Present Day Fact File

Butterflies
Rainforests shelter many species of butterfly, some of which are totally new to science. If rainforest continues to be destroyed at the current rate, some species may become extinct before anyone ever gets a chance to study them.

Pretty pollinators
Butterflies are very important as pollinators of rainforest flowers, whether on trees or other plants. They fly huge distances in their short lives, drinking as much nectar from the flowers as possible – while the flowers just as busily dust their backs with pollen, ready to fertilise the next flower the butterfly drinks from. Butterflies have a long tongue to probe deep into flowers and find the sugary nectar; when they have finished drinking, this proboscis is coiled up under their heads like a spring.

These insects have very good eyesight, and over millions of years of co-evolution, flowers have exploited this by producing brightly-coloured flowers to attract butterflies. Generally, male butterflies are slightly larger than their female counterparts, and often can be seen 'dancing' in groups in patches of sunlight. This dance attracts females to the area, who sit in the nearby branches and watch to choose a mate. Females are usually not just smaller than male butterflies, but often very drab in comparison too – it may be that this is to help keep them hidden when they are laying eggs.

The hungry caterpillar
Once a male and female butterfly have mated the female flies around to find specific plants to lay her eggs on. Most caterpillars are very fussy eaters and will only eat the leaves of a particular plant. She may lay hundreds of eggs in groups or singly and then usually dies. Adult butterflies do not tend to live long. After a short time – sometimes just a few days – the eggs hatch and tiny caterpillars appear. Their first meal is the egg case they have just left; this is an important source of minerals for them. After that, they spend 95% of their time chewing away at leaves, getting bigger and fatter all the time. Of course, their skin can only stretch so far, and so every now and then they have to moult an old skin. The new skin forms underneath the old one, and once the old skin is shed, they can carry on eating until the new skin is too small.

After a few days or a couple of weeks, the caterpillar may have eaten enough to be hundreds of times its original size. It now finds itself a secure spot – perhaps under a leaf, or in a crack in bark – and makes itself secure with a thread of silk from special glands by the mouth. Quickly the tissue inside the caterpillar begins to break down and a tough outer skin forms. It has now become a pupa. Inside this shell, the caterpillar dissolves completely and a 'tissue soup' forms. This is made of thousands of cells busily working away to build a butterfly from the material that used to be a caterpillar.

Miniature miracle
Soon, the pupa begins to crack open down the back, and a bedraggled butterfly struggles out. It has to spend some time resting as it begins to pump blood through the tiny veins in its wings – which are still crumpled up after being inside the pupa. Slowly these wings begin to dry out and become stiff – and then suddenly the butterfly flaps them and the brilliant colours of the adult can be seen. It flies away to look for a first meal of nectar, and the cycle starts again.