

1. Fill in the blanks

- (i) Cleanliness, rest and sleep, and physical exercise are a part of _____ hygiene
(ii) One must always breathe by the _____ and never by the _____
(iii) Fresh air brings _____ into the living rooms.
(iv) One must never put a sharp pointed object into the _____ it may rupture the _____
(v) For adults 6-7 hours of continuous undisturbed _____ is sufficient.
(vi) The municipal bodies must ensure the supply of _____ clean germ-free _____ and an efficient _____ disposal.

Solution:

- (i) Personal
(ii) Nose, mouth
(iii) Oxygen
(iv) Ear, eardrum
(v) Sleep
(vi) Drinking water, sewage

2. List any three advantages of a daily bath.

Solution:

The three advantages are as follows:

- It keeps the skin clean and germ-free
- Eliminates body odours given out by perspiration
- Keeps the sweat pores open
- To keep the body warm

Progress Check

1. Tick-mark the correctly matched pairs of certain animals and the related diseases/habits.

- (i) Culex _____ yellow fever
- (ii) Aedes _____ filarial
- (iii) Anopheles _____ malaria
- (iv) Gambusia _____ eat up mosquito larvae
- (v) Rat flea _____ diarrhea
- (vi) Cockroaches _____ breed in man-holes

Solution:

Culex _____	yellow fever	-
Aedes _____	filarial	-
Anopheles _____	malaria	✓
Gambusia _____	eat up mosquito larvae	✓
Rat flea _____	diarrhea	-
Cockroaches _____	breed in man-holes	✓



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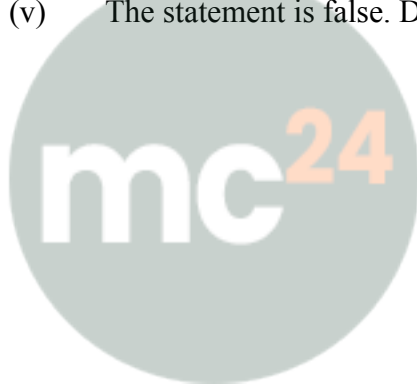
Progress Check

Mention if the following statements are true (T) or false (F)

- | | | |
|-------|--|-----|
| (i) | Contamination means entry of germs by insect bite | T/F |
| (ii) | Sewage is the commonest source of contamination of water in the cities | T/F |
| (iii) | Cholera is marked by acute diarrhea and no urination | T/F |
| (iv) | Typhoid is caused by a type of worm | T/F |
| (v) | Mosquitoes are the source of dysentery germs | T/F |

Solution:

- (i) The statement is false. Contamination means entry of germs into drinking water or edible foods.
- (ii) The statement is true.
- (iii) The statement is true.
- (iv) The statement is false. Typhoid is caused by a bacteria
- (v) The statement is false. Dysentery can be caused by bacteria or protozoans.



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Review Questions

A. Multiple Choice Type

1. No urination due to shortage of water in the body is a typical symptom of
- (a) Typhoid
 - (b) Malaria
 - (c) Dysentery
 - (d) Cholera

Solution:

- (d) Cholera

It is because urea accumulates in the blood, which is highly poisonous and fatal.

2. Which one of the following is an unhealthy habit?
- (a) Removing wax from inside the ears
 - (b) Keeping the mouth closed while breathing
 - (c) Sleeping for only 6-7 hours
 - (d) Sharing towels with others

Solution:

- (d) Sharing towels with others

Trachoma and conjunctivitis are two common eye diseases caused through sharing towels and others.

3. The protozoan that causes malaria is:
- (a) Entamoeba histolytica
 - (b) Euglena
 - (c) Paramecium
 - (d) Plasmodium

Solution:

- (d) Plasmodium

Malaria is caused by the protozoan Plasmodium

4. The chemical substance mainly responsible for tooth disorder is
- (a) Calcium
 - (b) Chloride
 - (c) Fluorides
 - (d) Iodides

Solution:

- (c) Fluorides

Presence of fluorides in drinking water causes tooth disorders.

5. Typhoid is caused by
- (a) Housefly
 - (b) Bacteria

- (c) Virus
- (d) None of the above

Solution:

- (b) Bacteria

Typhoid is caused by *Salmonella typhi*, a bacterium.

6. The germ causing Hepatitis is transmitted through:

- (a) The bite of a mosquito
- (b) Contamination of food by a housefly
- (c) Personal contact with a patient
- (d) Contaminated water

Solution:

- (d) Contaminated water

Hepatitis A is an infectious hepatitis transmitted through contaminated water.

B. Very short answer type

1. Match Column I with that which is most appropriate in Column II.

Column I

- (a) Mosquito
- (b) Plasmodium
- (c) *Entamoeba histolytica*
- (d) *Aedes mosquito*
- (e) Insecticide

Column II

- (i) DDT
- (ii) Dengue
- (iii) Vector
- (iv) Malaria
- (v) Dysentery

Solution:

Column I

- (a) Mosquito
- (b) Plasmodium
- (c) *Entamoeba histolytica*
- (d) *Aedes mosquito*
- (e) Insecticide

Column II

- Malaria
- Vector
- Dysentery
- Dengue
- DDT

2. Name the following:

- (a) Organism that transmit microbes that caused disease.
- (b) Organisms that caused disease.
- (c) Science of maintaining good health

Solution:

- (a) Organism that transmit microbes that cause disease - Vectors
- (b) Organisms that cause disease - Pathogens
- (c) Science of maintaining good health - Hygiene

Selina Solutions For Class 9 Biology Chapter 15 – Hygiene

3. Describe the different ways by which the housefly contaminates our food.

Solution:

The different ways by which housefly contaminates food are:

- Pouring saliva out – Food gets moist when housefly regurgitates on food or pours its saliva as a result pathogens get discharged on them causing the food to get contaminated.
- Hairy body and legs pick up filth – Spiny or hairy legs and body tend to pick up dirt containing germs from germ-infested places such as faecal matter, rotten material, infected wound. When these carriers/fly rest on our food, they rub their legs continuously dropping the particles of dirt on the food, causing it to get contaminated.
- Excreta – it deposits its excreta while it feeds, thus contaminating human food.
- Direct transmission of germs – houseflies directly transmit pathogens in some cases. In case of eye disease trachoma, pathogens are transmitted from an infected person to a healthy person, when a fly settled on an infected eye of a person sits on the eyes of a healthy person.

4. Suggest any two methods of controlling flies.

Solution:

The two methods of controlling flies are:

- Elimination of breeding places
- Spraying with DDT and other insecticides

5. List any three effective methods for controlling mosquitoes.

Solution:

The effective methods for controlling mosquitoes are:

- Elimination of breeding places for mosquitoes
- Spraying with DDT other insecticides
- Avoidance – food should be protected by covering it

6. Name the two common kinds of mosquitoes and the diseases they transmit.

Solution:

The two common kinds of mosquitoes and the diseases they transmit are as follows:

Mosquito	Disease it transmits
Anopheles	Malaria
Aedes	Dengue

7. Mention any three ways by which potable water can be contaminated.

Solution:

Potable water can be contaminated in the following three ways:

- Urination and defecation near water bodies such as ponds, lakes and rivers
- Sewage disposed improperly
- Contamination of water bodies by the drainage of animal washings and wastes from poultries and dairies

C. Long Answer Type

1. Give suitable explanations for the following:

- (i) **One should breathe by nose and never by mouth.**
- (ii) **Hands must be washed before eating food**
- (iii) **Eating places must be kept free of flies**

Solution:

- (i) It is because nostrils have hair and mucus that traps dust and microbes entering while breathing causing it to become purified and hence ensuring the respiratory passage is dust-free and germ-free.
- (ii) Everything around us mostly has microbes which are not visible to us. The furniture, books, public transport etc all of these objects inhabit germs which can be picked up by us once we get in touch with these objects. These germs are then transmitted to the different parts of the body, through the water we drink or through the food we eat. Hence it becomes a necessity to wash hands thoroughly before consuming food so as to stay away from the diseases that could be spread through these germs/vectors.
- (iii) Eating places must be kept free of flies as flies carry bacteria and germs that cause various diseases.

2. How are cockroaches and rats harmful to humans?

Solution:

Cockroaches and rats are harmful to humans in the following ways:

- Rats consume grains and other food products. They carry pathogens. Rat-fleas is a pathogen that inhabits on the skin of the rat and carries the plague germs
- Cockroaches are known to perish food, cloth and paper. They carry viruses especially carcinogens.

3. Name the two types of dysentery and their causative germs and give one main precaution against them.

Solution:

The table below depicts the two types of dysentery, their causatives and precautions:

Type of Dysentery	Causative	Precaution
Bacillary	Bacterium – Shigella	Consume safe(boiled) drinking water
Amoebic	Protozoan – Entamoeba histolytica	Always check for food and water contamination before consumption.

4. Mention three symptoms of the disease Hepatitis.

Solution:

The three symptoms of Hepatitis disease are as follows:

- Body ache
- Eyes turn yellowish, due to the bile pigments – urine turns to deep yellow
- Enlargement of liver