

# Waikato

# ENVIROSCHOOLS



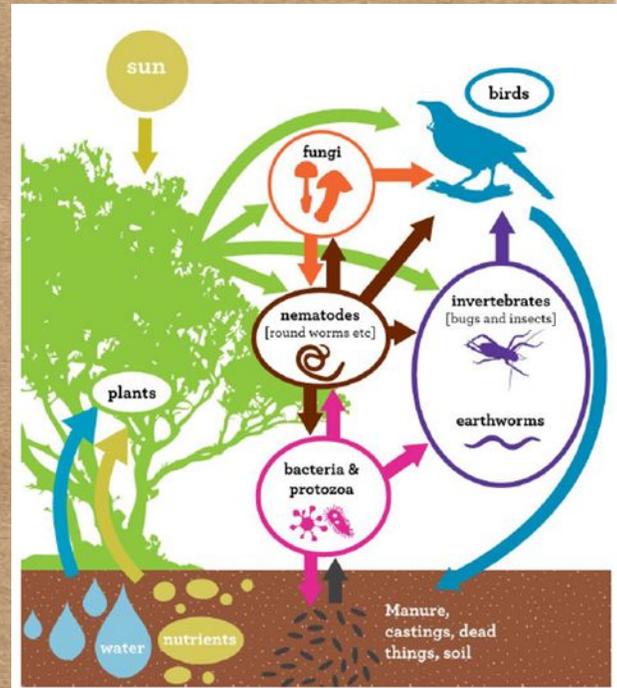
## We all live in an Ecosystem!

### EXPLORING YOUR GARDEN OR BACKYARD

Our gardens and backyards are ecosystems. Every animal and plant lives in an ecosystem. An ecosystem must contain producers (such as plants), consumers (which eat plants or other animals), decomposers (which eat dead plant or animal matter), and dead and inorganic matter itself

*Image - a typical ecosystem (taken from DOC)*

Discover your backyard or neighbourhood ecosystem. Investigating the different parts can help you understand how everything is interconnected, where each animal or plant depends on others to survive.



## Bug Hunting

Invertebrates, or bugs, are important parts of any ecosystem. There are pollinators, such as bees and butterflies; herbivores such as stick insects; predators like spiders and preying mantis; parasites such as ticks and lice; detritivores i.e., animals such as worms which break down leaf litter and other organic matter; plus they are also food for reptiles, birds, mammals and other invertebrates!

Download the activity sheet from Horizons Regional Council [here](#).

1. Lift some leaf litter, look under logs or stones and gently collect any insects you find into a bowl/tray
2. How many different insects can you find? Count their legs and use the identification sheet to find out what kind of insect they are. Can you draw and name one of them?

## ADDITIONAL RESOURCES

**Watch:** *Yucky Bugs* with Rudd Kleinpaste <https://www.youtube.com/watch?v=Xh6KVhdPHeE>

iNaturalist NZ is a free app that can be used on a smart phone or ipad. You take a photo of an animal (bird, insect, lizard) or plant and record and identify with the help of a community of experts. Record what you see in nature, identify animals and plants, learn about the natural world and your backyard ecosystem. <https://inaturalist.nz>



# NZ Invertebrates: ID guide for students

How many legs does the invertebrate have?

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| <p><b>No legs</b><br/>Snails, slugs and worms</p> <p><b>Molluscs</b></p> <p><b>Snails</b><br/>Soft, slimy bodies<br/>Hard shell</p> <p><b>Slugs</b><br/>Soft, slimy bodies<br/>No shell</p> <p><b>Annelids</b></p> <p><b>Earthworms</b><br/>Long thin bodies<br/>No shell</p> <p>Rings/ segments around body</p> <p><b>Other worms</b><br/>Do not have segments and can be different shapes (e.g flatworms and round worms)</p> | <p><b>6 legs</b><br/>Insects [ALL insects have 6 legs, 2 antennae/ feelers and a 3-part body (head- thorax- and abdomen)]. Some insect groups:</p> <p><b>Beetles</b></p> <p><b>Bees and wasps</b></p> <p><b>Bees</b></p> <p><b>Wasps</b></p> <p><b>Wētā</b></p> <p><b>Cockroaches</b></p> <p><b>Stick insects</b></p> <p><b>Crickets &amp; grasshoppers</b></p> <p><b>Ants</b></p> <p><b>Dragonflies</b></p> <p><b>Butterflies and moths</b></p> <p><b>Flies</b></p> <p><b>Mosquitoes</b></p> <p><b>Cicadas</b></p> | <p><b>8 legs</b><br/>Arachnids (Spiders, harvestmen, mites and ticks)</p> <p><b>Spiders</b></p> <p><b>Harvestmen</b></p> <p><b>Mites and ticks</b></p> <p><small>More info: <a href="#">Alicia Sabers and Marc Wilson, Massey University</a></small></p> <p>Not sure about which bug you found? This guide only covers some of our thousands of invertebrate species in New Zealand.</p> | <p><b>More than 8 legs</b><br/>Myriapods, crustaceans and other</p> <p><b>Myriapods</b></p> <p><b>Centipedes</b></p> <p><b>Millipedes</b></p> <p><b>Crustaceans</b></p> <p><b>Isopods: Slaters</b></p> <p><b>Amphipods: Hoppers</b></p> <p><b>Other</b></p> <p><b>Caterpillars &amp; larvae</b><br/>Although caterpillars have many legs (if you look closely) they are insects not myriapods or crustaceans. Being a caterpillar at just one part of their life cycle. As adults they will only have 6 legs.</p> |
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**EXPERIENCING INVERTEBRATES IN YOUR GREEN SPACE**