

## 12. Scented Garden

<b>Aim</b>	Pupils identify scented plants in the school garden. They discuss the benefits of having fragrance and how people have used the fragrance of plants. Pupils then make potpourri from selected plants found in the school garden.
<b>Recommended for</b>	Primary 4-6
<b>Subject Links</b>	Social Studies: different races and their food; Science: plant parts, pollination (Primary 4-5)
<b>Horticultural Skills</b>	Herbs, spices and/or fragrant plants
<b>Process Skills</b>	Observing, generating
<b>Equipment/Materials</b>	Scissors (for harvesting plants), containers for potpourri. Optional: a fragrant flower or a bottle of perfume, 'A Guide to Herbs and Spices' (Singapore Science Centre Guide Book), '1001 Garden Plants in Singapore' (2nd Edition), National Parks Board
<b>Duration</b>	1-2 hour/s
<b>Preparation</b>	Photocopy the handouts
<b>Safety</b>	Remind pupils to be careful with the scissors. Brief students on 'Garden Nasties' (see page 4). Look out for pupils who may be allergic to pollen in the air or plant sap. Warn pupils about plants which have thorns.



### Procedure

1. Pass a fragrant flower or perfume around the class. Explain that scent or fragrance is a very powerful trigger in our human brains. They can affect the mind (calm the person etc.) and even trigger off memories we had.
2. Distribute the handout and explain the activity – pupils go to the school garden and identify plants with fragrance. These could be scents from flowers or scents in plant parts which can be detected when the plant part is crushed. They can refer to 'A Guide to Herbs and Spices' (Singapore Science Centre Guide Book) or '1001 Garden Plants in Singapore' (2nd Edition), National Parks Board.
3. Pupils then collect some plant parts from the school garden (using their scissors) and make potpourri.
4. Encourage the pupils to post pictures of their potpourri and/or their reflections on your school blog or the NParks Gardening blog 'Young Gardeners' ([http://www.nparks.gov.sg/blogs/young\\_gardeners/](http://www.nparks.gov.sg/blogs/young_gardeners/)).
5. Debrief the activity.
6. Extension: Let them do research on fragrances in plants, write and design a fun write-up about their potpourri, to explain what plants they had chosen and the significance of the scents.

## Debrief/Background Knowledge

§ Run through the list recorded by your pupils. Here are some fragrant plants.

### Plants that release their scents

#### Plants and trees with fragrant flowers

Tembusu (*Fragrea fragrans*),  
 Frangipani (*Plumeria rubra cultivar*)  
 Cape Jasmine (*Gardenia jasminoides*)  
 Angelonia (*Angelonia salicariaefoli*)  
 Ylang Ylang (*Cananga odorata*)

#### Plants with fruits that give off a smell

Durian (*Durio* spp.)  
 Chempedak, (*Artocarpus integer*)  
 Jackfruit (*Artocarpus heterophyllus*)

### Plants which have distinct smells in their plant parts

(need to be crushed to smell the scent)

Mosquito Plant (*Citronella*)  
 Lemon Grass (*Cymbopogon citratus*)  
 Basil (*Ocimum basilicum*)  
 Pandan (*Pandanus amaryllifolius*)  
 Curry Leaf Plant (*Murraya koenigii*)  
 Mint (*Mentha* spp.)  
 Lime (*Citrus aurantiifolia*)  
 Ginger (*Zingiber officinale*)

§ For more fragrant plants, herbs and spices, you can refer to the book '1001 Garden Plants in Singapore' (2nd Edition), National Parks Board; or the NParks website, under 'Plant reference', 'Fragrant Plants' for a list:  
<http://www.nparks.gov.sg/PlantSubCategory.aspx?id=11>

§ Discuss the questions in the handout:

a) **What causes fragrance in plants?**

Organic compounds produced in their leaves or flowers (petals) e.g. piperidine-like alkaloids in Pandan are the compounds which give it its fragrance.

b) **How does having fragrance benefit plants?**

- Fragrant flowers help attract pollinators (e.g. bees, moths)
- Fragrance in leaves and other plant parts help to protect the plant from leaf-eating animals, especially insects. The organic compounds in the plant parts act as toxins or poisons which the animals will avoid.

c) **How have people used the fragrance in plants?**

- In making scented products like perfumes, essential oils, insect repellents and soaps etc.
- To flavour food (e.g. fragrant herbs and spices)
- In aromatherapy (the use of extracts from plants to promote health and well-being, alternative medicine).

§ Ask pupils what they have learnt through this activity. Alternatively, you could ask them to fill in the reflection sheet in Annex 3 and discuss their reflections.



Name :

Members of your team :

# 12. Scented Garden



List down the plants in your School Garden which give off smells and fragrances or have distinct smells in their plant parts.

	Name of Plant (Description)	Which part/s is fragrant
1.		
2.		
3.		
4.		
5.		
6.		

Find Out More and Discuss These Questions:

a. What causes fragrance in plants?

b. How is having fragrance beneficial to plants?

c. How have people used the fragrance in plants?

1. Collect some plants from your garden to make potpourri.
2. Extension: you could do research on fragrances in plants or write and design a fun write-up about your potpourri to explain what plants you chose and the significance of the scents.

