WHISTLER NATURE CAMP

Pro-D Day Learning Series

Wetlands

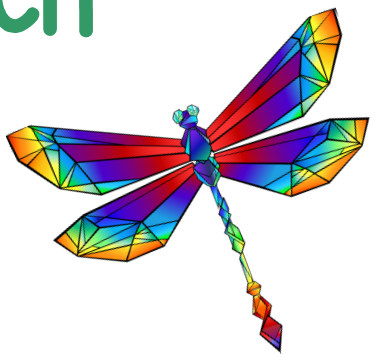
Series 6 of 6

Whistler Community Foundation

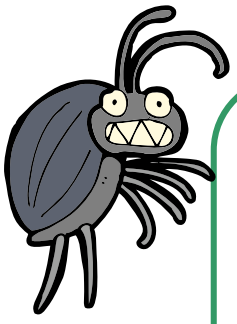
AWARE

Association of Whistler Area Residents for the Environment

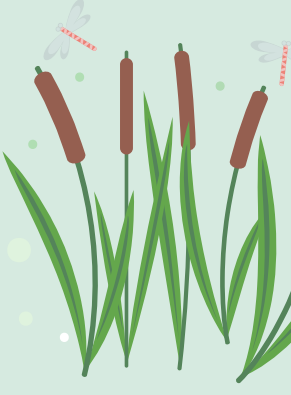
WETLAND WORD SEARCH



Look for the words listed below.
Hint: words may be vertical, horizontal, diagonal or even backwards!



H D R I B F H N L
A S B A Z I G U B
B B E E T L E L A
I O R O O T S U V
T R D X W E H G R
A O T M A R S H A
T A A E T G G E L
N E N D E E F G W
P U P A R E E B E



Egg
Larva
Pupa

Water
Marsh
Habitat

Filter
Roots
Beetle

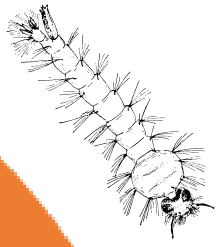
Bug
Bird
Toad

MOSQUITO MADNESS

Did you know: Both male and female mosquitos feed on plant nectar. Only female mosquitoes feed on blood, which is needed for them to lay eggs.

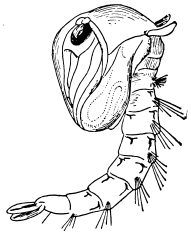
Even though mosquitoes may not be our favourite insects - mosquitoes play a critical part in our ecosystem and feed all sorts of other animals up the food chain. All mosquitoes undergo metamorphosis, passing through four distinct stages during their lives: egg, larva, pupa, and adult. The entire mosquito lifecycle takes about a month.

1) EGGS: A female mosquito needs a water source in which to lay her eggs. Stagnant water, such as ponds and marshes, make ideal nesting grounds. She will lay her eggs one at a time, laying several hundred in total.

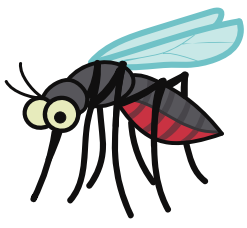


2) LARVAE: In just a couple days eggs will hatch into larvae. The larvae must eat often and shed their skin as they grow. The larvae stay in the water in which the eggs were laid, eating whatever organic matter is present.

3) PUPA: After the larvae shed their skin several times, they enter the pupa stage. As with most insects, this is an inactive stage in which the mosquito transitions into an adult. It takes only about two days to complete the stage.



4) ADULT: After its pupa skin splits open, an adult emerges, still in the water in which the eggs were laid. It takes a few minutes for its wings to dry before the mosquito can take flight.



LIFECYCLE OF A MOSQUITO

Fun Fact: Mosquito larvae come to the surface to breathe through a siphon tube that pokes through the water like a snorkel.

Question: There are lots of other animals that are born in or live in wetlands. Can you name some common Whistler species?

_____

_____

_____

Question: What animals eat mosquitoes? Now, think about what animals eat those animals. Write down your ideas and then draw a wetland food chain on the next page.

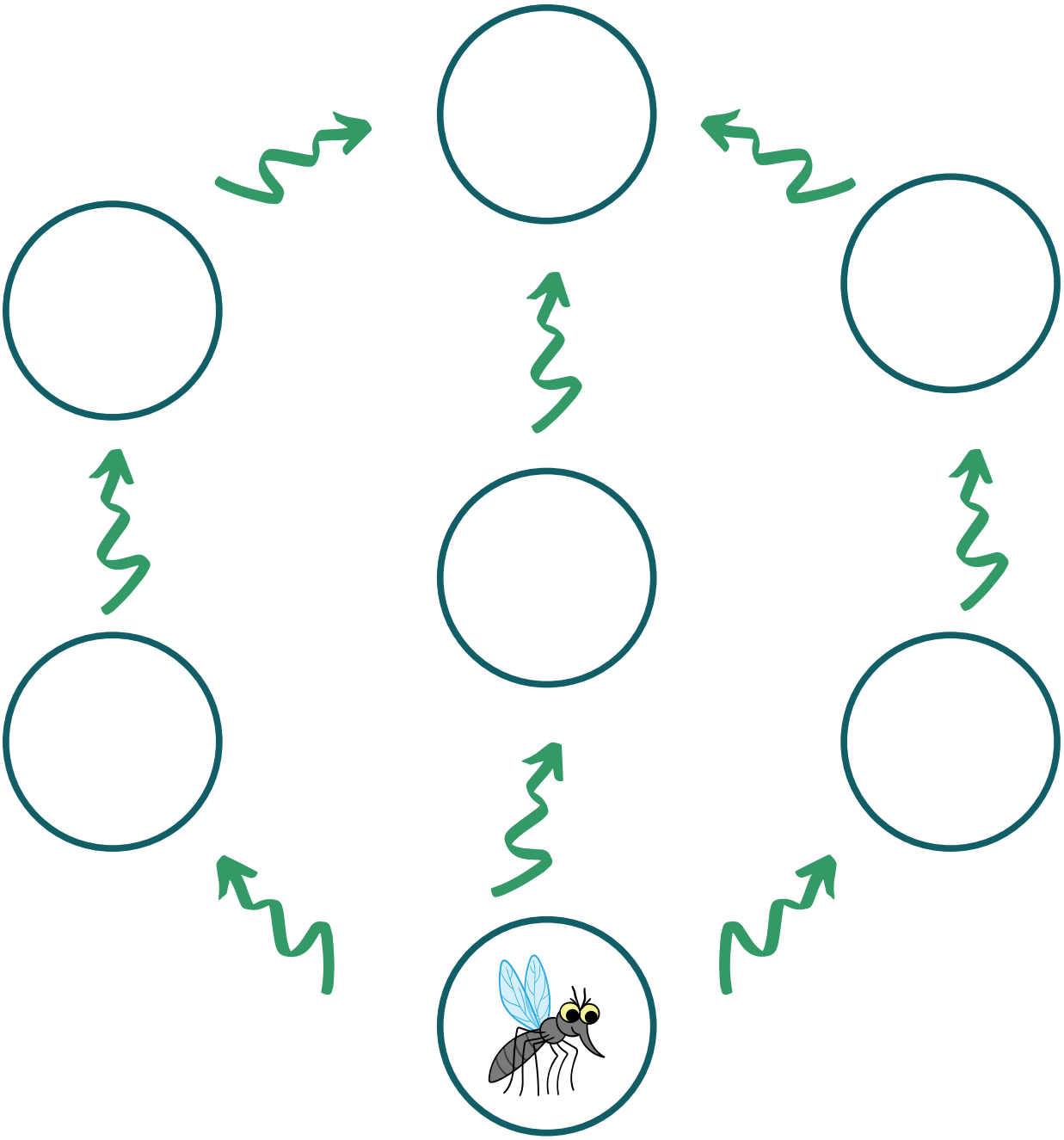
_____

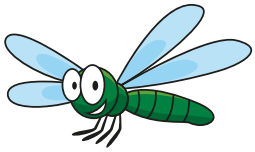
_____

WETLAND FOOD CHAIN

Now that we've brainstormed who's eating who in our wetlands, it's time to draw a food chain! Fill in the spaces between each arrow to indicate who is on the top and bottom of this food chain. Spell the names, draw pictures, or both. Add in extra arrows if you think there are any other connections between animals.

Fun fact: an animal at the top of a food chain is called an apex predator.



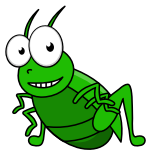


AQUATIC BUGS

All aquatic insects are food for larger animals in the food chain. Without aquatic bugs (invertebrates) entire ecosystems could collapse.

Shredders have mouthparts that are designed to nibble off pieces of soft vegetation, such as leaves, flowers, or twigs, and grind up this material. Most aquatic insects shred pieces of vegetation that have dropped off of plants and are decaying. This material provides the base of the food chain in some aquatic environments, especially small streams in forests.

Scrapers have special mouthparts that remove algae growing on the surface of rocks or other solid objects. These mouthparts work like a sharp blade to remove the outermost layer of algae, which is attached very tightly but is very nutritious for those insects equipped to remove it. This layer of algae, which produces much oxygen and food for other organisms, is more productive if it is kept thin by the grazing of aquatic insects and other invertebrates.



Collectors acquire small pieces of decaying plant material. Some kinds use long hairs on their head or legs or silk nets to filter these small particles out of the water. Other kinds of collectors use their mouthparts to gather fine particles lying on the bottom and shove this material into their mouths. This is useful because it helps to keep the water clear enough for light to penetrate where algae and other plants are growing on the bottom.

Predators feed on other animals that are alive. Predators often have special structures for catching and subduing their prey, such as strong jaws with teeth, a sharp beak, or spiny legs. Predators eat other invertebrates most of the time, but some are large and strong enough to catch small vertebrates, such as fish and tadpoles. They reduce the number of other invertebrates and help keep a balance among the different kinds of organisms and the food that is available.

AQUATIC BUGS

Matching challenge: using the information on the previous page draw a line from each insect to the action that best describes them (see answers below).

Mayfly Larva

Water Scorpion

Caddisfly

Dragonfly

Leech

Giant Water Bug

Mosquito Larva

Shredder

Predator

Scraper

Predator

Collector

Scraper

Predator

a) Mayfly Larva - scraper b) Water Scorpion - predator c) Caddisfly - collector d) Dragonfly - predator

e) Leech - shredder f) Giant Water Bug - predator g) Mosquito Larva - scraper

COLOUR ME!

Wetlands are the link between land and water. They are some of the most productive ecosystems in the world. Some common names for different types of wetlands are swamp, marsh, and bog. Depending on the type of wetland, it may be filled mostly with trees, grasses, shrubs, or moss. To be called a wetland, an area must be filled or soaked with water at least part of the year. Some wetlands are actually dry at certain times of the year!

Draw the animals that you think might live in this wetland in the circles below.

WILD WETLANDS

Do you recognize any of the aquatic bugs below? Head to a wetland and do an aquatic bug survey! Count the number of aquatic insects you find. **Helpful hint:** the next page has a handy chart to help you I.D them!

Water Scorpion

Kayak Pond Skater

Common Backswimmer

Whirligig Beetle

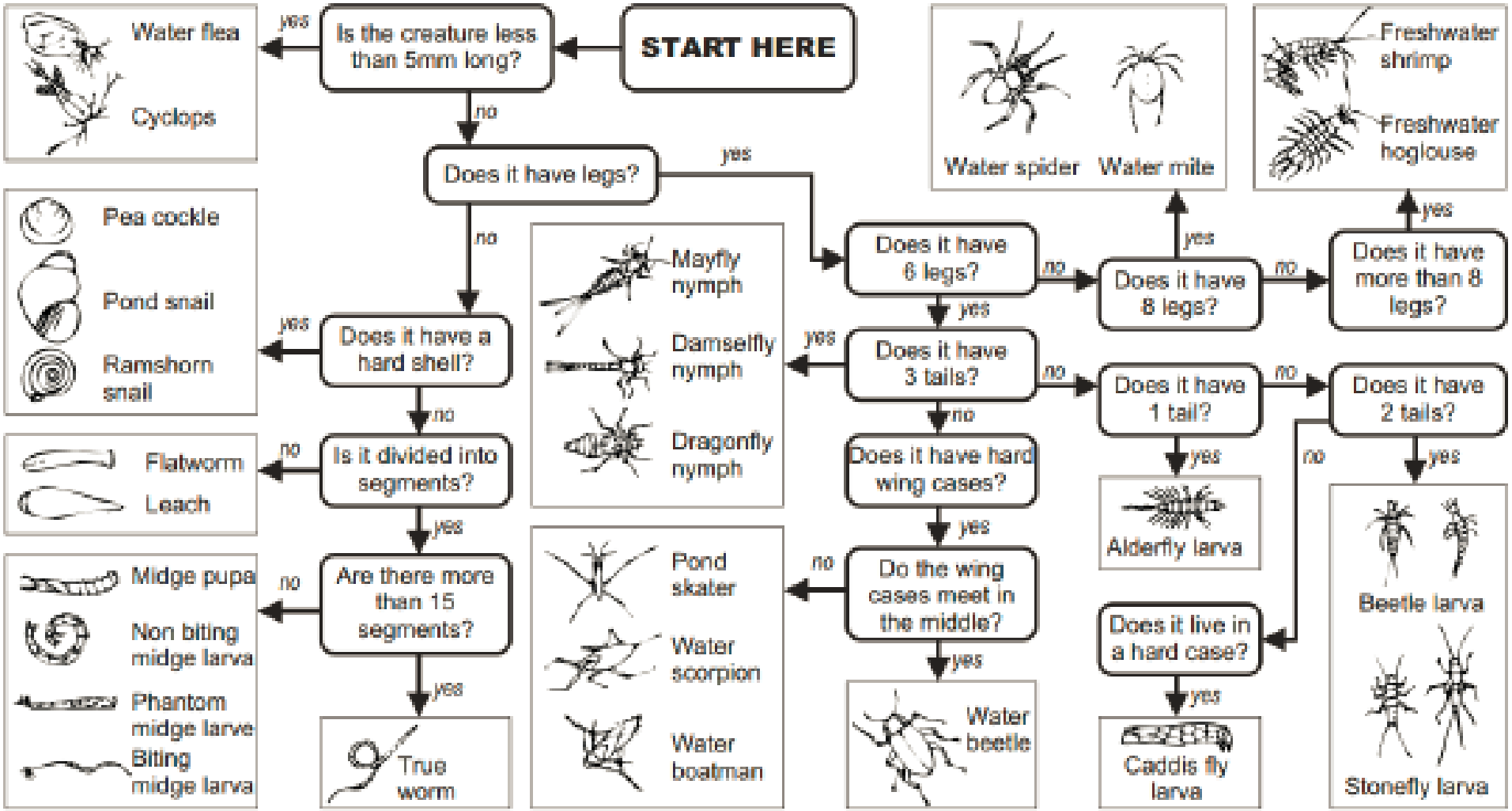
Giant Water Bug

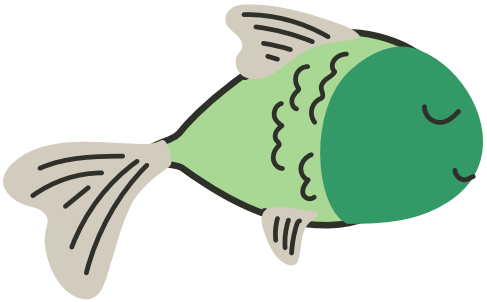
Water Boatman

Acilius Diving Beetle

Mayfly Larva

Caddisfly Larva


START HERE
Is the creature less than 5mm long?
yes
Water flea
Cyclops
no
Does it have legs?
yes
Water spider
Water mite
Freshwater shrimp
Freshwater hoglouse
Does it have 6 legs?
yes
no
Does it have 8 legs?
yes
no
Does it have more than 8 legs?
yes
Does it have 3 tails?
yes
no
Does it have 1 tail?
yes
no
Does it have 2 tails?
yes
Mayfly nymph
Damselfly nymph
Dragonfly nymph
Does it have hard wing cases?
yes
Alderfly larva
Beetle larva
Pond skater
Water scorpion
Water boatman
Do the wing cases meet in the middle?
yes
no
Water beetle
Does it live in a hard case?
yes
Caddis fly larva
Stonefly larva
Does it have a hard shell?
yes
no
Pea cockle
Pond snail
Ramshorn snail
Is it divided into segments?
yes
no
Flatworm
Leach
Are there more than 15 segments?
yes
no
Midge pupa
Non biting midge larva
Phantom midge larva
Biting midge larva
True worm



ALL ABOUT MY DAY

Use these sentence starters to write a journal. Complete one, two, or all of these lines below:

- My favourite part of the day was...

- The two most interesting things I learned were...

- I didn't expect to...

- Next time I'd like to...