

Cool Cubbies Project: Biodiversity teaching notes



Biodiversity encompasses every living thing that exists on our planet and the environment in which they live. From the smallest one-cell microbe to the gigantic blue whale. It is an exquisite mosaic of life, of which we are all part. It's everywhere, on land, in rivers and lakes, in the seas and oceans, from your backyard and in the forest. In simple terms, the word biodiversity can be described as the variety of plants and animals (species) and the places they live (ecosystems). In referring to school yard biodiversity you will be talking about all the different kinds of plants and animals found in (or passing by) the preschool.

Reference: Lunch Munchers, Border Rivers-Gwydir CMA.

How many species?

Do you know how many species exist on planet Earth? Well, neither do we. Scientists have named quite a few, but we are finding new species every day. So all we can do is make a good guess as to how many are out there. Australia is home to between 600,000 and 700,000 species, many of which are found nowhere else in the world. Approximately 84% of our plants, 83% of our mammals and 45% of our birds are endemic – that is, they are only found in Australia.



Why is it important to conserve biodiversity?

Humans depend directly and indirectly on living systems for our health and well-being. It provides all our food and many industrial products and medicines. Biodiversity also ensures clean air and water and fertile soils, it provides opportunities for recreation, tourism, scientific research and education, and it is a source of cultural identity for many Australians.



Sustainable biodiversity management actions

To preserve biodiversity, consider these action ideas:

- ✓ Create a natural habitat in your preschool using native plants.
- ✓ Plant bird attracting trees and shrubs in your gardens.
- ✓ Remove weeds, what seems like a harmless plant can turn into a serious weed if it escapes into bushland.
- ✓ Be a responsible pet owner; if you can no longer keep your pet, do not release it into the wild.
- ✓ Do not flush pet fish down the toilet or put them into local rivers.
- ✓ Make sure your cat is de-sexed or keep it indoors; cats can have a devastating effect on local wildlife.
- ✓ Be careful plastic bags do not enter waterways; they can be lethal to marine life.
- ✓ Many things can now be recycled. For more information contact your local council.
- ✓ Start your own compost bin and you can reduce the need for chemicals and fertilizers in the garden.
- ✓ Only put water down the drain; oils and chemicals may start at the kitchen sink, but end up in our waterways and oceans.
- ✓ Instead of commercial cleaning chemicals try using white vinegar and bicarbonate of soda.
- ✓ Use mulch on your garden, such as straw, grass clippings and shredded paper.
- ✓ Make a worm farm to use scraps and make wonderful fertilizer for your gardens.
- ✓ Build a nesting box for birds and place a birdbath in the garden; keep it full, especially in dry times.
- ✓ Grow flowers containing nectar. Some birds, invertebrates and mammals need nectar for food.
- ✓ Provide hollows, which are used by many animals.
- ✓ Propagate seeds from suitable local endemic species, nurture them and then have the children plant them on your preschool grounds.



Program ideas

Movement or music sessions – ‘We are a forest,’ Make bird calls, rustle of wind in trees, flying like birds and animals scratching on the ground.

Stories – Picture story books and poetry – Make up poems starting with - I am a bird, I like to fly. Encourage children to make up their own poems from I am a tree... I am a bug, etc.

Creative arts – Make a biodiversity collage by cutting out pictures of things such as: trees, shrubs, grasses, different animals, birds, butterflies, cockroaches, snails, rivers, lakes, oceans, dolphins, fish and people.

Centre walks – Walk around with children to find some leaves, flowers, worms, ants, etc., explain that these are all living things.

Interest table – Place leaves and branches on a table, put about a dozen suitable native toy animals under the branches. Give the children tongs to search out what is under the branches. Explain this is how many animals live in the forest and garden, hidden where they are safe. You could call it camouflage.

Sensory – You need a simple prop such as a cheese sandwich. Explain that cheese is made from milk, milk comes from cows, and cows eat grass. Another example is bees, using flowers, bees and honey. Draw pictures and lay them out in order. Illustrate what happens when a species is lost, by taking away one of the pictures and breaking the food web.

Dramatic Play – Pollination: Act out pollination by insects, using one child as a bee and six others as the flowers. The ‘flower’ children will have large sticky yellow circles of paper on each of their hands; which are outstretched as stamens. The bee then flies to one flower and looks for nectar. While this is happening, the flower sticks one of its pollen grains onto the bee’s stomach. The bee then flies to another plant, in doing so the pollen from the other flower drops onto the stigma of this flower (sticking the pollen onto the other child’s forehead).

Science – Food webs: Materials – coloured wool or string. Choose a taller person to be the sun, this could be the teacher. Select several types of living beings for the children to be, such as spiders, frogs, reptiles, trees, birds, turtles, dolphins, caterpillars, etc., and don’t forget at least one person. The arrangement should look like a spider’s web with everybody standing and with no loose ends. Start describing scenarios such as: if the tree was to be removed (i.e. the tree person ducks down) just look at the number of loose ends that are created. What and who has been affected? Discuss this.

Teachable moments – Encourage children to place their food scraps into a bucket for placing in the compost bin; let children help pick produce from any vegetable or herb gardens at the preschool to learn where food comes from. Notice and record the animals that visit your yard, and the changes in leaves, flowers, pods, etc.

Websites

- The Gould league designs innovative environmental education and training in sustainability. It is Australia’s oldest environmental education organisation. www.gould.org.au
- Locally, many voluntary Landcare groups look after the biodiversity of the Richmond catchment. To find your local Landcare group, contact www.richmondlandcare.org
- Become a Backyard Buddy. This program is very much a local program, depending on where you live. <http://www.backyardbuddies.net.au/>

