

## THEME GARDENS AT THE HRBG

### Teacher Guide – May be Convert to a Student Work Sheet

**Suitability:** *Secondary* and select *adult groups*.

**Suggested Organisation:** Have the class or group broken into groups of three or four

**For school groups:** Ensure the **Risk Assessment** and **Protocols for the visit** are carefully explained to the class before commencing the study and signed and given to the HRBG on arrival

**Time allowed for Study:** **Maximum 2 hours.** (Return visits are encouraged to note changes or revision)

**Materials required:** Digital camera; clip board; black and coloured pencils; plain sketching paper

The HRBG has many theme gardens based on similar botanical characteristics (*genera* or *species*) within the wide range of natural vegetation present in the Gardens prior to 1986 when the Gardens were commenced.

**Step 1: A discovery walk to locate each of the major theme gardens:**

- ❖ Eucalyptus lawn  
Have photo or sketches to illustrate a eucalyptus tree – and name
- ❖ Grevillea Garden  
Have photo to illustrate the flower of a named grevillea
- ❖ Lamiaceae – mint family garden  
Have a labelled photo to illustrate the features of one of the mint family
- ❖ Acacia garden  
Have a sketch of the seed pod of an acacia. When is “wattle day” celebrated
- ❖ Native lilies  
A photo of a Gymea lily
- ❖ Succulent garden  
Have a general photo of the succulent garden. Why “succulent”?
- ❖ Conifer garden, hakeas, and banksias  
This is mixed group – three photos to illustrate
- ❖ Rainforest garden  
Provide a labelled sketch of the “layers” in a rainforest
- ❖ Palm garden  
Have a series of sketches illustrating the main features of palms
- ❖ Australasian ferns  
Provide a sketch showing the features of a typical fern
- ❖ Rare and endangered species garden  
Name several rare or endangered species found in this garden
- ❖ Myrtaceae garden  
A general photo of this garden
  
- ❖ From a map of the theme gardens shade and locate each garden

**Step 2: You will now refer to the two Units – *Plants in Place* and *Plants Galore***

1. What is the distinguishing soil environment for each of the theme gardens? Consider the total ecosystem that exists within the HRBG as a contribution to the theme garden's environment. (Consider: aspect; elevation; parent material – or underlying geology; any original vegetation characteristics that may still exist.)
2. What influence would climate have upon the growth and development of the plants in each garden? You would need to consider both macro as well as micro climates. (Provide a detailed description of the weather condition for the visit; how does this relate to the overall climatic conditions of the Gardens.)
3. What impact has “man” had on each garden? (Consider also the maintenance required for each garden and how the environment is being controlled. (E.g. weeding; invasive species controls; reason for paths; fire control .....))
4. Begin to draw diagrams of the two or three chosen theme gardens to illustrate its features: e.g. flowers; bark; size; shape; fruit (if any); seeds; leaf characteristics; etc.
5. How do think pollination occurs in a chosen theme garden? Prepare a series of sketches of plants labelling the main parts that are part of the pollination process and indicate how each is pollinated. (Are bees the only source of pollination? Can you see other insects or pollinators that would be important for plant pollination? Hint – some plants do not have flowers!)
6. What would you consider to be the distinguishing characteristic for two or three of the theme Gardens? (Have your class or group organised into small groups so that all the theme gardens are included for final discussion.)
7. Prepare a diagram to show how plants adapt from a beach, through to the frontal dunes and in the last 1,000 years there has been a considerable change in the total environment that has affected the diversity of plant life. What changes would you think has occurred?

(Consider pre-European/Koori impacts; early European impacts; current impacts, including increased changes in land use and the development of genetic and hybridisation of many plants both for food and visual appearance. Is the Hunter Region Botanic Gardens an oasis representing what used to exist from a plant change perspective? Give examples to support your answers or conclusions.)

### Step 3: Further Research

1. Find and draw a diagram that illustrates how plants adapt to different environments within the HRBG. This is a cross section and given the term: *“serial progression”*. (Check *“Plants in Place”*. Also see if you can prepare a diagram to show how plants adapt from a beach, through to the frontal dunes and inland from where you started at the beach.)
2. Now, look at a section of bush and note the different layers from the grass ground covers through to the tree canopy. (Prepare a grid to illustrate the layers; the estimated height of each layer; name the type of plant found in each layer. You may even be able to name the plant species in each layer.)
3. Visit another botanic garden and note how they are organised for visitors to enjoy their garden. Some may be very formal; others much less so; others are very small; some occupy large areas. (Some botanic gardens to visit include the Royal Botanic Gardens, Sydney; others such as Mt. Annan or Mt. Tomah. Many towns also have a botanic garden that may be visited during your holidays – Coffs Harbour, Woolongong, Canberra and if at all possible the Melbourne Botanic Gardens at Cranbourne and the Desert Park, Alice Springs. Make a collection of the pamphlets produced by these gardens.)
4. **The HRBG garden plan or layout is best described as “informal”. Paths and theme gardens are planned to display the gardens natural features to advantage – trees; wetlands.** (When displaying a “living collection” of plants for public viewing, what are the advantages of an informal garden plan and the more formal European style garden layout? Does or should the type of plants being displayed have a bearing on the style or layout of a botanic garden – consider native plants; European flora and exotic flora – bromeliads, cacti, and orchids.)

**Hunter Region Botanic Gardens  
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