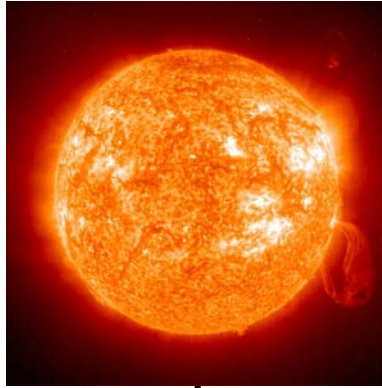# Constructing Sonoran Desert:
Sample Food Chain and Mathematical Modeling of Energy Flow

The Sun

Prickly Pear Cacti captures and stores 100 calories

Desert Iguana eats the prickly pears, and produces heat and uses energy to move. Only 10 calories from the prickly pear are turned into flesh.

Ferruginous Hawk eats the Iguana and need lots of energy for flight! Only 10 calories from the Iguana and 1 calorie of the original energy from the prickly pear is put into growth of the hawk.

ONLY 10% OF THE ENERGY IS CARRIED TO THE NEXT TROPHIC LEVEL

Energy available = Original Calories * $(0.10)^{(n-1)}$

n = number of trophic levels climbed