

E.T. A LOCAL WAY OF LEARNING

Title: BUTTERFLIES ARE FREE

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Grade Level: K-12

Concepts: 2. Ecosystem
3. Carrying Capacity
12. Stewardship

Disciplines: 1. Science
2. Art

Objective:

By collecting a caterpillar and caging it through its' chrysalis or pupa stage, students can observe the life cycle and metamorphosis of an insect. Students shall be able to identify the parts of the insect and their function as outlined in The Anatomy.

Rationale:

The West Indies are poor in natural reserves. It behooves the butterfly enthusiast constantly to bear in mind that the facet of nature that interests him, tiny as it may seem, is part of a much greater and unbelievably complicated natural system, no part of which can be upset without risk of disturbing the whole. Using a field guide, older students should be able to identify any number of butterflies from among the seven major families which occur in the Virgin Islands.

Materials Needed:

In order to observe the metamorphosis of a caterpillar into a butterfly, a cage will be necessary. A simple one may be constructed from a bleach bottle and screening. For identification and classification purposes, Riley's Field Guide is necessary.

References:

A Field Guide to the Butterflies of The West Indies;
Norman Riley, (Caribbean Collection Section in Virgin Islands Libraries).



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Directions/Activity:

1. Caterpillars can be collected at various times throughout the year. A sure bet is December and a Frangipani tree, covered with colorful, crawling creatures. In caging any caterpillar be sure to provide plenty of fresh leaves from whatever plant on which you find them feeding until they reach the chrysalis stage. Provide dirt when needed for the pupae that dig into the ground to metamorphose also. Do not be alarmed if they appear, to be lifeless. When the butterfly finally emerges as an "imago" its' wings hang limp on either side like tiny bags. They are expanded by fluid which is pumped through the veins until they are dry and hard. Now is the time to let it go.
2. When going on a butterfly walk, be aware that butterflies are creatures of the sun. In dull weather they go to the ground and the difficulty of finding them at rest is a lesson in natural camouflage. The colors and patterns that make them conspicuous when in flight, serve the opposite purpose when they rest. They frequent gardens of flowers or crops, rain forests, open fields and roadsides.

The Anatomy:

The butterfly consists of a head, thorax, abdomen, two pairs of wings, and three pairs of legs. The head has a pair of antennae (feelers), a pair of short, three jointed sensory organs (palpi), between which lies the proboscis, and a pair of large compound eyes. The proboscis, through which the butterfly sucks up water or nectar, is a hollow tube. The thorax is the butterfly's power plant containing the muscles that operate the wings and legs. A leg is made up of four parts ending in a claw. The wings are flattened bags between which run the veins that support them.

