

The Butterfly Garden® should always be used under adult supervision.

**WARNING!** Not suitable for children under 3 years of age because of small parts.

**WARNING!** This is a pop-up product. When opening the Butterfly Garden®, hold down and release slowly. When closing, hold down and apply a retainer (paper clip or Sellotape™ not included).

Post and packing fee required for Caterpillars (Caterpillars are not included in this set). Coupon enclosed.



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Please retain the information in this manual for future reference.

Colour, designs and decorations may vary from those shown in the photographs.

NATIONAL GEOGRAPHIC™

# BUTTERFLY GARDEN®



Butterflies not included

## INSTRUCTION MANUAL

AGES 4 AND UP

## BUTTERFLY GARDEN® CONTENTS

- 1 pop-up Butterfly Garden® habitat
- 1 feeding pipette
- 1 instruction manual
- 1 coupon for 3-5 caterpillars and food  
(Post and packing fee required.  
Caterpillars are not included in  
this set.)



### Things you will need that are not included:

- Safety pin
- Peg/paper clip (optional)
- Clean spoon

### Things you will need after butterflies have emerged:

- Tissue
- Twigs/flowers/leaves from the garden (Always ask an adult before picking flowers.)
- Sugar
- Water
- Cup
- Small plastic plate
- Orange/banana (Optional butterfly food.)

Painted Lady Butterfly  
(*Vanessa cardui*)



Photograph by Michael Durham/National Geographic Society

## Please read, follow and keep these instructions.

### IMPORTANT:

- DO NOT start using this product until all instructions have been read.
- Butterfly Garden® should always be used under adult supervision.
- We always recommend adult supervision when children are using the internet.
- Wash your hands after each use.
- Surface-wash the habitat after releasing butterflies (and if used after a period of long storage).
- To protect furniture, place the Butterfly Garden® on a protected surface.
- As this is a pop-up product, care must be taken when opening and closing the dome. Keep away from very young children.

Watch your very own butterflies emerge with this fascinating habitat! Use the enclosed coupon to redeem painted lady (*Vanessa cardui*) caterpillars (post and packing fee required). Painted ladies (*Vanessa cardui*) arrive from Africa every year. They are very pretty butterflies with orange-, black- and white-spotted wings. They can arrive in early spring, but late May and June is more usual.

They love to drink nectar from flowers. At caterpillar stage, they like thistles and stinging nettles. They are normally seen in the UK from May to September, basking in sunshine, perhaps on a favourite plant like the buddleia.

### How to use your Butterfly Garden®

Once your caterpillars have arrived, you will be keen to get started. However, it is important that you read ALL of the instructions and make sure you are not only prepared but are also willing to handle these delicate creatures responsibly.

Your caterpillars will arrive in a box marked "open immediately". Inside are your (3-5) painted ladies and enough food for their development.

Take the container out of the box. ALWAYS keep the container upright and out of direct sunlight. Direct sunlight can cause condensation within the container, and moisture may cause the caterpillars to fall sick or even die. ALWAYS keep the lid on your container to keep their environment clean.

### Feeding your caterpillars

Your caterpillars have all the food they need whilst they are within the container. Do not add anything.

There are small holes in the lid of the container to provide your caterpillars with enough air.

## Looking after your caterpillars

Do not worry if the caterpillars do not seem to move much or at all! Look carefully for silk threading (webbing), after a little time you should see them eat, spin silk and grow larger and larger!

Whilst you are watching the development of your caterpillars, it is important that you keep them in a safe area away from young children and with some natural light.

Caterpillars are sensitive to temperature. If they are kept at a constant 24°C (76°F), they should develop into butterflies in about 3 weeks. However, this cycle may take longer if it is cooler. If you allow for 3-5 weeks, this should cover all eventualities!

If you are using the Butterfly Garden® in a school environment or a place where there is no heating at night, it is a good idea to wrap your containers with a blanket and place them on a high shelf. Remember to take the blanket away and place them at eye level in the morning. n.b, The caterpillars will be safe to leave like this for a weekend. Do not leave them unattended for longer than this.

When the caterpillars climb to the top of the container and hang upside down, they have become chrysalises.

They will look a bit like a letter 'J' and are now at their most vulnerable, so try not to disturb them by moving the container around.

You cannot see inside their cosy wrapping, but they are undergoing an amazing transformation. Within the chrysalises, they are turning into butterflies!

## Moving into the habitat

When these chrysalises have formed, it is time to transplant them to your Butterfly Garden® habitat.

**Adult assistance will be required.** First, it is important to decide where your Butterfly Garden® is going to be erected and placed on show. It needs to be positioned on a sturdy, flat surface where you can easily view the butterflies without having to constantly move it.

It is also important that there is room to access the zipped side so you can easily place food inside.

Keep out of direct sun but make sure there is still a good source of natural light. Keep at a sensible height so that the butterflies can be seen but the habitat is safe from pets, very young children and accidents. Keep away from strong drafts or areas where there may be sudden gusts of wind (from windows and external doors).



Painted Lady Chrysalis

The chrysalises should have attached themselves to the paper disc under the lid of the container. Unzip your habitat 'door' and either ask someone to hold it open or hold it back with a peg or paper clip or similar. Open the container and carefully remove the paper disc without dislodging the chrysalises. Use a safety pin (use only safety pins) to fix the paper disc to the inside of your habitat on the netting about 4cm from the floor (base of habitat). Once the disc is hanging vertically, so will the chrysalises.

Should any of your chrysalises become detached from the paper disc and remain in the container, gently scoop them up with a clean spoon and lay them on the floor near the hanging chrysalises on a piece of kitchen roll. If you notice they seem to be shaking, do not worry—this is a normal phenomenon they use to scare away predators!

Your chrysalises will remain hanging like this for 1 to 2 weeks, depending on the temperature. When they become dark, they are about to hatch. If you are watching your caterpillars daily, then at some stage you should be able to see the colour of the butterfly through the shell of the chrysalis. When this occurs, the butterfly normally emerges, the same day! So this is a good time to be extra vigilant. As each butterfly emerges it rests in a vertical position whilst pumping its wings to their full size. After a few hours, the wings will be set and hardened. The butterfly can now fly! Do not worry if you see a red liquid at the butterfly's tail—this is leftover colouring from the wing formation and is a natural occurrence.

## Decorate your habitat

Now that the butterflies are fully formed, you can think about decorating the Butterfly Garden®. Use natural things like twigs, fresh flowers and leaves to create a lovely environment. Do not overfill the dome as the butterflies still need room to fly. Also be careful when opening up your habitat now as the butterflies may escape.

## Feeding your butterflies

To feed your butterflies, mix 2 teaspoons of sugar (10ml) into a 200ml (8 oz) cup of cold water and stir until dissolved. Suck up some of this mixture into your pipette and sprinkle it onto the flowers. You can add to their food by placing a tissue soaked in sugar water on a small plastic plate or dish and placing this carefully in the middle of the habitat. The remaining sugar water should be kept in the fridge for future use. Butterflies like other things to eat too—try a piece of freshly cut orange or a piece of old banana (very ripe and browning). Feed your butterflies once every day.

## Release the butterflies

After a few days, it is time to release the butterflies into their natural environment. Take the Butterfly Garden® outside and carefully peel back the door. Leave it open until the last butterfly has flown away! Watch them on their journeys: did they all fly away at once and in the same direction? How long did it take before they left your garden?

Remember to surface-wash the habitat before storing away or re-using.

## BUTTERFLIES

Butterflies go through 4 life cycle stages: egg, larva (caterpillar), pupa (chrysalis) and adult (butterfly). The process is called metamorphosis. Female butterflies lay their eggs on a plant that is suitable as food for their young. A few days later, they start to form into caterpillars that munch their way through the leaves of the plant.

Painted Lady Caterpillar



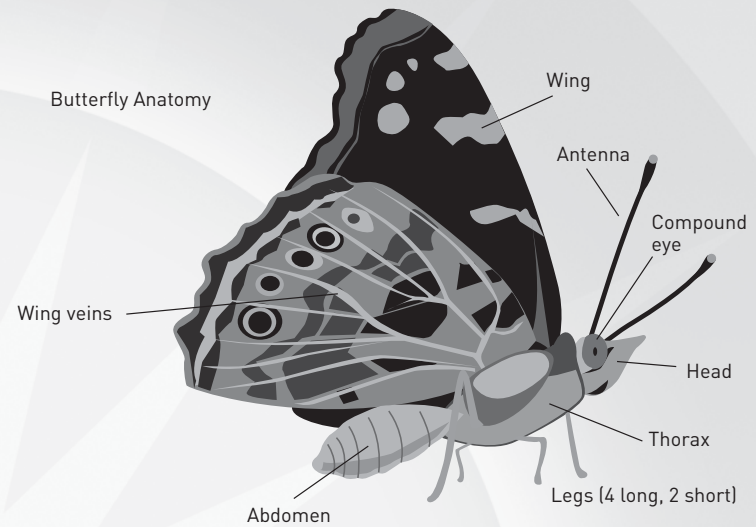
Each caterpillar has a head and long jointed body, but caterpillars of different types of butterfly are all different in colours and markings. Caterpillars spend all their time eating and growing, shedding their skin 4 or 5 times as they get bigger and bigger. When a caterpillar has reached its full size, it spins a silken thread, attaching itself to a safe place like a twig or the underside of a leaf. The caterpillar continues to cover itself until it is all wrapped up and is now within a 'shell'. The caterpillar has stopped eating and seems inactive. Inside, however, it is changing into a butterfly. When the butterfly form is complete inside the chrysalis, its body lets out a fluid that helps it free itself from the shell. The butterfly hangs with its wings downward until the outer skeleton has hardened and it is strong enough to fly.

Butterflies use their antennae to smell their food. They cannot bite or chew food but use a tube to suck up nectar and other liquids. They actually 'taste' the food with their feet! When they land on a flower, the sweetness is detected by their feet, which triggers the butterfly to uncoil its proboscis (the tube that extends from the mouth) and dip it into the flower. Butterflies are important to plants as they carry pollen from flower to flower as they fly between the plants.

Butterflies do not grow larger as they get older. Whatever size they hatch is the size they remain for their lifetime. The largest known butterfly is the Queen Alexandra birdwing from New Guinea, with a wingspan of approximately 27cm (11 inches). One of the smallest is the western pygmy which lives in the region from Venezuela to Nebraska and has a wingspan of only about 1.6cm (3/8 of an inch)! Not all butterflies fly in the same manner. Some butterflies have light bodies and large wings and only need to beat their wings slowly to fly. Other butterflies have larger, heavier bodies so have to beat their wings rapidly to stay in the air.

Some butterflies travel great distances (migrate), like the painted lady (*Vanessa cardui*), which arrives in the UK (when it is getting warmer) from North Africa. Kaleidoscopes of them cross the Mediterranean each year.

Butterfly Anatomy



Butterflies have predators, the worst being wasps and flies. These insects lay their eggs on or inside the caterpillar, and when the eggs hatch, the young eat the caterpillar! Dragonflies also eat caterpillars and butterflies. Spiders catch butterflies in their webs or hide from them inside flowers and then pounce when they land looking for nectar. Birds, frogs and toads eat caterpillars and butterflies too. With so many predators, nature assists by enabling female butterflies to lay several hundred eggs in a lifetime. These large numbers ensure that some will survive to adulthood. Butterflies can flee a predator by flying away, but those that cannot fly fast have to hide or dodge about. Butterflies sometimes blend in with the background in order to escape detection. Some butterflies have vivid colours on one side and plain grey or brown underneath; they land on a twig and fold their wings back to blend in with the colour of the foliage, completely hiding their brighter wing colours. Watch butterflies in your garden, and see what different characteristics they display.

Butterflies are found all over the world, from mountain tops to deserts. How many different kinds can you find in your garden or out on a walk? You can draw pictures of them or write descriptions and then look them up on the Internet to see what they are and where they come from.

Butterflies are beautiful insects with very short life spans. They are also challenged by climate change, pollution and reduction of their wildlife habitats. Butterflies are very sensitive to these changes and have fared worse than birds and plants. Britain's butterflies are in rapid decline, especially those that depend on specialised habitats like woodland, heaths and grasslands. The climate also affects butterflies as they like dry, warm weather, and recent summers in the UK have been shorter, wetter and colder than previous years.

If you are interested in finding out more about different bugs and insects, visit the National Geographic website:

<http://animals.nationalgeographic.com/animals/bugs.html>