

Health

Quarter 3 – Module 6: Effects of Pests and Rodents to One's Health



Health – Grade 6
Alternative Delivery Mode
Quarter 3 – Module 6: Effects of Pests and Rodents to One’s Health
First Edition, 2019

Republic Act 8293, section 176 states that: No copyright shall subsist in any work of the Government of the Philippines. However, prior approval of the government agency or office wherein the work is created shall be necessary for exploitation of such work for profit. Such agency or office may, among other things, impose as a condition the payment of royalties.

Borrowed materials (i.e., songs, stories, poems, pictures, photos, brand names, trademarks, etc.) included in this module are owned by their respective copyright holders. Every effort has been exerted to locate and seek permission to use these materials from their respective copyright owners. The publisher and authors do not represent nor claim ownership over them.

Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

Development Team of the Module

Authors: Francilet R. Padios

Editor: Elsie P. Serafico, PhD

Reviewers: Ma. Lennie F. Pamposa, PhD Elsie P. Serafico, PhD

John Mark Q. Apellado

Illustrator: Zoila Mae M. Panes, Riza E. Celebrado and Marvin P. Pagurayan

Layout Artist: Catherine P. Padrones, Maribel B. Zamora

Management Team: Ma. Gemma M. Ledesma

Elena P. Gonzaga, EdD

Donald T. Genine

Ma. Nilma E. Casamayor

Dexter P. Diergos

Engr. Winifred S. Panes

Printed in the Philippines by:

Department of Education – Region VI

Office Address: Duran Street, Iloilo City, 5000
Telephone Nos.: (033) 509-7653; (033) 336-2816
E-mail Address: region6@deped.gov.ph
Website: region6.deped.gov.ph

Health

Quarter 3 – Module 6: Effects of Pests and Rodents to One's Health

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.



What I Need to Know

This module was designed and written with you in mind. It is here to help you explain the effects of pests and rodents to one's health.

The module consists of only one lesson:

- Lesson 1 – Effects of Pests and Rodents to One's Health

After going through this module, you are expected to:

Explain the effect of pests and rodents to one's health **(MELC H6EH-IIIh-7)**

Practice ways on how to prevent pests and rodents **(MELC H6EH-IIIj-9)**



What I Know

A. Direction: Write **True** if the statement correctly tells about the effect of pests and rodents and **False** if it does not. Write your answers in a separate sheet of paper.

1. Mosquito bites can cause swelling of the brain or Encephalitis.
2. Cockroaches that crawl on our cooking equipment and food make food harmless to eat.
3. Water that is infected by rat's urine can cause a deadly disease called Leptospirosis.
4. Pests and rodents cannot contaminate our food and water supply.
5. Mosquitoes are small insects but can spread virus through their bites.
6. Pests and rodents are disease-carriers. They can spread diseases to a community.
7. Food and water that is contaminated by flies and cockroaches can cause inflammation of the intestine that leads to diarrhea and abdominal pain.
8. We should not control or eliminate pests and rodents because they do not bring problem to our health.
9. Insect like flies carry infectious diseases by transferring infection from their feet or from their mouth after feeding on something that is infected.
10. Dengue virus which is carried by female mosquitoes can cause dengue fever which is very deadly.

Lesson 1

Effects of Pests and Rodents to One's Health

Pests like insects and rodents are animals that bring harm. Rats and mice are rodents that destroy crops, stored food and things at home. They also bring diseases to people.

Insects are six-legged animals like flies, cockroaches and mosquitoes. Once they crawl through dirt and manure, these insects pick up microorganisms, bacteria and worms' eggs with their legs. Flying from garbage dump to your home and crawling over things, they can contaminate food and cooking equipment which could make food harmful and dangerous to eat.

These pests are carriers of virus and bacteria that can make people very ill. If not treated, the diseases could lead to illness and even death.



What's In

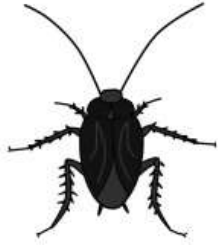


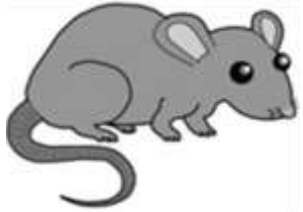


Direction: Read and guess. What am I? Write your answers in a separate sheet of paper.

1. I am mostly active at night. I hide in cracks of walls, door frames and furniture. I have six legs, long antennae and have flat and low-lying winged body that is oval-shaped. I am also fast-moving. What am I?
2. I am small but dangerous. You can see me flying in smelly areas like garbage, rotten plants and animals. People use swatter, rolled newspaper or sticky trap to get rid of me. What am I?
3. I chew your clothes, stored food and electrical wires. I can also damage the crops of farmers. My bite and urine can bring you illness. What am I?
4. I am a small-winged insect with proboscis to suck your blood. Every time I bite, I leave red patches on your skin. I can also disturb your sleep using my buzzing wings. What am I?



Insects like mosquitoes, flies, cockroaches and rats are small animals that bring diseases to people. They are considered pests because they bring harm to health and put people's lives in danger. These small animals bring diseases that can make people sick. Such sickness if untreated can lead to death. Below are pictures of these small animals.

	Cockroach
	Fly
	Mosquito
	Rat










What's New

Mosquito is a small winged insect that flies from one place to another and can bring diseases to people. Read the story below and learn about the effect of this pest to one's health.

Mosquito's Diary of Common Illness



<p>I am mosquito, a Spanish name which means "little fly". I may be a small insect, but I can bring big problem to your health.</p> 	<p>I can bring you malaria. Malaria is a disease caused by a parasite transmitted to humans through the bites of infected <i>Anopheles</i> mosquitoes.</p> 
<p>The parasites multiply in the person's liver and then infects and destroys red blood cells.</p> 	<p>Malaria can make you very sick. You will experience high fever and shaking chills.</p> 
<p>Zika virus is also another disease caused by mosquitoes. This can be passed from a pregnant woman to her fetus.</p>  	<p>This can cause brain and eye damage to the fetus. Microcephaly is a condition caused by Zika virus wherein the brain does not develop properly. This results to a head size that gets smaller than</p> 

Chikungunya is an infection caused by the Chikungunya virus (CHIKV) transmitted by a bite from infected female mosquito.



The virus is not fatal but infected human will experience fever and joint pain.



I can also cause **Encephalitis** or swelling of the brain. The bite from *Culex* mosquitoes can give you fever, headache and vomiting. It can make your brain swell, may put you to coma and also death.



And yes, I can also bring you **Filariasis**. It is a parasitic disease caused by an infection with roundworms.



Filariasis or Elephantiasis can lead to abnormal enlargement of your body part.



Just like the leg which is so big than the usual one.



I am a mosquito with white markings on my legs and marking in the form of a lyre on the upper part of my head. I am a female mosquito mainly of the species *Aedes aegypti* (yellow fever mosquito) that brings dengue virus.



Source: <https://www.vcstar.com/story/news/2018/09/01/invasive-aedes-mosquitoes-spreading-across-southern-california/1177648002/>

I am *Aedes albopictus* also called the Asian tiger mosquito or forest mosquito. Just like the *Aedes aegypti*, I also bring dengue virus.



Source: <https://bugguide.net/node/view/7644>

Dengue virus can cause dengue fever which is very deadly. Take a look at some of the symptoms.



Truly, I am a small-winged insect but I can carry many diseases. Do not be fooled of my size. When you see me flying and buzzing, remember the common diseases that I can bring.



Here I am...

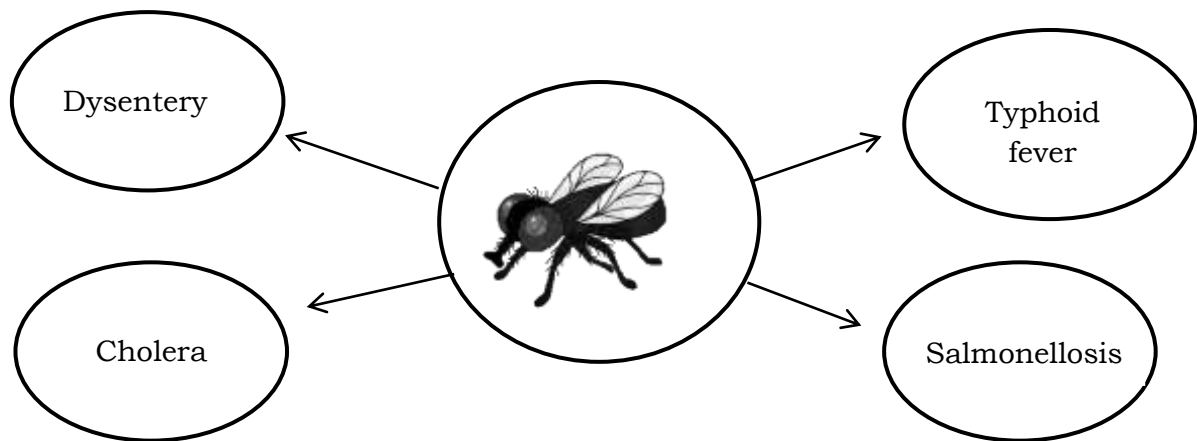
- M- Merciless **Encephalitis**
- O- Outrageous **Malaria**
- S- Scary **Yellow Fever**
- Q- Quick Killing **Dengue**
- U- Unlikable **Chikungunya**
- I- Intense **Zika**
- T- Terrifying **Filariasis**
- O- Observe diseases symptoms or else you will be sorry!

Flies



Flies can be found anywhere. This insect carry infectious diseases by transferring infection from their feet or from their mouth after feeding on something that is infected. Large numbers of flies are seen in places like garbage dumps, wet market, poultry and piggery. You can also see this six-legged animal feasting on rotten plants and animals.

These are some of the diseases that can affect one's health. They are transmitted by flies from dirty surroundings.





Now, sing with us! Let us use the tune of “Bahay Kubo” for you to know the effect of flies to our health. You can also have it as a poem.



I am a Fly

Written by: Francilet R. Padios

I am a fly
I fly around
Let me then tell you this
I can bring you disease.



A bacterial infection
Called **Salmonellosis**
Diarrhea and fever
Some symptoms of this illness.



The swelling of your intestine
Is called **Dysentery**
Causing you abdominal pain
And severe diarrhea.

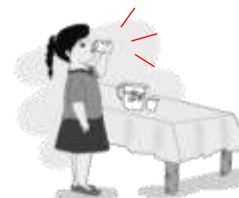


I also bring **Typhoid fever**
That is caused by bacteria
The symptoms are stomach ache
Fever and headache.



Going on with the **Cholera**
Brought by *Vibrio cholerae* bacteria
It's an infectious disease
A severe, watery diarrhea.

Drinking water and eating food
Contaminated by bacteria
You'll become dehydrated
Or even die if untreated.



Rodents



Rodents like rats bring common disease such as Leptospirosis and Rat bite fever. The urine and droppings of rodents can cause health problems.



Leptospirosis or *Weil's disease* is an infection caused by the bacteria *Leptospira* caught by people through contact with rat's urine. This causes fever, chills, headache, muscle aches, vomiting and diarrhea. To avoid such infection, it is advised not to step or play in flood water especially if you have a wound. If the water is infected by rat's urine, you may have leptospirosis which is a deadly disease if not treated right away.

Rat bite fever is caused by rat's bite on human skin. This causes inflammation or swelling of the skin and fever.



Cockroaches



Cockroaches are insects that crawl everywhere so they spread germs that cause diseases or illnesses.
Below is a poem to give more ideas about a cockroach.



Creepy, Crawly Cockroach

Written by: Francilet R. Padios

I am a creepy, crawly insect that is active at night
Some shout and cry in fear whenever I'm in sight
My saliva and droppings can cause an **Allergy**
For sure you'll sneeze and feel itchy!



I could give you **Dysentery**; oh you are going to cry
This severe diarrhea, will make your poop wet with blood
My bacteria *Salmonella typhi* will cause you **Typhoid fever**
A fever that is so alarming when it is severe.



I could also bring **Salmonellosis** caused by *Salmonella* bacteria
Eating contaminated food, you will vomit and have diarrhea
If the water is contaminated by *Vibrio cholerae* bacteria
This **Cholera** will make you suffer from dehydration and diarrhea.



I can also carry polio virus within my guts which is one of the viral diseases
Causing **Polio or Poliomyelitis** that cause muscle weakness and paralysis
Virus spreads by taking contaminated food or contact with feces
Or when an infected person coughs or sneezes.



I am also a fast-moving winged insect always seen most everywhere
I contaminate the food and spread germs anywhere
When you see me crawl or fly, you must be aware
You will likely to have diseases as long as I am there.



What is It

Direction: Match Column A with Column B as to the effects caused by pests and rodents to one's health. Write the letter of the correct answers in a separate sheet of paper.

Column A

1. Fly



2. Mosquito



3. Rodent



4. Cockroach



Column B

A. This pest causes Leptospirosis and Rat bite fever that makes a person ill.

B. This pest crawls over things and contaminates food and water. Dysentery, Allergy, Typhoid fever and Salmonellosis are some of the diseases that it brings.

C. Flying from garbage dump and other smelly areas, this pest carries diseases like Salmonellosis, Dysentery and Cholera.

D. This buzzing pest makes a person sick with Dengue fever, Zika virus and Filariasis.



What's More

Preventive Measures from the Harmful Effects of Pests and Rodents to One's Health



Clean up. Keep your house clean and tidy.



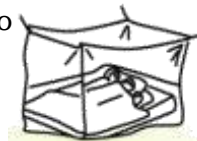
Repel and kill pests and rodents.



Get vaccinated.



Use mosquito nets when sleeping.



If you are not feeling well, visit your medical specialists immediately.



What I Have Learned

Pests and rodents are carriers of bacteria, virus and germs. They spread diseases through biting, sucking blood, urine contact and contaminating food and water.

Direction: Remember what you have learned. Read and understand the following questions. Write your answers in a separate sheet of paper.

1. What is true about the effect of mosquitoes to one's health?
 - A. Mosquitoes contaminate our food and water.
 - B. Mosquitoes bring virus that can make us sick.
 - C. Mosquitoes' urine makes the water infectious.
2. How do cockroaches give problem to people's health?
 - A. They bite and destroy furniture.
 - B. They sting and transmits dengue virus.
 - C. They contaminate food and water supply that can harm our health.
3. Why is growing population of rats dangerous to the community?
 - A. Rats attack crops and bring diseases like Leptospirosis and Rat bite fever.
 - B. Rats bring Malaria.
 - C. Rats cause Allergy and Dengue fever.
4. Which is **not** true about the effect of pests and rodents to one's health?
 - A. They make our lives comfortable and stress-free.
 - B. They transmit parasites that can make people get sick.
 - C. They carry viruses that are deadly.
5. Which is correct about the effect of pests and rodents to one's health?
 - A. They make people healthy.
 - B. They are harmless creatures.
 - C. They are disease-carriers that could infect people and cause sickness or death.



What I Can Do

A. Direction: Sing the song in the tune of “Leron Leron Sinta”. You may also have it as a poem.

“Pests”

by: Francilet R. Padios

Here comes the cockroach
With its droppings everywhere
Surely ‘twill contaminate the food
If it has no cover.

Here comes the mosquito
Buzzing here and there
Don’t give a chance to bite
To avoid Dengue fever.

Here comes the tricky rat
Looking for a food
Beware of its bite
And dangerous urine.

Small pests they may seem
But they will make you scream
They bring serious disease
Causing severe damage.

Maintaining the cleanliness
Inside and outside our home
Can help control the pest
Get rid or keep them out.

Using an organic bait
Or pest repellent
With proper handling
A pest free place there can be

Let’s control the pest
For a place to be problem free.



Assessment

Direction: Write **Yes** if the statement explains about the effect of pests and rodents to one's health and **No** if it does not. Write your answers in a separate sheet of paper.

1. A female mosquito of the species *Aedes aegypti* and *Aedes albopictus* transmits dengue virus that causes headache, fever, rashes and nose bleeding.
2. Food that is contaminated by flies can cause severe watery diarrhea once eaten.
3. Cockroaches are harmless insects. We can let them crawl on our food and cooking equipment.
4. A person who has a contact with rat's urine can get infection which causes fever, chills, headache, muscle aches, vomiting and diarrhea.
5. Droppings and urine from cockroaches can cause allergy.
6. Malaria, a disease caused by mosquitoes, can make you very sick. You will experience high fever and shaking chills.
7. Zika virus, a disease caused by mosquitoes, can be passed from a pregnant woman to her fetus wherein the brain does not develop properly.
8. Mosquitoes are just small insects. They do not bring illness at all.
9. Rat bites are not dangerous to health.
10. Germs are carried by pests and rodents that can make a person sick if the immune system is weak.

Thank you for accomplishing this module. Congratulations!



Additional Activity

Directions: Make a poster or drawing about the effects of pests and rodents to one's health. Do it in a short bond paper.



Answer Key

<p>What's In</p> <ol style="list-style-type: none">1. Cockroach2. Fly3. Rat4. Mosquito <p>What I Know</p> <ol style="list-style-type: none">1. True2. False3. True4. False5. True6. True7. True8. False9. True10. True	<p>What I Have Learned</p> <ol style="list-style-type: none">1. B2. C3. A4. A5. C <p>What is It</p> <ol style="list-style-type: none">1. C2. D3. A4. B	<p>Assessment</p> <ol style="list-style-type: none">1. Yes2. Yes3. No4. Yes5. Yes6. Yes7. Yes8. No9. No10. Yes
--	---	--

References

- BugGuide. Species *Aedes albopictus*-Asian Tiger Mosquito. Iowa State University, Department of Entomology, 2003-2009. Retrieved on November 25, 2019 from <https://bugguide.net/node/view/7644>
- Gholam Hossein Shahraki, Saadat Parhizkar, Alireza Raygan Shirazi Nejad, "Cockroach Infestation and Factors Affecting the Estimation of Cockroach Population in Urban Communities", *International Journal of Zoology*, vol.2013, Article ID 649089, 6 pages, 2013.
<https://doi.org/10.1155/2013/649089>
- Invasive *Aedes* mosquitoes spreading across Southern California. Staff and Wire Reports. Ventura County Star, September 2, 2018. Retrieved on November 25, 2019 from <https://www.vcstar.com/story/news/2018/09/01/invasive-aedes-mosquitoes-spreading-across-southern-california/1177648002/>
- K to 12 Health Curriculum Guide August 2016 page 59
- MELC Health 6, page 354
- Mosquitoes. National Geographic. April 11, 2010. Retrieved on October 4, 2019 from <https://www.google.com/amp/s/relay.nationalgeographic.com/proxy/distribution/public/amp/animals/invertebrates/group/mosquitoes>
- Rat-Borne Diseases. 2019. Retrieved on November 25, 2019 from <https://www.orkin.com/rodents/rats/rat-borne-diseases>
- Ray, Claiborne. 2018. "Do Cockroaches Carry Diseases?". *New York Times*, August 3, 2018. <https://www.nytimes.com/2018/08/03/science/cockroach-diseases.html>
- World Health Organization. 2017. "Vector-borne diseases". Retrieved on October 6, 2019 from <https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases>
- World Health Organization. 2019. "Neglected tropical diseases". Retrieved on October 4, 2019 from https://www.who.int/neglected-diseases/vector_ecology/mosquito-borne-diseases/en

For inquiries or feedback, please write or call:

Department of Education – Bureau of Learning Resources (DepEd- BLR)

Office Address: Ground Floor, Bonifacio Building, DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (02) 634-1072 or 634-1054; 631-4985

E-mail Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph