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