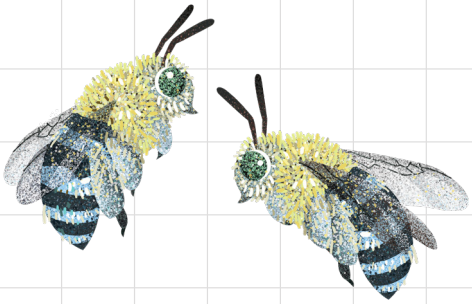
Aussie Wildlife CHAMPIONS

Lifelong Learning Curriculum Progam
- THE AUSTRALIAN NATIVE BEE -

Australian Wildlife Conservancy

The Australian Native Bee

Aussie Wildlife CHAMPIONS



AUSTRALIAN INSECTS

You can find insects everywhere, from the sky to the water to the ground. They come in all different shapes and sizes but are often fairly small! All insects have antennae, 6 legs, 1 or 2 pairs of wings, 3 segments to their body – head, thorax (the middle part which legs are connected to), abdomen (the bottom part). They also have a hard, protective skeleton on the outside of their body called an exoskeleton. Insects play many important roles in their ecosystems. Without them, many other species of living things would not be able to survive. Roles include pollinators, decomposers, seed dispersal and key food source for many forms of life.

PHYSICAL FEATURES

- There are many different types of bees. All bees are insects and have antennae, 6 legs, 3 body segments and wings.
- Bees are an amazing group of insects that come in many sizes, colours and patterns—from black with blue polka dots to yellow, red, shiny green or black with rainbow stripes! They can also be all different sizes; we have the smallest bee in the world in Queensland which is smaller than a grain of rice, and our largest bee—the Great Carpenter Bee—is about the size of a raspberry.
- The hairs on their bodies make it easier to collect pollen which is why most though not all bees have hairy bodies.
- Brood is the name for the bee egg chamber. Typically located in the centre of hives, this is where all bees are laid, pupate, and eventually hatch. Young bees are sometimes called callow.
- Some of our more recognisable native bees include the teddy bear bees, which are fluffy and orange, and the blue-banded bees. If you don't see them, you may hear them: they emit a high-pitched buzzing sound as they collect pollen.
- All bees and wasps have four wings. Wasps and bees usually connect their front and back wings together with tiny hooks when they fly. Their wings are not rigid, but twist and rotate during flight. Bee wings make short, quick sweeping motions front and back, front and back. This motion creates enough lift to make it possible for bees to fly.

LIFE CYCLE (REPRODUCTION AND GROWTH)

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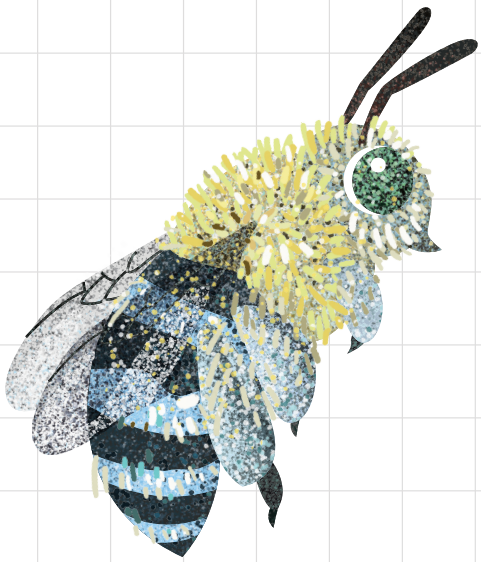
- EGG: Bees store honey or nectar and pollen in little pots called cells for the baby bees to eat when they hatch. Stingless bees work together to make many of these attached cells for the babies, but solitary bee mums do all this work alone.
- LARVAE: After a few days, the egg hatches. A baby bee does not look like a bee at all, but rather a white wriggly grub. It has no eyes or legs at all! It eats the nectar and pollen in its cell and then it makes itself a cocoon. A cocoon is like a zipped up sleeping bag which it is fully surrounded by.
- PUPA: In the cocoon it changes shape, growing legs, wings, all the features a bee needs!
- ADULT: Finally, the winged adult breaks out of its cell, and is ready to enter the world! Social bee species will then help with collecting pollen or making more babies. Solitary bees will mate and then the females will start making their future babies' nests. And so the cycle begins again!

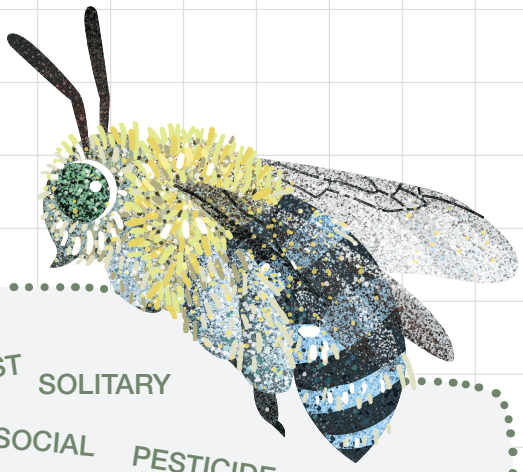
HABITAT

- Some bee species live on their own, but there are about 11 species which live together in groups. These are called social or stingless bees, as they all work together on shared nests and have no stings! These bees are mostly black and very, very tiny.
- The rest of our bees are called solitary bees because, unlike stingless bees, the mother lives alone, and build their own nests for their eggs, like many birds do. Solitary bees are often larger and fuzzier than stingless bees.
- Bees nest in habitats as diverse as tree hollows, underground burrows or inside plant stems, but they're very clever at finding homes, so you might even find them in flowerpots, rubbish bins, or cracks between bricks!
- Stingless bees love warm, wet areas and can sometimes make nests together. Did you know: the sugarbag bee makes an amazing, swirly, spiral nest!
- Female solitary bees typically live alone in a nest they make themselves. Male bees like the blue banded or teddy bear bee can sleep all squished up together on tall plant stems or in flowers like one big sleepover!



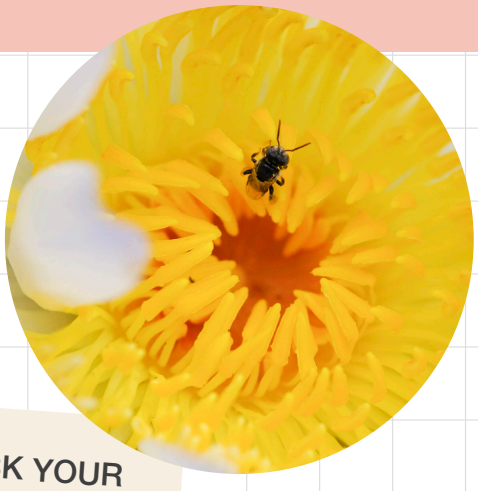
CONSERVATION

- None of our native bees are aggressive, and many would prefer not to sting you, so if you do see a bee, stay calm, quiet, gentle and don't touch them or their nests. That way you'll help them feel safe and happy!
- To get nectar and pollen to eat or store for their babies, bees fly between flowers. As they stick their bodies into the flowers to get this important food supply, extra sticky bright pollen can stick to the fuzzy parts of their bodies and get carried to other flowers. When this sticky stuff reaches a new flower, it can cause that flower to grow seeds inside of fruit! Without bees, we wouldn't have many of these lovely fruits, and new plants couldn't be grown!
- When we remove plants to make room for more buildings, we take away their habitat, meaning bees have no food or places to live.
- Insecticides and pesticides (bug and weed killers) can also kill native bees, so please keep your garden bee and insect friendly.



VOCABULARY AND CONCEPTS TO SHARE WITH YOUR CHILD.

ANTENNAE HIVE
INSECT LEGS HEAD HAIRS NEST SOLITARY
THORAX WINGS FEMALE SOCIAL PESTICIDE
ABDOMEN WINGS EXOSKELETON
EGG STINGLESS
NECTAR
POLLINATOR POLLEN ECOSYSTEM PUPA NEST
LARVAE STING ADULT
INSECTICIDE MALE NATIVE
DEFORESTATION FERAL
TREE HOLLOWS



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SOME GOOD QUESTION TO ASK YOUR CHILD TO SUPPORT THEIR LEARNING

Hint: the answers are all in the interesting facts. If your child doesn't know the answer you can take the interesting information and shape it into a conversation to guide their learning.

- What do bees look like? Does it have any spots or stripes? Do they all look the same?
- Where do bees live? Where do they sleep (hives or on their own)? When do they sleep (night or day)?
- What do bees like to eat? How do they gather their food? What do they make?
- Where might we see native bees? Are they a threatened species? (Yes – in decline)
- Do bees have babies? What stages does a bee go through before becoming an adult?
- Is a bee a mammal? What is an insect and how are they different to mammals?
- What work do bees do for us and the environment? (Pollinate plants and crops)
- What can happen to bees to make them unsafe? Why are bee numbers in decline?
- Why do bees have hair on their body? What other features do bees have? How do they protect themselves?
- What can we do to help bees thrive in our backyard?

SOME ACTIVITIES TO DO WITH YOUR CHILD ABOUT NATIVE BEES

1. **Still life drawing**: Use photos of native bees* and/or this video https://www.youtube.com/watch?v=Ho4aUHY6fss to help children draw a bee.
2. **Flower collage**: Collect a range of flowers petals. Have children make flower collages for their bees to collect nectar from. Alternate: use flowers (e.g., bottle brushes) to do some flower prints. Use the finished prints to make a flower garden for the bees to visit.
3. **Bee hotel:** Investigate features of native bee habitats to design and make your own bee habitat This video may help https://www.youtube.com/watch?v=EbFAKiP09s0 You might also like to consider whether the plants in your outdoor area will attract native bees to your hotel.
4. **Papier Mache Bee**. Use images of bees* to identify their physical features (e.g., head, thorax, abdomen, wings, hairs, antennae etc) use Papier Mache to make a bee. Talk about key features of this species as your child builds their model. Please see this link for instructions on how to make papier Mache hives/bees) https://youtu.be/qJiN6QkBZvM
5. **Plant Audit:** Do a plant audit of your outdoor area and get involved in Australian Pollinator Week activities https://www.australianpollinatorweek.org.au.

Watch this lovely video about native bees

Images and activity guides for Aussie Wildlife Family Fun mini-program

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