

# Year 8 2004 Aussie Biodiversity Test (1)

Class size 30 students. Students represent 23 different schools around Sydney.

## What is biodiversity ?

A – Variability among living organisms and the ecological environment of which they are a part.

20 Correct, 10 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, 18 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 18 species chosen are samples of our 2,000 indigenous Sydney plant species.

Tree	- Can identify a Eucalypt ? ( <i>Eucalyptus moluccana</i> )	4 Yes	26 No
Tree	- Can identify a Eucalypt ? ( <i>Eucalyptus fibrosa</i> )	8 Yes	22 No
Tree	- Can identify an Angophera ? ( <i>Angophera subvelutina</i> )	12 Yes	18 No
Tree	- Can identify a Turpentine Tree ? ( <i>Syncarpia glomulifera</i> )	0 Yes	30 No
Tree	- Can identify a Wattle ? ( <i>Acacia parramattensis</i> )	12 Yes	22 No
Tree	- Can identify a Wattle ? ( <i>Acacia longifolia</i> )	11 Yes	19 No
Tree	- Can identify a Paperbark ? ( <i>Melaleuca decora</i> )	0 Yes	30 No
Tree	- Can identify a Cherry Ballart ? ( <i>Exocarpos cupressiformis</i> )	0 Yes	30 No
Tree	- Can identify a Grevillea ? ( <i>Grevillea longifolia</i> )	0 Yes	30 No
Tree	- Can identify a Bottle-brush ? ( <i>Callistemon rigidus</i> )	8 Yes	22 No
Tree	- Can identify a She-Oak ? ( <i>Allocasuarina torulosa</i> )	0 Yes	30 No
Bush	- Can identify Indigofera ? ( <i>Indigofera australis</i> )	0 Yes	30 No
Bush	- Can identify Dodonea ? ( <i>Dodonea triquetra</i> )	0 Yes	30 No
Bush	- Can identify Tick bush ? ( <i>Kunzea ambigua</i> )	0 Yes	30 No
Bush	- Can identify Blackthorn ? ( <i>Bursaria spinosa</i> )	0 Yes	30 No
Creeper/flower	- Can identify Apple Berry ? ( <i>Billardiera scandens</i> )	0 Yes	30 No
Rush	- Can identify Mat-Rush ? ( <i>Lomandra longifolia</i> )	0 Yes	30 No
Rush	- Can identify Hungerweed ? ( <i>Goodenia ovata</i> )	0 Yes	30 No
Fern	- Can identify Bracken ? ( <i>Pteridium esculentum</i> )	10 Yes	20 No
Grass	- Can identify Kangaroo Grass ? ( <i>Themeda australis</i> )	5 Yes	25 No
Grass	- Can identify Blady Grass ? ( <i>Imperata cylindrica</i> )	3 Yes	27 No

Score 73 / 587

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

A – Acacia, Grevillea, Exocarpos, Dodonea, Billardiera, Lomandra, Bracken, Blady Grass

0 Correct 30 Incorrect

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

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

4 Correct 26 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.

2 Correct 28 Incorrect



## Year 8 2004 Aussie Biodiversity Test (2)

**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 29 Incorrect

**How does cutting down trees affect the climate ?** - If you go outside on a hot day, you will notice that it is much cooler when you are standing in the shade of a tree. The tree is absorbing or reflecting the sunlight. But the tree not only cools you, it provides an air-conditioning effect for the grass, and earth beneath you. If all the trees are cut down over a large area, then the ground becomes hotter. Try measuring this difference yourself on a hot day.

As the ground heats up, it heats the air above it. This hot (high pressure) air, over a large area, prevents cold fronts (low pressure) from bringing rain, and the rainfall for the area is reduced. When the rain does come, it generally causes massive erosion, due to lack of tree cover, and the trees holding the soil together with their roots. The lack of trees, may also cause salinity, with a rising water table. Land-clearing and removal of trees for pasture (grasses) around Australia, has been recorded as resulting in a 30% drop in average annual rainfall in some areas, over the past 20 years.



**What are the names of your favourite plants ?**

**Indigenous**

1x Bottle-brush & Waratahs

**Foreign**

1x Daffodils

2x Daisys

1x Franji Panni

5x Geraniums

1x Jasmine

1x Lavendar

1x Lemon trees

**Foreign**

1x Lilies

1x Nasturtiums

5x Roses

3x Sunflowers

1x Tulips

1x Violets

4x Not specified

1x Don't like plants

Score 1 / 30

**Results :**

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

$$\cdot \frac{20}{30} \quad \times \quad \frac{73}{587} \quad \times \quad \frac{1}{30} \quad \Rightarrow$$



**Did you know ?**

- Australia is the only continent in the world where the people do not regularly eat any indigenous vegetation. Our foreign livestock species (cattle, pigs, sheep, poultry) also mainly eat foreign species grasses introduced here over the past 230 years.
- There is only one food plant grown commercially in Australia, the Macadamia nut. But the Americans were the first to grow it. Only after this, did Australian farmers follow them.
- There are many business opportunities we Australians are missing out on, through not knowing about our native vegetation. We hope our students may grow, manufacture, and export; Dianella muffins, Lomandra picnic bars, Commelina salad, Kangaroo-grass muesli, Bracken roots, Exocarpos cherry dessert, and many more !