**ACTIVITY 5: When to plant out**

**Overview**

Native plants are endemic (indigenous) to a given area in geologic time. This includes plants that occur naturally or existed for many years in an area. Indigenous plants have adapted to a very limited, unusual environment or harsh environment.

The Ecolinc wetland features a wetland designed to intercept stormwater, surrounded by examples of indigenous western basalt plains plants. Western basalt plains plants include:

* Grasses
	+ Kangaroo Grass ,*Themeda triandra*
	+ Wallaby Grass, *Danthonia* sp.
	+ Tussock Grasses, *Poa* sp.
* Daisies
	+ Daises, *Brachyscome* sp.
	+ Lemon Beautyheads, *Calocephalus citreus*
	+ Billy Buttons, *Craspedia* sp.
* Lillies
	+ Bulbine Lily, *Bulbine bulbosa*
	+ Flax Lily, *Dianella* sp.
	+ Chocolate Lily, *Arthropodium strictum*
* Other ground plants
	+ Blue Devil, *Eryngium ovinum*
	+ Mat Rush, *Lomandra* sp.
	+ Sedges, *Carex* sp.

These grassland plants are hardy and drought tolerant and suit this landscape, which typically has a lower rainfall.

**Planting out**

The time to plant out natives depends on the climate and the type of plant. For the northern part of Victoria, Wimmera and Mallee, autumn planting is necessary as the effort to keep frequent moisture to plants in the summer is time consuming. For the slopes of the Great Divide and adjacent ranges, spring planting is recommended, as the winters can be very cold and only the hardiest of new plants will survive, and the summers are usually cooler. For Melbourne, coastal areas, adjacent uplands and East Gippsland, the climate is usually milder throughout the year. Therefore it is recommended to plant out in Autumn through to the end of spring.

**Aim**

How does weather affect plants?

**Objectives**

* To identify native plant requirements
* To link plant requirements to seasons

**Tasks**

1. Native plants introduction

Show PowerPoint 1 and 2. Students generate ideas about native plant requirements through a brainstorm activity. Firstly discuss “What is a native plant” and provide some examples. A: A native plant is a plant endemic or indigenous to a given area in geological time. Some examples include, Eucalypt (gum trees) and native grasses such as Poa sp.

Start the brainstorm by writing “What are the requirements of native plants?” on the white board. A: Sunlight, water, soil and carbon dioxide.

1. The following is a general planting out statement. Students answer the related questions. “In general, when you plant out it is optimal for soil to be warm (~18°C) and have a moist sub-soil (down to one foot). In general, which seasons would provide this environment?” A: Spring and autumn. Students then examine the [Ecolinc Weather Wall](http://202.76.157.2/weatherwallBMDB/wwallBMDB.html) rainfall data and determine whether Ecolinc has enough rain to provide perfect conditions for planting out? A:Ecolinc does receive rain in these seasons and over the years has also received rain in summer. This indicates that planting out could occur in this month too.
2. Read the following scenarios. What would you do:
	1. It’s January. There has been a good amount of rain through December and January. Would you plant out? A: Yes because of an increase in soil temperature and an increase in moisture content in the soil.
	2. It’s September. There has been little rain through winter. Would you plant out? A: No. The sub-soil would be too dry.
3. PowerPoint 3. The Ecolinc wetland is an ephemeral wetland. Students need to research the following question. On the internet, students could look up their local CMA ([Catchment Management Authority](http://live.greeningaustralia.org.au/nativevegetation/pages/page108.html)) and [Wetland Link](http://www.wetlandlink.com.au/content/index.php) to assist in answering the question. How does an ephemeral wetland differ from a permanent water body? A: An ephemeral wetland temporarily holds water after heavy rain events, particularly in spring and early summer. Periodically, these wetlands dry up, often in mid to late summer. A permanent water body, on the other hand, permanently holds water throughout the year.
4. Students answer the following. In an ephemeral wetland, if its been a dry winter and spring, should you plant out? A: No, leave them in their pots and wait til the following year to plant out.
5. Plant profiles and yearly calendar

Show PowerPoint 4. Show students the photo of the plants they will investigate.

Show PowerPoint 5. Students use the plant profile information provided to complete the yearly calendar.

1. Map of the wetland

Show PowerPoint 6. Students use the plant profile information provided and map the location of them on the wetland picture.

1. Evaluation

Students make observations about their calendar. Identify typical trends between plant species throughout the year? A: Flowering tends to occur in the warmer months, followed by seed collection then planting out in the following spring. When does planting out occur and why? A: In spring, when there is an increase in soil temperature and an increase in soil moisture from winter and spring rain.

**Duration**

2 hours

**Materials**

* Journal – paper and pen style or digital journal
* Computer, netbook or laptop with internet access
* White board or interactive white board for teacher presentation
* PowerPoint – a suggested PowerPoint has been provided to supplement the session. A suggested order for the presentation is included.

**Resources**

[www.greeningaustralia.org.au](http://www.greeningaustralia.org.au)

Greening Australia

**Suggested post activities**

Compare ecosystems

Students research a local ecosystem, such as rainforest, rocky shore, forest, sand dunes, etc. They should choose four plants that live in the ecosystem and research their characteristics. Students then compare their ecosystem to the Ecolinc grassy wetland. Students could present their findings in a poster or in a venn diagram.

Adaptations of plants

Students investigate the adaptations of native plants. Students could choose one grassland or wetland plant to study and report findings to the class.

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|  | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| PLANT 1 | F | F | F S |  S |  S |  S |  S |  |  P |  P | F  P | F |
| PLANT 2 | F S | F S |  |  |  |  |  |  | F P | F P | F P | F S |
| PLANT 3 | FS |  |  |  |  |  |  |  | P | P | SP | FSP |
| PLANT 4 | S |  |  |  |  |  |  | F | FP | FP | P | S |

**YEARLY PLANT CALENDAR**

Key

F Flowering time

S Optimal seed collection

P Planting out

