

# 13. Butterfly Haven



<b>Aim</b>	Pupils observe, identify and take photographs/video of some local butterflies and the plants these butterflies visit. They observe the main stages of a butterfly's life cycle (eggs, caterpillar, pupa, adult) in the garden (not necessarily on the same plant).
<b>Recommended for</b>	Primary 4-6
<b>Subject Links</b>	Science: classification of animals, life cycle of animals, reproduction in animals (Pri 5 & 6); IT
<b>Horticultural Skills</b>	Butterfly gardens
<b>Process Skills</b>	Observing, classifying, comparing
<b>Equipment/Materials</b>	Magnifying glass, camera or video camera. Optional: 'A Guide to Common Butterflies of Singapore' (Singapore Science Centre Guide Book)
<b>Duration</b>	2-3 hours
<b>Preparation</b>	Photocopy the handouts, obtain the materials and book the computer room
<b>Safety</b>	Brief pupils on 'Garden Nasties' (see page 4). Look out for pupils who may be allergic to pollen in the air or plant sap.

## Procedure

1. Introduce the activity by asking pupils what butterflies visit the school garden.
  2. Explain that butterflies visit many habitats and some are common garden species.
  3. Distribute the handout and explain the activity – pupils go to the school garden to observe, take photographs or video-tape adult butterflies that visit the garden. They identify the butterflies (using a butterfly guide) and take note of the plants the butterflies visited (filling in the handout).
  4. Pupils then look around the garden for the main stages of a butterfly's life cycle - egg, caterpillar, pupa and adult (not necessarily on the same plant). They take photographs of each stage they find.
  5. Pupils go to the computer to download their photos and video clips and do some research. Here are some good websites on butterflies in Singapore:  
<http://www.geocities.com/RainForest/Vines/2382/bflypage.htm>  
<http://butterfly.nss.org.sg/>
- If they have difficulty identifying any butterfly, they could post a photo of that butterfly or its description on the Green Culture Singapore – Website and Discussion Forum  
<http://www.greenculturesg.com/>
6. Pupils use their photographs, videos and information to create a short presentation on butterflies in the school garden.
  7. Debrief the activity
  8. Encourage pupils to post pictures of butterflies 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/)).



9. **Extension:**

- Teams take turns to make a presentation to other pupils.
- They can collect the larvae of the butterfly and keep them in an enclosure until they pupate and emerge as adults. If possible, the pupils should film the different stages of development in the box.
- Make a poster or signage on common butterflies in the school garden.

## Debrief/Background Knowledge

§ Run through the main species of butterflies common in your school garden.

§ Discuss the following information about butterflies:

- **What do butterflies eat?** The most common food for adult butterflies is nectar from flowers. 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 dependant on particular species of host plants.
- **How do we attract butterflies to our garden?** We need to plant both nectar-producing plants (to provide food for adults), as well as ‘host plants’ for butterflies. Adult butterflies seek out host plants to lay their eggs on. The eggs will hatch into caterpillars which will eat the leaves of the host plant to continue its life cycle.

Here is a list of common butterflies in the school gardens and their host and food plants

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

§ 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 :

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Butterflies Observed in our School Garden.

Common Name of Butterflies	Description/ Which plant/s did it visit	Do you have a photograph or video-clip of the butterfly?

Stages of butterflies we found. Describe the butterfly, egg, caterpillar or pupa and take a picture:

Adult	Egg	Larva (Caterpillar)	Pupa
			