

Lessons from the Maldives

Mosquitoes KS2



Captivating
Classrooms™



in association with


Soneva

Academy

LESSON: Mosquitoes



AGE RANGE: KS2 with some additional KS3 level slides for pupils working at a greater depth

TIME: 1 – 2 hours

CURRICULUM LINKS:

Science - Upper KS2 (Year 5 and 6)

Living Things and Their Habitats

- describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
- describe the life process of reproduction in some plants and animals.
- describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.

Animals, including humans

- understanding food chains and food webs, predators and prey.

Science - KS3

Biology

Interactions and interdependencies

Relationships in an ecosystem

- the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops.
- how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.

LESSON OVERVIEW

This lesson teaches about the mosquito, its life cycle, how it's classified and its role in an ecosystem. Children learn about the dangers of diseases carried by mosquitoes and methods being used to prevent the spread of these diseases. Additional KS3 slides have been added for pupils working at a greater depth, to stretch their knowledge and understanding. They are marked with 'KS3' at the top of the slide. Please adapt this lesson to the pupils in your class and remove these additional slides if they are not needed.

LESSON AIMS

To learn

- what mosquitoes are and why they are considered one of the deadliest animals on the planet.
- what can be done to protect humans against the diseases mosquitoes can transmit when they bite.
- how Soneva Fushi in the Maldives has tackled the problem of mosquitoes, eliminating insecticides and increasing bio-diversity on their islands.

KEY VOCABULARY

Mosquito
Life cycle
Ecosystem
Metamorphosis
Invertebrate
Adaptation
Transmit
Disease
Insecticides

These can also be found at the end of this PDF, in printable format for your working wall.

POWERPOINT PRESENTATION

Slides 1 and 2 introduce the lesson and the lesson aims.

Slides 3 to 13 introduce information about the mosquito.

Slides 14 to 23 cover the life cycle of the mosquito.

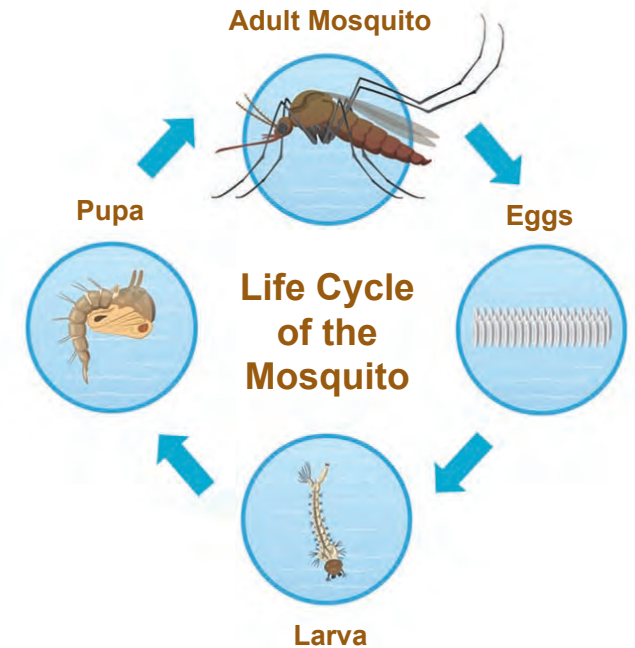
Slide 24 asks the children to compare the life cycle of a mammal, bird or amphibian to that of a mosquito.

Slides 25 to 35 explain why, and how, mosquitoes bite and the dangers of diseases carried by mosquitoes. Plus, how we can prevent being bitten.

Slides 36 to 42 outline the role of the mosquito in an ecosystem and explain how mosquitos have adapted to their environment to survive. Adaptation stars are included throughout the lesson. Ask the children how many of the adaptation facts they can remember. How many stars did they see? Go back and revisit these.

Slides 43 to 50 detail fogging and misting and how Soneva Fushi is controlling the mosquito population on their island in a different way.

Slide 51 onwards include activities linked to the lesson.



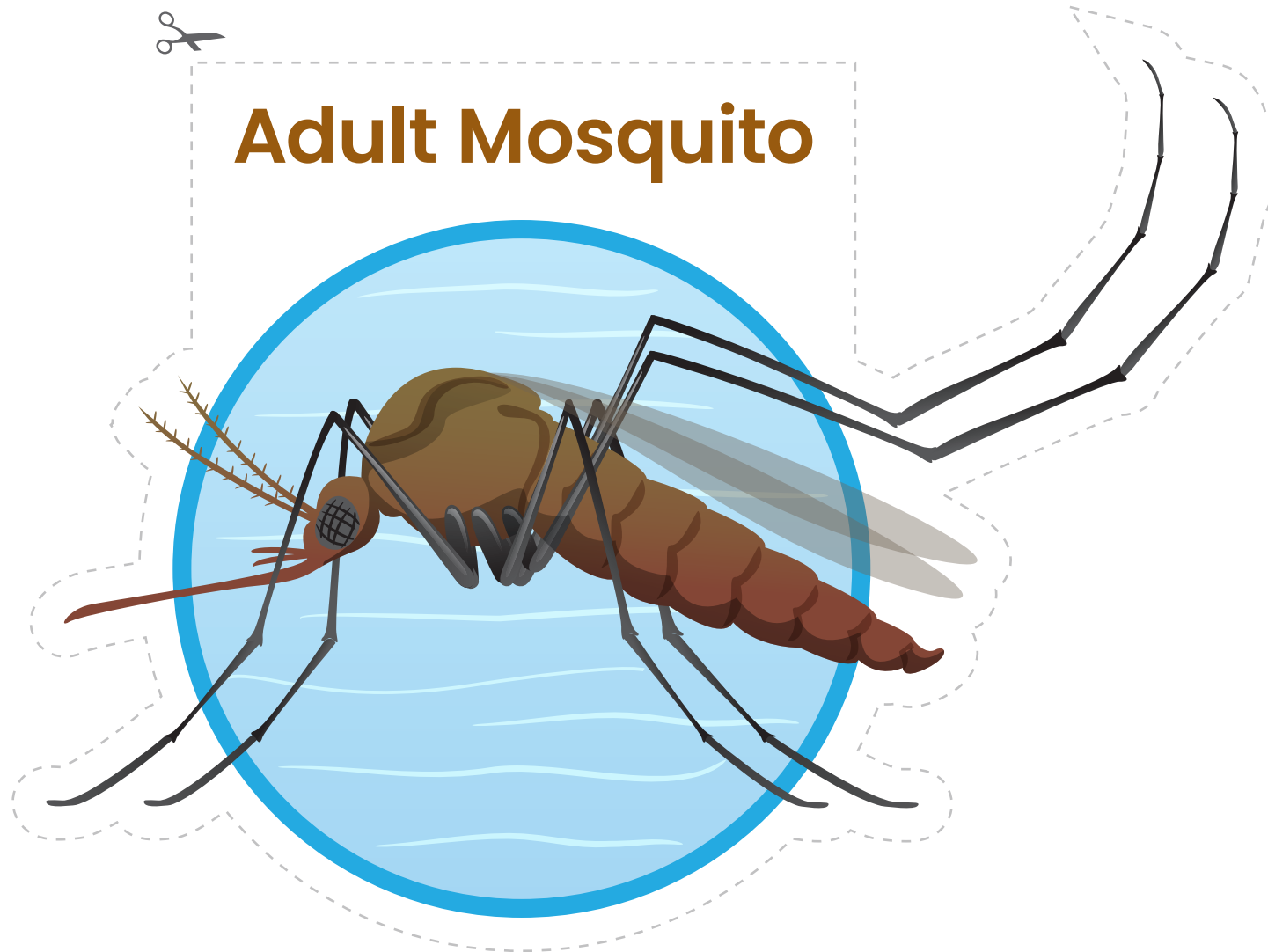
Supporting
Activity
Available

This graphic on the classroom PowerPoint presentation slide, highlights a corresponding activity within these teacher's notes.

Life Cycle of a Mosquito

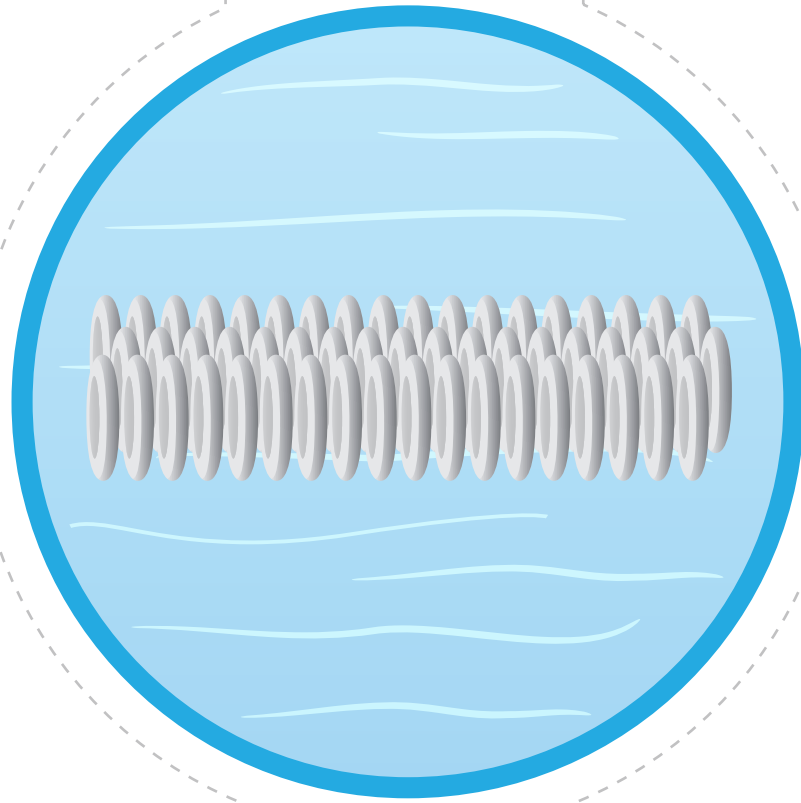
Activity: PowerPoint slides 14-21

Cut out each stage of the mosquito life cycle and put them in the correct order





Eggs



Larva





Pupa

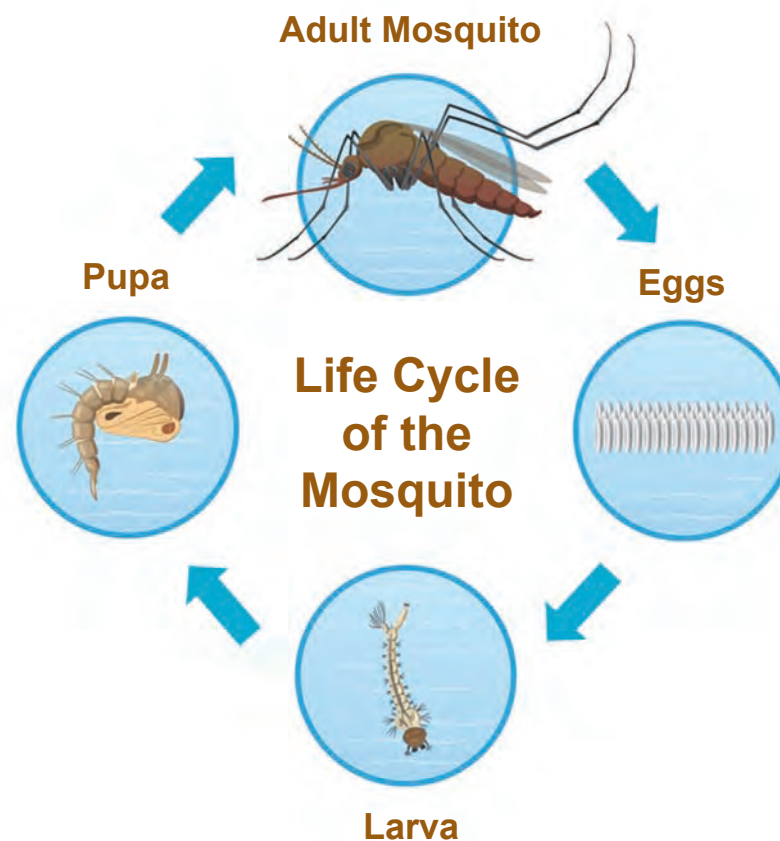


Mosquito life cycle: acting game

Activity: PowerPoint slide 23

As a class, why not act out each of the stages with some pupils being mosquitoes, others as eggs, wigglers and female adults again!

1. Mark out on the floor, the surface of the water and the bottom. You could use skipping ropes for this. Decide where your patch of water is i.e. a lake, a stagnant pond, water in a tyre.
2. Ask some of the children to be mosquitoes flying down and laying their eggs on the water. Some children can be curled up as eggs. The children can shuffle to the bottom of the water to show the eggs sinking.
3. You could then have children with teeth on their heads breaking out of the eggs as larvae. These 'wigglers' then wiggle to the surface of the water. These children could have a straw as a breathing tube. Ask them to wear several layers of t-shirts or shirts to shed for the stage where they become pupae (or 'tumblers').
4. At this stage the children breathe through 2 straws called 'trumpets'. The adults then emerge from the water and fly off.
5. Finally, female mosquitoes bite someone to get some blood to make their eggs. Have the children hold out one arm to become a proboscis to use to "bite" with.



Mosquito life cycle game: Extension Idea

An extension of this game can be to ask the children to add in the following elements, so they can move onto the next stage of the cycle. They can only go to the next stage if they find all the necessary elements.

Cut out the following pictures:-

Food: in the form of nectar (flowers) (adult stage)

Microbes in water (only the larvae feed on this using a filter system)

Warmth (at each stage)

Blood (adult - egg)

Water (to lay the eggs in) (all stages)

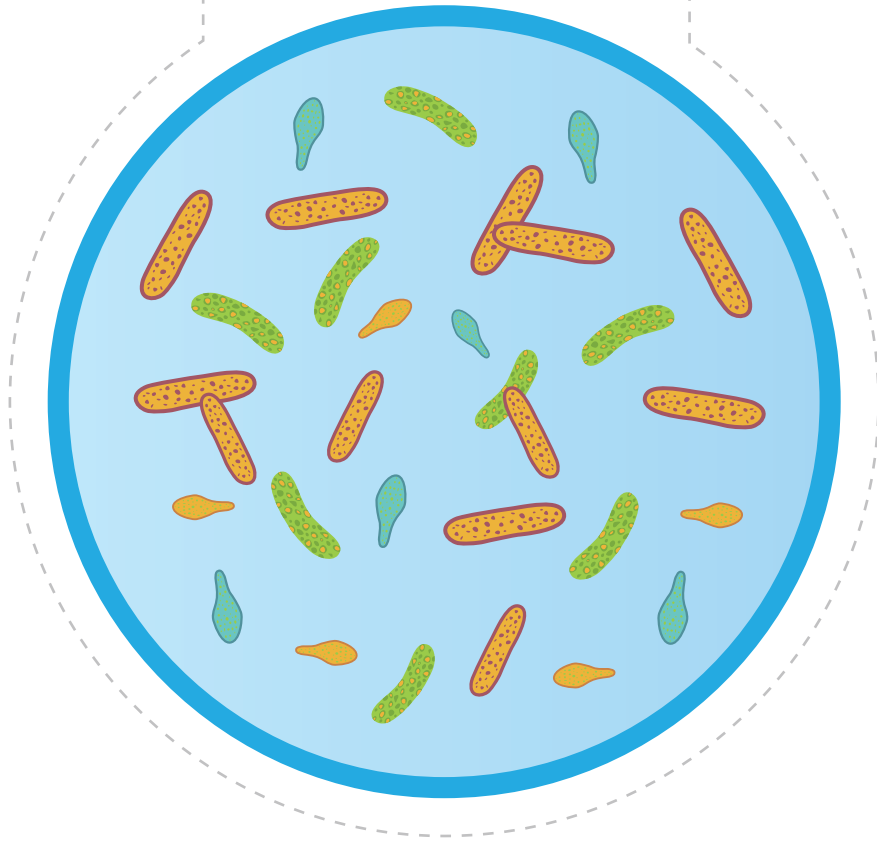


Food





Microbes



Warmth





Blood



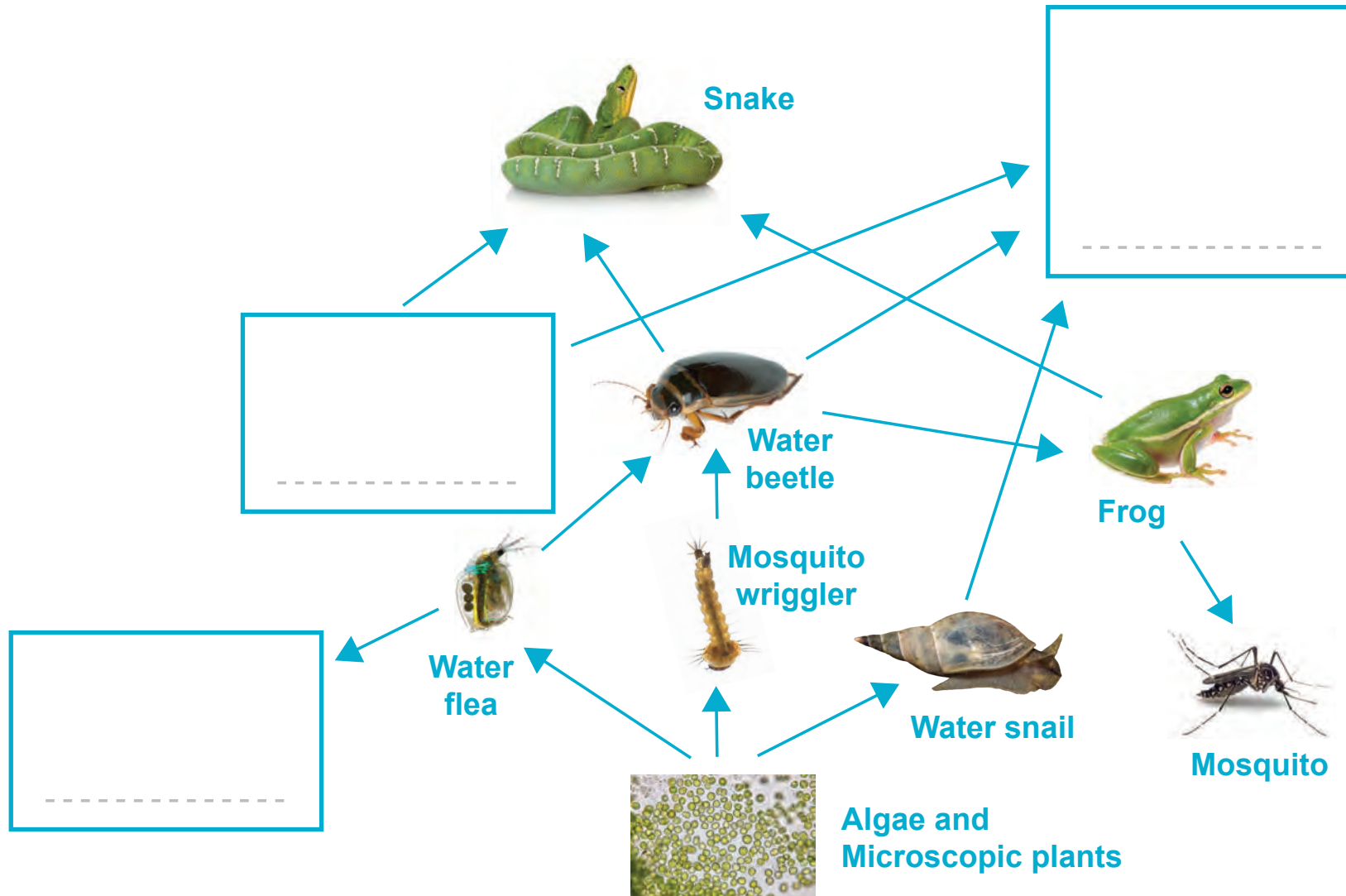
Water



Name _____

Mosquito Food Web

Activity: PowerPoint slide 40



The Mosquito Game

Activity: PowerPoint slide 51



N.B. The timings in this game have been altered for simplicity. In reality, there is a 12-13 day delay between a human being bitten and that person transmitting Malaria to another mosquito. If a mosquito bites a human with Malaria, it also takes a few days before it can transmit this on to another human. In addition, a mosquito looks for blood every three days.

Instructions

Play the following game in the playground or school hall, to show how quickly malaria can spread. Mosquitoes can transmit the malaria parasite to humans, and infected humans can pass the malaria parasite to mosquitoes! You will need something to represent the spreading of the malaria parasite, such as print outs of an 'M' for 'malaria'. If a child is given an 'M', they have the malaria parasite!

1. Split the class into 'humans' and 'mosquitoes'.
2. At the start none of the humans have malaria, but one of the mosquitoes has it. (give all the 'm' print outs to this mosquito). When this 'mosquito' bites a human they give them the malaria parasite.
3. When mosquitoes without malaria bite this child they get given malaria too. Keep passing the malaria print outs to the next person as the infection spreads.
4. After a few minutes stop the game and they see how many mosquitoes and children have, or are now carrying malaria. This will show how quickly it is spread.

Talk about how important it is for people in countries around the equator to have antimalaria drugs so they don't pass it on to the mosquitoes, who then spread it to other humans. Protecting ourselves against being bitten by mosquitoes is also really important.

Mosquito Breeding Map

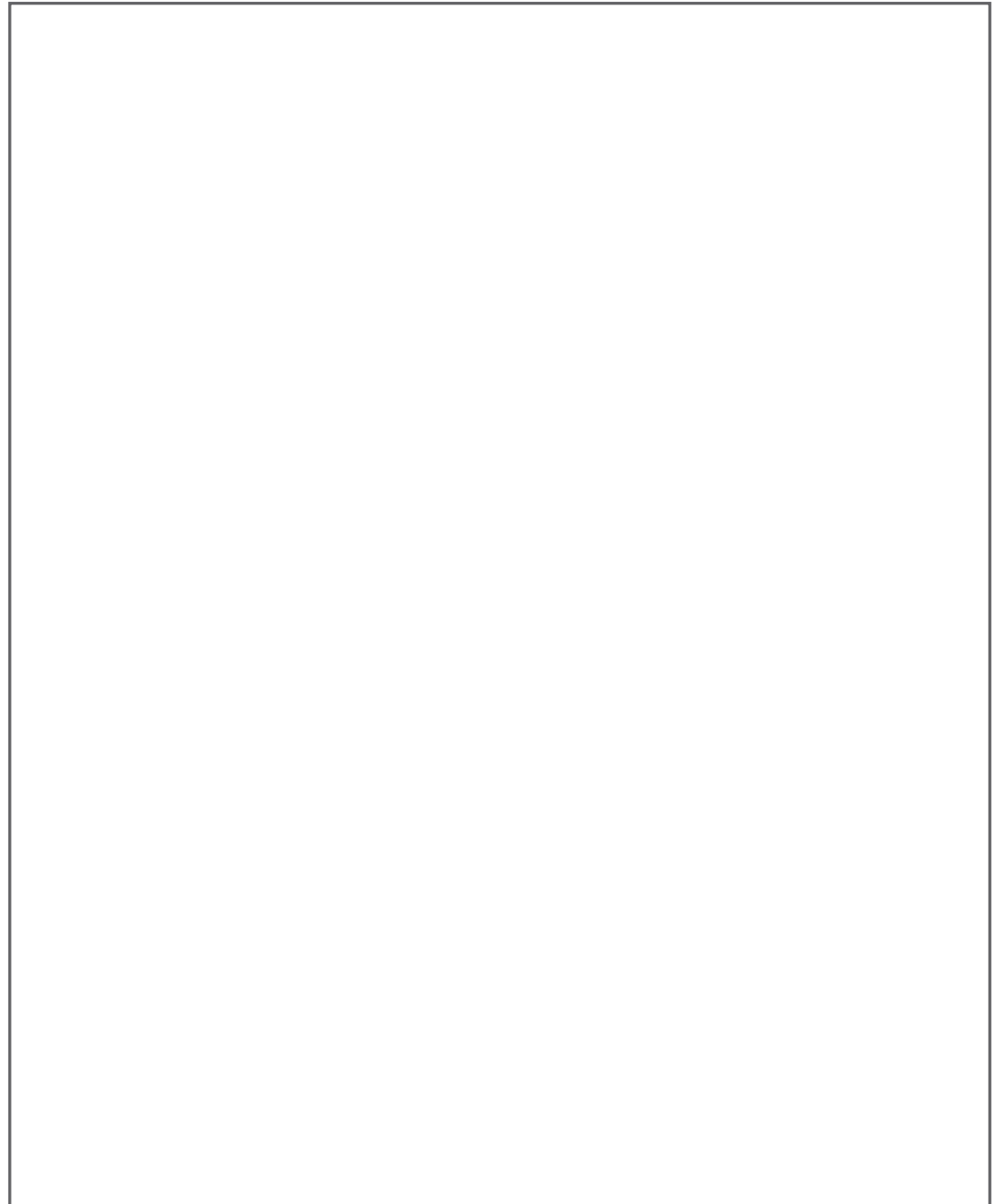
Activity: PowerPoint slide 51

Draw a map of the area that you are investigating.
Draw buildings, trees, bushes, water (natural or in artificial containers), rubbish bins etc.

1. Where would you find a mosquito breeding spot?
Mark it with a cross on your map.

2. What does the spot look like?

3. Why do you think this could be a breeding spot?



Name _____

Mosquito Quiz

Activity: PowerPoint slide 52



Complete this multiple-choice quiz and see how many answers you know!

1. How many legs and wings does a mosquito have?

- a. 6 legs and 2 wings
- b. 4 legs and 2 wings
- c. 2 legs and 4 wings

☐

2. How many different types of mosquito are there?

- a. 10,000
- b. Over 500
- c. Over 3,000

☐

3. Which is the correct mosquito life cycle?

- a. Egg, Larva, Adult, Pupa
- b. Egg, Larva, Pupa, Adult
- c. Egg, Embryo, Pupa, Adult

☐

4. What is the common name for mosquito larvae?

- a. Wigglers/Wrigglers
- b. Movers
- c. Twisters

☐

5. How many eggs do female mosquitoes lay at any one time?

- a. 50
- b. 100
- c. 300

☐

6. Is there anywhere in the world where mosquitoes can't be found?

- a. Greenland
- b. Finland and the Arctic
- c. Antarctica and Iceland

☐

7. Name one reason why mosquitoes are good for our ecosystem?

- a. Important part of food chain
- b. They help with soil conservation
- c. They help filter stagnant water to make it clean

☐

8. Why do female mosquitoes bite?

- a. To feed on our blood and help produce their eggs
- b. They don't like humans
- c. Our blood helps them sleep better

☐

9. How many children die of Malaria each year?

- a. Over 1,000,000
- b. Over 400,000
- c. Over 10,000

☐

10. Name one way you can avoid being bitten by mosquitoes?

- a. Cover up with plenty of clothing
- b. Drink lots of tea
- c. Eat raspberries

☐

Mosquito Quiz Answers

1. 6 legs and 2 wings.
2. Over 3,000.
3. Egg, Larva, Pupa, Adult.
4. Wigglers/Wrigglers.
5. 100.
6. Yes, Antarctica and Iceland.
7. They help filter stagnant water to make it clean.
8. To feed on our blood and help produce their eggs.
9. Over 400,000.
10. Cover up with plenty of clothing.

You could even take this quiz outside; draw 3 squares on the playground marked up A, B, C. Run to the correct answer square.



Mosquitoes: Keywords Flashcards



Mosquito

Life cycle

Ecosystem

Metamorphosis

Invertebrate

Adaptation

Transmit

Disease

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