13. Butterfly Haven

Aim Students observe, identify and take photographs/videos of local

butterflies that visit the school garden. They brainstorm ways to attract more butterfly species to the garden and create a presentation on

butterflies in their school garden.

Recommended for Sec 1-3

Subject Links Science: animals reproduction; IT

Horticultural Skills Butterfly garden

Process Skills Observing, classifying, comparing, generating

Equipment/Materials Magnifying glass, camera or video camera. Optional: butterfly guide

e.g. 'A Guide to Common Butterflies of Singapore' (Singapore Science

Centre Guide Book)

Duration 1-2 gardening session/s (1-2 hours)

Preparation Photocopy the handouts, obtain the materials and book the computer

room.

Safety Brief students on Garden Nasties (see page 4). Look out for students

who may be allergic to pollen in the air or plant sap.

Procedure

- 1. Introduce the activity by asking students how many types of butterflies they think we have in Singapore. (about 280 species) *from website stated in the student handout.
- 2. Distribute the handout, explain the activity and briefly run through the main points on the handout.
- 3. Students go to the school garden to observe, identify and take photographs/videos of local butterflies that visit the school garden.
- 4. Let students go to the computer room to download their photos or videos and do more research on their butterflies. They create a presentation about common butterflies in the school. Arrange for them to make a presentation to other students.
- 5. Teams can post pictures of their butterflies on your school blog or the NParks Gardening blog 'Young Gardeners' (http://www.nparks.gov.sg/blogs/young_gardeners/).
- 6. Extension: encourage students to make suggestions for new plants that attract butterflies (food or host plants) to be planted in the school garden. Get them involved in planting and caring for these.

Debrief

- § How to attract more butterfly species to the school garden? Provide them with both 'host plants' for butterflies to breed on and nectar-producing plants, as nectar is the most common food for adult butterflies.
- § Nectar is the most common food for butterflies. However, they also 'feed' on liquids on the ground, rotting fruit, plant sap, and even sweat and urine! Adult butterflies may have several food sources, but their caterpillars are heavily dependent on particular species of host plants.
- § Commend teams with well-researched and designed butterfly guides.
- § Ask students to share with the class what they have learnt from this activity. Alternatively, you could ask them to fill in the reflection sheet in Annex 3 and discuss their reflections.





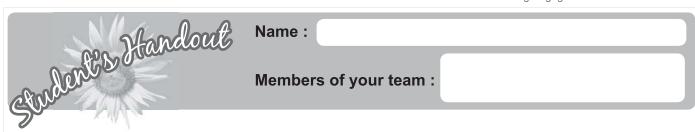
Common butterflies in gardens and their host and food plants:

Common Butterflies Common name Scientific name	Host Plant (where eggs are laid and cater- pillars develop on)	Food plant (source of nectar for adults)
Lime butterfly Papilio demoleus malayanus	• Lime plant (<i>Citrus</i> sp.)	Any nectar-producing flower
Lemon Emigrant Catopsilia pomona pomona	Cassia trees (e.g. Cassia spp.)	
Common Palmfly Elymnias hypermnestra agina	Palms (e.g. Alexandra Palm Archontophoenix alexandrae)	
Common Mormon Papilio polytes romulus	Lime plant (<i>Citrus</i> sp.) Curry leaf plant (<i>Murraya</i> Koenigii)	
Common Grass Yellow Eurema hecabe contubernalis	Peacock Flower (<i>Caesalpinia pulcherrima</i>) Seven Golden Candlesticks (<i>Cassia alata</i>) Albizia sp.	
Cycad Blue Chilades pandava pandava	Cycads (e.g. Cycas revoluta)	
Lesser Grass Blue Zizina otis lampa	Mimosa plant (<i>Mimosa pudica</i>)	Coat buttons (<i>Tridax procumbens</i>)
Chocolate Pansy Junonia hedonia ida	Family Acanthaceae (e.g. Justicia and Strobilanthes spp.)	Any nectar-producing flower
Leopard Phalanta phalantha phalantha	Weeping Willow tree (Sallix spp.)	Lantana camara, Ixora spp.
Plain Tiger Danaus chrysippus chrysippus	Giant Milkweed (Calotropis gigantean)	Any nectar-producing flower









13. Butterfly Haven

Project Objectives Your Team has to:

- Observe, identify and take photographs/videos of local butterflies that visit your school garden
- · Brainstorm ways to attract more butterfly species to the garden
- · Create a short presentation about butterflies in your school garden

Duration of activity

1-2 gardening session/s (1-2 hours)

Butterflies are found almost everywhere in Singapore. Some butterflies prefer forests or fields, while others live around road-side trees and gardens. Gardeners have a mixed reaction to them – on one hand the adult butterflies visiting the garden add colour and wonder to the garden; on the other hand, their voracious caterpillars damage leaves of our plants! One solution – designate selected plants as host plants and be willing to have caterpillars devour these up - all for the sake of the continual existence of local butterfly species!

Be careful of 'Garden nasties' like centipedes, bees and wasps!

Equipment/Materials

- Magnifying glass, camera or video camera.
- Optional: butterfly guide e.g. 'A Guide to Common Butterflies of Singapore' (Singapore Science Centre Guide Book)

Suggested Steps

- 1. Go to the school garden (and nearby park) to observe, take photographs or videos of butterflies in all their life-stages egg, caterpillar, pupa and adult. Take care not to pluck or damage eggs and pupae.
- 2. Identify the butterflies (using a butterfly guide) and take note of the plants the butterflies visited.
- 3. Go to the computer room to do research on the butterflies you had observed and download your photos and video clips.
- 4. Create a short presentation on butterflies in your school (and nearby park) and share their presentation with other students.
- 5. You can post pictures of their butterflies on your school blog or the NParks Gardening blog 'Young Gardeners' (http://www.nparks.gov.sg/blogs/young gardeners/).

Tips!

- For information on butterflies in Singapore, please refer to: http://www.geocities.com/RainForest/Vines/2382/bflypage.htm http://butterfly.nss.org.sg/
- If you have difficulty identifying any butterfly, you could post your picture or description on the Green Culture Singapore – Website and Discussion Forum http://www.greenculturesg.com/

Extension

- You can collect the larvae of the butterfly and keep them in an enclosure until they pupate and emerge as an adult. If possible you should film the different stages of development of the caterpillar in the box.
- Make suggestions to add plants which attract butterflies to your school garden if they cannot be found. Take part in planting and caring for them.