

2006 Year 8 Aussie Biodiversity Test (1)



Class size 29 students, representing 15 different schools around Sydney.

What is biodiversity ?

A – Variability among living organisms and the ecological environment of which they are a part. 9 Correct, 20 Incorrect

How can bio-diversity be preserved ?

A – Conserve, or maintain the environment which sustains the original variability of living organisms. Keeping indigenous plants is the basis for sustaining indigenous animals. 12 Correct, 17 Incorrect

Students were then asked to identify indigenous plants from representative samples of bark, leaves, fruit, flowers, seed, or photographs. Actual species are noted in *italics*. These plant families are (or were) significant species in the Homebush-Strathfield area, prior to white settlement in 1788. These 20 species chosen are samples of our 2,000 indigenous Sydney plant species.

Grass - Can identify Kangaroo Grass ? (<i>Themeda australis</i>)	3 Yes 26 No
Grass - Can identify Hedgehog Grass ? (<i>Echinopogon caespitosus</i>)	0 Yes 29 No
Herb - Can identify Warrigal cabbage ? (<i>Tetragonia tetragonioides</i>)	0 Yes 29 No
Bush - Can identify a Dodonea ? (<i>Dodonea triquetra</i>)	0 Yes 29 No
Shrub - Can identify Hop Goodenia ? (<i>Goodenia ovata</i>)	0 Yes 29 No
Rush - Can identify Mat-Rush ? (<i>Lomandra longifolia</i>)	0 Yes 29 No
Tree - Can identify a Wattle ? (<i>Acacia falcata</i>)	0 Yes 29 No
Tree - Can identify a Wattle ? (<i>Acacia longifolia</i>)	0 Yes 29 No
Tree - Can identify a Bottle-brush ? (<i>Callistemon rigidus</i>)	13 Yes 16 No
Tree - Can identify a Grevillea ? (<i>Grevillea longifolia</i>)	0 Yes 29 No
Tree - Can identify a Paperbark ? (<i>Melaleuca thymifolia</i>)	0 Yes 29 No
Tree - Can identify a Paperbark ? (<i>Melaleuca linearifolia</i>)	0 Yes 29 No
Bush - Can identify Tick bush ? (<i>Kunzea ambigua</i>)	0 Yes 29 No
Tree - Can identify a She-Oak ? (<i>Allocasuarina torulosa</i>)	0 Yes 29 No
Creeper/flower - Can identify Blue Scurvy Weed ? (<i>Commelina cyanea</i>)	0 Yes 29 No
Bush - Can identify a Geebung ? (<i>Persoonia linearis</i>)	3 Yes 26 No
Tree - Can identify a Turpentine Tree ? (<i>Syncarpia glomulifera</i>)	0 Yes 29 No
Tree - Can identify an Angophora ? (<i>Angophora floribunda</i>)	0 Yes 29 No
Tree - Can identify an Ironbark Eucalypt ? (<i>Eucalyptus sideroxylon</i>)	24 Yes 5 No
Tree - Can identify a Grey Box Eucalypt ? (<i>Eucalyptus molucanna</i>)	1 Yes 28 No
Score 44 / 580	

Food - How many plants mentioned above can provide food for humans ?

A – Acacias, Bottle-brush, Commelina, Dodonea, Geebung, Grevillea, Kangaroo Grass, Mat-Rush, & Warrigal cabbage. 1 Correct 28 Incorrect

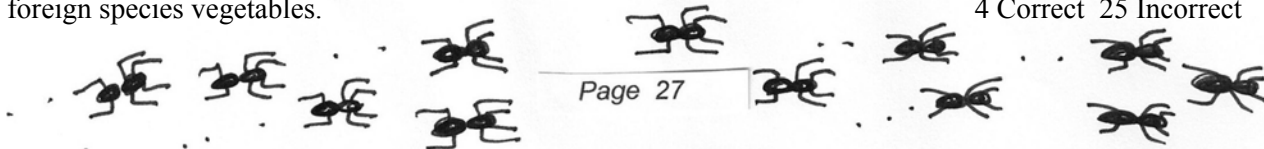
Water - What is the annual rainfall of the Homebush – Lidcombe area and its wettest season ?

A – About 900mm, wettest season is autumn, driest is winter. 1 Correct 28 Incorrect

Soils - What is the soil type of the Homebush - Lidcombe area ?

A – Clay, Wianamatta Shale (soft rock formed by clays), and sandstone outcrops 0 Correct 29 Incorrect

Worms or Ants ? - Which animal helps propagate and promote native plant growth more, and is also indicative of a healthy native plant environment ? A – Ants ! Ants help pollinate Australian plants, and take seeds from many plants into their underground nests. After a bushfire, these underground seeds will sprout. Worms are more common in the wetter Northern Hemisphere soils, but have been cultivated here to help grow our important foreign species vegetables. 4 Correct 25 Incorrect



2006 Year 8 Aussie Biodiversity Test (2)

What are the names of your favourite plants ?

INDIGENOUS :

- 2 Bottlebrush
- 1 Eucalypts
- 1 Isolepsis nodosa
- 1 Wattle

FOREIGN

- 2 Cactus
- 3 Cherry Blossoms
- 2 Lotus
- 1 Franji Panni

FOREIGN

- 2 Chrysanthemum
- 1 Maple
- 1 Orchids
- 4 Roses
- 3 Sunflower

9 Not specified

2 Hate plants because they are full of insects

Score 5 / 29

Results :

Bio-diversity x Local plant x Enthusiasm for => Future Aussie
 Understanding knowledge local plants Bio-diversity

$$\frac{9}{29} \times \frac{44}{580} \times \frac{5}{29} \Rightarrow$$



- Few people appreciate that we have about 2,000 plant species in the greater Sydney basin, while the whole of the United Kingdom has only 1,600 species ! What business opportunities might abound for those students that might investigate and research our native species that grow so well here, without requiring fertilizers or additional water ? We hope our students may grow, manufacture, and export; Dianella muffins, Lomandra picnic bars, Commelina salad, Kangaroo-grass muesli, our fabulous eucalypt and acacia timber trees and more!

What is Greenhouse or Global Warming ? Greenhouse or Global Warming is caused by the release of carbon dioxide and other heat-trapping gases into the earth's atmosphere. The gases act like a thick blanket, trapping the sun's heat and causing the planet to warm up. These gases are created when we burn fossil fuels in power plants, aeroplanes, and in our cars. It is also caused by the loss of trees, forests, and land clearing. This Warming is changing weather patterns, causing glaciers to melt, rising seas, and more severe storms, droughts, & bushfires. Average temperatures could rise by 6 degrees by the end of the century. 14 Correct 15 Incorrect



What five worthwhile actions can students do, to reduce Global Warming ?

1. Educate your parents and others, about Global Warming. Explain how Global Warming is causing weather changes, affecting Australia's rainfall, and agricultural production. Encourage your parents (or strata) to install rainwater tanks for garden, toilet, and washing machine use. We do not know if local water tanks may be needed to supplement all house water in future years, just as they did from about 1870 to the 1970s.
2. If your hot water service is powered by coal-generated electricity, minimize your time having a hot water shower ! Suggest to your parents (or strata) that a solar hot water heater be installed.
3. If your house has coal-generated electricity, minimize your use of air-conditioning. Suggest your parents buy electricity from an energy supplier that is using a renewable energy source rather than coal. Plant appropriate indigenous trees near the house, that will shade your house during the hot summer months.
4. Need to go somewhere ? Tell your parents you can walk, cycle, or take public transport. Suggest your parents get a smaller car, or a hybrid car that doesn't create so much carbon dioxide.
5. Want to improve the garden, nature strip, or farm ? Retain, maintain, and plant more appropriate significant (large) indigenous trees wherever possible, that do not require extra watering. Trees create oxygen for us, while absorbing carbon dioxide from the atmosphere. 5 Correct 25 Incorrect