



PROGRAM CURRICULUM GUIDE

Natural History * Science * Geography * Social Studies * Language Arts * Vocabulary Development * Art/Design * Environmental Education



The following natural history concepts will be discussed and visually displayed:

1. Protective Coloration
2. Mimicry
3. Warning colors
4. Disruptive Patterns

All living organisms have protective features that aid them in their survival. Insects in particular have many defense mechanisms as well as a few painful offensive mechanisms the following suggestions may help in teaching these concepts.

Natural History and Science

1. After viewing the displays, have the students recount the examples given of protective coloration. Then have the students relate how the color combinations of other groups of organisms aid them in their own survival. Example: Polar Bear, arctic tundra or common green grass-snake. This concept applies to all living organisms including soldiers with their green colored camouflaged fatigues.

2. Mimicry and warning colors both work hand in hand. Certain organisms advertise their danger by bright colors, (usually red or yellow). Other organisms that have a similar appearance gain the protection of their look-alike, because predator will leave it alone.



3. Disruptive patterns and appendages also allow for survival in the wild. Many predators are confused by organisms that have color patterns that make the least vulnerable body parts appear as the most vulnerable. (The hindwings of a butterfly by appear as the head of another type of insect of a predator.) The disruptive colors of many of the large and beautiful butterflies actually confuse predators.

Geography and Social Studies

This program deals primarily with two geographic areas, which includes the tropical rainforests of South America, Papua New Guinea, Ghana, West Africa and Malaysia as well as our own "temperate rainforest". The following suggestions may help in the teaching of social and physical concepts as it relates to world geography.

1. the tropical rainforest is constantly wet, humid, and warm. There is no great change in temperature throughout the entire year (70-85F.) Have children compare the plant life, weather, physical conditions and homes of those who live in the rainforest as to our temperate climate.

2. The higher the elevation, the cooler the temperature. Why is Mt. Cotopaxi snow covered- yet lies directly on the equator? How does elevation influence what products are grown?

3. Organisms vary in both color and size depending upon location and climate. Some displays will show that organisms tend to be lighter in color as they approach the polar areas and their pigment darkens as they approach the tropics.

4. Geography helps to determine the social-cultural patterns, occupations, dwellings, dress and "life styles" of its inhabitants. Much of the content will demonstrate that because of climate the need for material goods is not as necessary for survival in the tropics as in the temperate zone.

Art Design- Color Appreciation-

The wind structure of flying insects serves as a vehicle for their locomotion. Examples include: the hummingbird moth and a helicopter, large soaring insects and gliders, hawk moths and jets.

Butterfly colors are of two types, pigment and structural. the pigment colors are the same as found in paints, inks, and dyes, They are called "straight" colors. Structural colors are mechanical and are like the colors produced by a prism, rainbow or an oil film on water.

The brighter colors of the tropical fauna and flora also has a reflection in the color and style of buildings, clothing and materials used by the respective natives. In which way do people utilize the colors of their natural environment to decorate their homes, tools and belongings?

