

Fight the Bite!

Mosquito Activity Book



Maine Center for Disease Control and Prevention



TOP 10 **MOSQUITO** FUN FACTS

- 10.** An adult mosquito can live as long as 5 months. It may take several months for a larva to develop to the adult stage in cold water. Eggs of floodwater mosquitoes may remain inactive for several years and hatch when they are covered with water.
- 9.** An adult female mosquito weighs only about 1/15,000 ounce (about 2.0 milligrams).
- 8.** An adult female mosquito consumes about 5-millionths of a liter in a single blood meal.
- 7.** A mosquito wing beats from 300 to 600 times per second.
- 6.** Male mosquitoes find female mosquitoes by listening to the sound of their wings beating. The males can actually identify the correct species by the pitch of the female's wings.
- 5.** Mosquitoes can fly about 1 to 1.5 miles per hour.
- 4.** Most mosquitoes do not fly very far from their larval habitat, but the salt marsh mosquito migrates 75 to 100 miles over the course of its life.
- 3.** A mosquito can smell the carbon dioxide you exhale from about 60 to 75 feet away.
- 2.** Some people are more attractive to mosquitoes than others. It is not clear why, but probably has something to do with the 300 odd chemicals produced by the skin.
- 1.** In the interest of science, Arctic researchers uncovered their chests, arms, and legs and reported as many as 9,000 mosquito bites per person, per minute. At this rate, an unprotected human would lose one half of his blood supply in approximately 2 hours.

Mosquito Vocabulary

- **Abdomen**– part of the mosquito’s body that hangs from the thorax and serves as the mosquito’s stomach and lungs, holds the blood that the female takes in, as well as stores the female’s eggs
- **Adult**– emerges from the pupa and rests on the surface of the water until it dries its wings and can fly away
- **Amplification cycle**– the process of replicating something and increasing its production
- **Antennae** (antenna)– long, feathery sensory organs on the mosquito’s head, used to hear and smell
- **Carbon dioxide**– the chemicals that all animals exhale that can attract mosquitoes from several hundred feet away
- **Eastern equine encephalitis (EEE) virus**– EEE is a disease that can be transmitted to humans by the bite of an infected mosquito
- **Eggs**– the adult female mosquito lays between 50 – 300 eggs about every third day of her lifespan. The eggs can be laid as “rafts”, floating on the surface of standing water, or laid on an area of ground that floods on a regular basis. The egg stage lasts for 2 – 3 days.
- **EPA** (Environmental Protection Agency)– federal agency devoted to protecting human health and the environment
- **Flood water**– water sources that alternate between periods of dry and wet, such as when water overflows as a result of a flood or melting snow
- **Host**–the animal in which the viruses live
- **Larvae** (larva) – (also called wigglers or wrigglers) part of the mosquito lifecycle that comes after the eggs hatch. The larvae hang from the surface of water and breathe through tubes. The larval stage lasts for about 1 week.
- **Man-made containers**– buckets, pail, flowerpots and other containers that can hold water and become part of mosquitoes’ habitat
- **Metamorphosis** (“meta” = change; “morph” = shape)– the process of development from immature to adult
- **Natural containers**– containers found in nature that can hold water, such as the junction in between tree branches where water can collect
- **Permanent water**– water sources that are present for long periods of time and can support the growth of different types of plants
- **Proboscis**– long, jagged mouth part on the mosquito’s head that is used to pierce the skin and suck out the blood
- **Pupae** (pupa)– (also called tumblers) part of the mosquito lifecycle that come after the larvae stage; pupae are partially encased in a cocoon. The pupa’ stage lasts for about 4 days before it becomes an adult mosquito.
- **Reservoirs**– organisms that host a germ that is not harmful to the host, but can cause illness in a different species
- **Thorax**– the part of the mosquito between the head and the abdomen, where the wings and legs attach
- **Transmission Cycle**–the system where bacteria that cause disease in its host continue to infect other hosts
- **West Nile virus (WNV)**– WNV is a disease that can be transmitted to humans by the bite of an infected mosquito

Find the Hidden **MOSQUITO** Message!

5 13 16 20 25 19 20 1 14 4 9 14 7

23 1 20 5 18 !

6 9 7 8 20 20 8 5 2 9 20 5 !



Here is the Secret Code:

1 – A	5 – E	9 – I	13 – M	17 – Q	21 – U	24 – X
2 – B	6 – F	10 – J	14 – N	18 – R	22 – V	25 – Y
3 – C	7 – G	11 – K	15 – O	19 – S	23 – W	26 – Z
4 – D	8 – H	12 – L	16 – P	20 – T		

MOSQUITO MATH PROBLEMS

Problem 1:

A female mosquito lives for 150 days and lays a raft of 250 eggs every 15 days.

How many eggs will she lay in her lifetime?

Problem 2:

A female mosquito lays 1200 eggs in her lifetime. She lays 300 eggs in her first egg batch.

What percent of her total eggs are laid in the first egg batch?

Problem 3:

A mosquito lays 150 eggs in a raft. All of the eggs hatch, but 32% of the larvae are eaten by fish. The rest survive to become adults.

A. How many of the larvae are eaten by fish?

B. How many of the larvae will survive to become adults?

Problem 4:

A mosquito lays 200 eggs in a raft. Ninety percent (90%) of the eggs hatch. Of the larvae that hatch, 50% are eaten by aquatic predators; the rest survive to become adults. Of the adults that emerge, 20% are eaten by dragonflies and spiders on the way to taking their first flower nectar meal. How many make it to the flower to take a meal?

Problem 5:

Two mosquitoes fly off together in search of flower nectar. The first mosquito flies 3 miles and finds a flower in a garden. The second mosquito flies 2.5 times that far, and finally finds a clover field. How far did the second mosquito fly?

Mosquito Inspector Check List

With the help of an adult inspect around your home for areas where water might be contained resulting in mosquito breeding sites.

-  **Litter/trash scattered in yard**
-  **Tires discarded**
-  **Gutters not draining properly**
-  **Bird bath(s) not maintained**
-  **Unused swimming pools or hot tubs**
-  **Boats or small water crafts**
-  **Flower pots and flower pot dishes**
-  **Buckets or trash cans with no lids**
-  **Watering cans holding water**
-  **Children's toys**
-  **Tarps or large plastic covers**
-  **Children's wading pools**
-  **Landscape depressions that hold water**
-  **Drive way depressions that hold water**
-  **Outdoor faucets – dripping**
-  **Window and door screens that are ripped/torn**
-  **Pet bowls left outside not being used**

Notes and observations:



maine.gov/idepi
800-821-5821



"I'm safe from **mosquitoes!**"

Draw a picture of what a person protected from mosquitoes would look like.

What would they wear? What would they bring to help protect themselves?

Answer: Find the Hidden **MOSQUITO**
Message!

E M P T Y
5 13 16 20 25

S T A N D I N G
19 20 1 14 4 9 14 7

W A T E R !
23 1 20 5 18

F I G H T T H E
6 9 7 8 20 20 8 5

B I T E !
2 9 20 5

Here is the Secret Code:

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Answers: **MOSQUITO** MATH PROBLEMS

Problem 1:

A female mosquito lives for 150 days and lays a raft of 250 eggs every 15 days.

How many eggs will she lay in her lifetime?

2500, 10 egg rafts

Problem 2:

A female mosquito lays 1200 eggs in her lifetime. She lays 300 eggs in her first egg batch.

What percent of her total eggs are laid in the first egg batch.

25%

Problem 3:

A mosquito lays 150 eggs in a raft. All of the eggs hatch, but 32% of the larvae are eaten by fish.

The rest survive to become adults.

A. How many of the larvae are eaten by fish?

48

B. How many of the larvae will survive to become adults?

102

Problem 4:

A mosquito lays 200 eggs in a raft. Ninety percent (90%) of the eggs hatch. Of the larvae that hatch, 50% are eaten by aquatic predators; the rest survive to become adults. Of the adults that emerge, 20% are eaten by dragonflies and spiders on the way to taking their first flower nectar meal. How many make it to the flower to take a meal?

$200 \text{ eggs} \times 0.9 = 180 \text{ hatch} \times 0.5 = 90 \text{ survive to become adults} \times 0.8 = 72 \text{ make it to the flower}$

Problem 5:

Two mosquitoes fly off together in search of flower nectar. The first mosquito flies 3 miles and finds a flower in a garden. The second mosquito flies 2.5 times that far, and finally finds a clover field. How far did the second mosquito fly?

$3 \text{ miles} \times 2.5 = 7.5 \text{ miles}$