

Questacon at HOME

Citizen Science: Year 3 to Year 6

Backyard Adventure

Instructions

Read through the 'backyard adventure resource sheet' and do your best to answer all the questions below – including the bonus points! With permission from a responsible adult get out and about your house to track down some of these interesting creatures. Look high and low but remember not to touch anything and to stay safe at all times!

Ants

Ants are EVERYWHERE! On every single continent and country! Can you guess roughly how many ants there are in the whole world?

10 billion 100 billion 10 trillion 10,000 trillion

Can you name 5 different types of ants?

1. _____
2. _____
3. _____
4. _____
5. _____

Eucalypts

Can you name 3 types of Eucalypts?

- _____
- _____
- _____

Not many animals eat Eucalyptus leaves – do you know why?

Bonus point! Why is it important to leave dead Eucalypt trees standing?



Bees

Did you know the Honey Bee isn't native to Australia, even though we have many native ones of our own? Where do you think they might come from?

Bees often die when they sting something (but not always). Do you know why?

Bonus point! Why do bees make honey?

Flies

What type of things do flies like to eat?

Can you name 3 types of flies?

- _____
- _____
- _____

Bonus Point! How many species of fly are there in Australia?

Check your answer below:

300 3000 15,000 30,000

Possums

Where do you think you might look for a possum?

When do you think you are most likely to find them? Why is that?

Feathers

Feathers help birds to fly, but they also do other things! Can you guess what feathers might do to help birds survive?

Feathers help birds to fly, but not all birds fly! Can you name 3 flightless birds?

- _____
- _____
- _____

Bonus point! Collect three different feathers and guess what birds they come from. Why do you think they come from those birds?



Caterpillars

These creepy crawlies love to eat! What do they usually munch on and why?

Everyone knows that caterpillars turn into butterflies, but do you know that another flying insect lays caterpillars too? Can you guess what they might be?

Bonus Point! Do you know what caterpillars do to turn into a butterfly?

Beetles

Where do you think you will most likely find a beetle?

What makes a beetle different to other insects?

Bonus point! Find 3 different types of beetle. Don't touch them though, just look and see, draw or write the differences you can see:

Spiders

We have lots of spiders in Australia! Can you name 5 different kinds?

- _____
- _____
- _____
- _____
- _____

Different spiders like to live in different places – can you name a place you might find the spiders you listed above?

Bonus Point! See if you can spot a Daddy Longlegs, a Huntsman, and a teeny tiny spider in your home! Remember not to touch them! Draw picture below:



Resource Sheet

Ants

These amazing insects live almost everywhere on the planet. In fact, scientists estimate that there are over 10,000 trillion ants in the world! Ants play an important role in our ecosystems, our living planet couldn't exist without them! Watch out though – most ants bite! The bigger the ant, the more it will hurt – so make sure you are not standing on an ants nest when you're outside. Common ants found in Australia are Black Garden Ants, Banded Sugar Ants, Fire ants, Carpenter Ants and Bull ants. Ants are a type of insect, just like bees and butterflies. This means that they have six legs and three main body parts: the head, thorax and abdomen.

Ants are very social animals, and like to live in big communities (called a colony). There are three kinds of ants that live in a colony: the Queen, female workers and males. The worker's don't have wings, but the Queen and males do. The Queen spends its' whole life mating with the males and laying eggs!

Fun Fact: Ants can lift about 20 times its own body weight. That means that if you were as strong as an ant, you could pick up a car!

Eucalypts

Eucalypts! The good ol' gum tree that covers most of Australia!

There are nearly 700 different types of gum tree across Australia and a wide range of heights and forms. Some even have multiple trunks, called Mallee. Some people do not like having eucalypts in their yards as they can drop a lot of their branches, twigs and leaves.

Each gum tree provides a habitat for numerous bird, mammals and, in particular, invertebrate (insect) species. In the wild it is common to see Koalas sleeping among the leaves, and if you look at the trunk of a gum tree, after a while you will see the many insects that call this tree home.

Eucalypt species include the River Red Gum, Silver Leaved Stringybark, Mountain Gum, Ghost Gum and Apple Box. The leaves of Eucalypts house toxins which is why most animals won't eat them, and why koalas spend so much time sleeping to digest them.

Fun Fact: eucalypts are also well adapted to fire, with many species having evolved fire-proof seeds, and ways to regenerate themselves following fire events! "Dead" trees may still be saveable!

Bees

Interestingly, the bee you are most likely to come across in your backyard is not native to Australia. The Western honey bee, or European honey bee has now spread worldwide (except Antarctica) from its origin in Africa or Asia a long time ago.

Although some bee species live solitarily, many species live in colonies. In these colonies (sometimes called hives) there is a division of labour, and a queen bee, who is the only female bee that can reproduce. She is the mother of all of the working bees.

Bees form an important part of all environments, since they are specialised pollinators for plant species. Bees are experts at finding pollen, using both their vision and sense of smell to find and collect pollen for the colony. Additionally, bees are also known for their production of honey and beeswax, although only a few species do this.



A foraging honeybee will bring flower nectar back to the hive, where it is passed by mouth from bee to bee until the nectar dries up into honey! It is stored in the honeycomb cells until baby bees or humans need it! Baby bees like this honey because it is so full of nutrients!

Some of the Australian Native bees which you might see, look a bit different to normal! We have Stingless Bees, which are tiny and harmless, as well as Yellow and Black Carpenter Bees which are the largest native Australian bees reaching up to 24mm long! That's about the length from your top thumb knuckle to your thumb tip! Green Carpenter Bees also exist, they are a gorgeous metallic green!

By now most of you would be aware that they can give a powerful sting - they literally put everything into that sting as it will be their last act. They die after issuing a sting as their main internal organs are connected to the stinger and left behind in the woundEeeeeew!

Flies

With over a million types of flies in the world, you are probably know what a fly looks like! You can rest assured, these creatures are not dangerous at all! Flies are cool and special because they have two sets of wings. They use their first set of wings to fly, and use the second set to maintain balance and do complex aerobics.

There are over 30 000 different species found in Australia! The two most common flies you are most likely to encounter are the bush fly (small and are often found in groups) and the larger blow fly, however you may have seen tiny little fruit flies around the home when you have a stinky garbage bin! All love poop, and rotting food which is where they lay their eggs and why they are often found around all things stinky!

Though they can be annoying, flies form an important part of many environments.

- Flies are the second most productive pollinators after Bees (this means they take plant seeds and pollen to a new environment to grow new wildlife)
- Some types of flies are collectors - they take rotten things apart, which help them to break down into tiny pieces (decomposition).
- Some flies also eat other insects, they can be predators - this helps to make sure there aren't too many nasty bugs around.

Flies don't eat things with a normal mouth either. They use a long trunk like mouth called a Proboscis, where they can suck food up!

Fun Fact: Flies are also used in medicine! When flies are very young they look a bit different, they look like fat squishy worms, and we call these maggots. Maggots have been used to heal people, because they eat the dead (yucky) bits of a wound, which makes it heal up quicker and healthier!

Possums

Did you know that your house could have a resident possum? That's right! Possums sometimes live in the roof of your house, but also like to live in trees in your backyard. This means that possums are arboreal, meaning they like to live in trees. To see them, you'll have to wake up during the night because possums are nocturnal. That is, they are awake at night and asleep during the day!

Possums mostly eat leaves, but they can be opportunistic, meaning that they will eat whatever they can find! This means possums also sometimes eat fruit, vegetables and even other small mammals!



They do have cute faces, but don't let this deceive you... if they feel threatened they can scratch you badly with their sharp claws and bite you with their teeth!

Feathers

Feathers are very important because they help birds to fly, stay warm and keep dry! There are many different types of feathers, with lots of different shapes, colours and sizes. This depends on the type of bird (called species) and what the feather is used for. Some birds also use their beautiful coloured feathers to attract other birds for mating and reproducing. Feathers on birds are like our hair, sometimes they fall out but they can regrow again!

Did you know that not all birds can fly? Over time, some species of birds have lost the ability to fly, even though they have feathers. Examples of flightless birds are penguins, emus and ostriches. Feathers can be quite beautiful especially when organised together – but you should wash your hands after handling them as they may carry mites or lice.

Caterpillars

These creepy, crawly creatures are the early stages (called larval) of both butterflies and moths. Some species of caterpillars are as small as 1mm when they are born, or as big as 14cm. Many animals like to eat caterpillars, so they use their appearance to protect themselves (called camouflage). Caterpillars hide on the underside of leaves where they can blend in and hide from the animals that would eat them (called predators). They can also make themselves look poisonous or bigger in size to repel their predators.

Not only do caterpillars like to hide under leaves, but they also eat them. 99% of caterpillars are herbivorous, with most of them just eating leaves! Caterpillars fill themselves up with leaves until they become bigger and bigger and start shedding their skin (called moulting). The caterpillar will eventually stop eating, hang upside down and spin itself into a silky cocoon. The caterpillar then transforms its body and emerges into a butterfly or moth!

Beetles

There are over 400 000 different types, or species of beetles worldwide. Beetles like to live on the ground, protected from predators under a rock, in the grass or crawling up a tree. Beetles are not dangerous at all, but it's best not to handle them because we could hurt them. Beetles are a type of insect. Like all insects, they have 6 legs! They also have two sets of wings: a fragile inner set for flying and a harder outer set that protects them – these wings makes them different to other insects.

Spiders

Australia is known around the world for being home to over 2000 types of spider!

Some dangerous other friendly! Some of our most famous include Funnelwebs, Huntsmen, Redbacks, Daddy Long Legs, and the Orb Weaving Spider! You can find each of these spiders in the following places: Sydney - outside in the garden on the ground (these spiders can't climb), in the house usually on walls or by the ceiling where they hunt for tasty insects, outside in the garden or yard usually hiding in crevices, in the house particularly the garage or shed, and these friends are usually in the garden where they spin their awesome webs!

Spiders can be scary but are also super cool! If you see one watch them from a distance but don't get too close!

