

### **Interactive Online Education Program:**

#### **Endeavour Fern Gully QR code trail for environmental science students & general public**

Location:	Endeavour Fern Gully, Arthurs Seat Road, Red Hill, Victoria
Year Levels:	Yr 6
Education / Content area:	Biological Science with particular emphasis on indigenous connections
Program Plan:	School groups and other groups can do a self lead QR trail using interactive mobile devices. It is free and the site is open 7 days a year in daylight hours. This program is also augmented by delivery onsite with a National Trust guide.
Development;	The content for this interactive project has been developed by botanist and teacher Gillian Tolley with assistance from Trust environment specialist Anna Foley and technical development from Martin Green.

#### **Scientific Relevance of the Property:**

The Endeavour Fern Gully is one of the few surviving remnants of this type of indigenous bushland found on the Mornington Peninsula. The ecological diversity of the vegetation of the fern gully is significant as it is one of the very few examples of this type of vegetation on red basaltic soil that remain in the Red Hill area.

The Endeavour Fern Gully contains several rare plant species and it is a living seed bank for the remaining pockets of bushland in this area. It is a vital source of habitat and food for a wide variety animals and birds. It is a critical part of a wild life corridor in the Stony Creek area forming habitat links in this highly fragmented area.

#### **Program Overview**

The Endeavour Fern Gully site was launched by Federal Environment Minister Greg Hunt in May this year. He was shown the QR trail and took part with a local school in following the environmental trail.



Students are taken on a tour with a guide or can self guide by using the QR trail. The QR Trail is made of 15 marker posts. Each QR signpost links the user back to individual pages of content that have been designed for use on mobile devices.

Each post has an accurate botanical sketch of a species of native plant that can be seen in the surrounding immediate vicinity. The QR trail can be used by anyone with an interactive device like a smartphone or tablet using their wifi connection which is available throughout the site by the main carriers Telstra and Optus.

### **Program Content**

The QR Trail instructs students in the history of the site and to appreciate its place as a significant indigenous site. In the area of Botanical sciences they observe particular EVCs (Ecological Vegetation Classes), changes in habitat, specific native species, remnants of indigenous habitation such as scar trees, a firestick plant used by local tribes and the current practise of conservation in preserving the land.

This material includes photographic images, historic images, drawings, maps and texts including scientific names for plant species and their genus.

National Trust guides also have developed a program with local primary school volunteers in the revegetation of the site with indigenous species

#### **The following general skills are undertaken by Year 7 students:**

Scientific Inquiry Skills:
Questioning and predicting
Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (AC SIS125)
Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions (AC SIS130)

<b>Scientific Understanding</b>	<b>Local Context</b>	<b>Student Activities</b> <i>including pre and post visit</i>	<b>General Capabilities (GC)</b> <b>Cross Curricula Priorities (CCP)</b> <b>Other Learning Areas (OLA)</b>	<b>Research and Resources</b> <i>For pre and post visit activities</i>
<p>Yr6 <u>Nature and Development of science</u> Important contributions to the advancement of science have been made by people from a range of cultures (ACSHE099)</p>	<p>Students can learn about firestick farming, native foods and the original indigenous inhabitants at the Mornington Peninsular</p>	<ul style="list-style-type: none"> <li>QR Trail markers include information about indigenous links to the environment and details about specific species that were used as bushfoods</li> <li>Guides discuss in detail practices of local indigenous groups in creating firesticks and show details about bush foods</li> </ul>	<p>GC: Critical and Creative thinking; ICT</p> <p>CCP: Sustainability</p> <p>OLA: Geography</p>	<p><b>QR Trail links to web pages</b></p>
<p>Yr6 <u>Biological science</u> The growth and survival of living things are affected by the physical conditions of their environment (ACSSU094)</p>	<p>Students are directed to observe the particular changes to local habitat including four specific Ecological Vegetation Classes</p> <ol style="list-style-type: none"> <li>1. Fern Swamp (EVC 721)</li> <li>2. Riparian Forest (EVC 018),</li> <li>3. Herb Rich Foothill Forest (EVC 018)</li> <li>4. Forest Creekline Sedge</li> </ol>	<p><i>Site visit activities –</i></p> <ul style="list-style-type: none"> <li>QR Trail markers illustrate the four EVCs and their characteristics.</li> <li>Guides direct students to observe what factors determine changes to the landscape and create sudden and definite changes in EVC native habitats.</li> </ul>	<p>GC: Critical and Creative thinking; ICT</p> <p>CCP: Sustainability</p>	<p><b>QR Trail links to web pages</b></p>



	Swamp (EVC 728)			
<p>Yr7</p> <p><u>Biological science</u></p> <p>There are differences within and between groups of organisms; classification helps organise this diversity (ACSSU111)</p>	<p>Students are directed to observe the extraordinary range of diverse and fragile plant species found in a concentrated area.</p>	<p><i>Site visit activities –</i></p> <p>QR trail markers give highly detailed information about specific species and their characteristics and why they are special to the area and significant.</p> <ul style="list-style-type: none"> <li>•</li> </ul>	<p>CCP: Sustainability</p> <p>OLA: Geography</p>	<p><b>QR Trail links to web pages</b></p>