

# PYRAMID OF LIFE

Activity 30

AGE LEVEL = 8-12 (6-13)  
DURATION = 15-20 min.  
LEARNING STATION = Anywhere  
RELATED ACTIVITIES =  $\longleftrightarrow$  Web of Life

WHEN =



**UNDERSTANDING:** The dynamics of the food chain (web) and the balance found in nature.

**MATERIALS:**

- Several colored paper squares with a skull and crossbones emblem on them to represent poison.
- 3 x 5 Index cards or slips of paper

**PREPARATION:** For safety reasons, make sure that the learning station is well padded in case someone falls.

**LESSON:**

**Warm-up:** Give each child an index card to secretly write down a favorite animal or plant living in the area. Have them initial it. Collect the slips of paper and tell them they will be building a "Pyramid of Life." Explain that the pyramid demonstrates the need for balance among all plants and animals for survival.

**Activity:** Ask: "What is energy? Where does it come from? What form of life uses the sun's energy to make food?" When the children answer "plants," introduce plants to the group (the children who wrote plants on their cards). Have the "plant-children" kneel down on all fours, close together in a line. Tell them that without the direct or indirect support of plants there would be no animals.

Then read off the names of animals and ask each "animal-child" whether they are a plant-eater or a meat-eater. Have the plant-eaters (herbivores) stand in a line behind the plants and the carnivores stand behind them. Since children often identify more with animals than plants, there may be more children in the upper levels of the pyramid than in the supporting lower levels. If so, explain that the "plant-children" can't support all the animals, so some animals will have to become plants (encourage the larger children to switch). Supervise construction of the pyramid closely.

**Wrap-up:** After the children have created the pyramid, introduce a poison, using the poison cards. (You can make it more realistic by saying it is a hazardous chemical such as dioxin.) Pass a poison card to each of the plants. Have the herbivores (the second layer) consume all the poison by passing the cards up the pyramid. Continue passing the poison up until the top consumer has collected all the cards. Ask: "What will happen to the top consumer? Are we top consumers? What happens to us?" Give some examples of how poisons in our food or water affect us (illness, cancer, birth defects, deformities, etc.)

## OPTIONS AND FURTHER EXPLORATIONS:

1. Illustrate how removing a producer (plant extinction) will cause an imbalance in the Pyramid of Life. Pull out the middle plant-child. Crash! This could be a possible lead-in to a study on rain-forest destruction in South America, Central America and Mexico. Have the children learn about the causes of destruction and what's at stake.
2. Introduce a new species (i.e., a new hawk). Again, an imbalance is caused. The hawk crawls to the top and finds no space, and the pyramid crashes again. This could be a good lead-in activity on the study of exotic (non-native) organisms and their effects on native animal and plant populations.