

Growing Up Instructions and Answer Sheet for Teachers

Gardens by the Bay Avatar:

- Engineer

Level/ Subject(s):

- Lower Secondary/ Geography

Learning Objectives:

- Understand the concept of vertical gardening
- Appreciate the benefits of vertical gardening in land-scarce Singapore

Activity 1: Growing Up in Nature

Decode the puzzle to decipher the mystery words within the boxes by completing the passage below. (Hint: Each letter is represented by a corresponding number.)

The Tasmanian **Tree Fern** (1-3-16-16 15-16-3-7) grows in moist environments and can be occasionally found in cloud forests. It is the most **abundant** (20-19-26-7-17-20-7-1) tree fern in south-eastern Australia.

Due to overcollection from the **wild** (24-12-9-17), the natural **habitat** (13-20-19-12-1-20-1) of other species of flora and fauna that **coexist** (18-6-16-23-12-2-1) with this fern has been affected. These include epiphytic ferns and **mosses** (8-6-2-2-16-2) which use the tree fern for shelter or **nesting** (7-16-2-1-12-7-14).

1	2	3	4	5	6	7	8	9	10	11	12	13
T	S	R	Q	P	O	N	M	L	K	J	I	H
14	15	16	17	18	19	20	21	22	23	24	25	26
G	F	E	D	C	B	A	Z	Y	X	W	V	U

Activity 2: "Growing Up" at Gardens by the Bay

Complete the crossword puzzle below to find out more about the Supertrees.

The **Supertrees** (2, across) are inspired by the **dominant** (5, across) trees of the **rainforest** (4, across). At Gardens by the Bay, the trees are between 25 and 50 metres tall, which is 9 to 16 **storeys** (2, down) high! There are **photovoltaic** (6, across) cells at the crown of selected Supertrees to harness **solar** (1, down) energy for **lighting** (7, across) the Supertrees. This makes them **environmentally** (3, down) sustainable.

