

KidsPlanet....

with Thorne Ecological Institute



Ecology

by Dr. Oakleigh Thorne, II

Have you ever heard the word “Ecology?” It’s a good word to know. Ecology is a science. It is the study of living things in relation to their environment. In other words, it’s studying a plant or animal where it lives and seeing what affects it and how it interacts with other plants or animals around it. A person who studies Ecology is called an “ecologist.” I’m one of those people!

There are certain “*Principles of Ecology*” that are operating in the world and that you need to begin to understand as you grow up. The first and most important one is that everything affects everything else, directly or indirectly. A good example of this would be that water is related to climate (rain, snow, sun, wind, etc.) that affects trees and animals that are connected to a river that flows into the ocean that influences snowfall in the mountains that affects the local farmer’s crops. These are called *interrelationships* (a big word for you to learn!) Each step is related to and has an effect on the next step. They cannot be separated.

A group of plants and animals that live together and interact with each other is called an *ecosystem*. Each kind of animal, for example, has its own role (or niche) that it fills.

For example, in a human community (ecosystem), there are niches filled by doctors, miners, farmers, bankers, lawyers, teachers, merchants, etc. You can see that each person plays a role in the total functioning of the com-



munity or human ecosystem. If any one is absent or not functioning, you can see that this ecosystem may have problems and not work very well.

Another important Ecological Principle is called *Population Dynamics*. This means that plants and animals are able to produce more offspring (or babies) than their habitat (or home) can support. What do you think would keep them all from growing up and living? It is another Principle called *Limiting Factors*. These are such things as lack of food (causes starvation), disease (they get sick and die), predation (what eats them), effects of weather or natural catastrophe (they get caught in a bad storm), poisoning (they eat something that kills them), or lack of shelter (they have no place to hide and be safe). Do you think that *Limiting Factors* apply to humans? If you said, “Yes,” you were right!

Probably the second most important Ecological Principle is

that of *Carrying Capacity*.

You may think that means whether or not your big sister can carry you! Actually, it’s more like how many kids can fit in a baby carriage and not hurt each other. In nature it is how many numbers of a plant or animal species can survive on a piece of land (or in an ecosystem) and not starve, choke out each other, or die from disease because of overcrowding. When you see how much the

greater Denver area has grown lately, don’t you wonder about the *Carrying Capacity* of our land to hold more people? I do.

There are other Principles of Ecology that I have not mentioned because they are more complicated and difficult to understand, so I have chosen the most important ones and given you some idea of how they work in the world. It is important for you to learn more about these and to understand them better as you grow older. That’s because whenever humans violate any of the Ecological Principles, usually bad things happen! So as you go through life, remember how important the science of Ecology is to all of us!

Dr. Thorne is Founder and Honorary President of Thorne Ecological Institute in Boulder. To find out more about the Institute and the Thorne Natural Science School, call (303)499-3647, e-mail them at info@thorne-eco.org, or visit their web site at www.thorne-eco.org.

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