control
Sleeping sickness	Loss of body weight, drowsiness, swelling in the Joints	<b>Clear bushes</b> <b>Spraying tsetse fly</b> <b>Use tsetse fly traps</b>
Common cols (flu)	<b>Headache</b> <b>Running nose</b>	Isolation, avoid infected people
Measles	Rash on the body, high fever, cough, red eyes, sore in mouth, diarrhea and vomiting	<b>Isolation of infected person</b> <b>Immunization</b>
Trachoma	Mild redness and itching of the eyes, pus in eyes after sleep, scarring	Washing of eyes, avoid sharing articles with sick person, e.g. basin, towel,

12. The diagram below shows the life cycle of a housefly. Use it to answer the questions which follow.



- (a) Name the stages A and B.  
**A: eggs**  
**B: larva**
- (b) At what stage is a housefly a vector?  
**Stage D**
- (c) State one reason why a housefly is classified as an insect.  
**has three main body parts**  
**Has three pairs of legs.**

**Thank You**

**Dr. Bbosa Science**