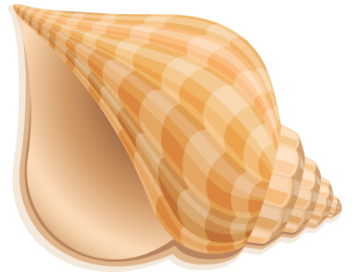# She Sells Seashells by the Seashore

Biodiversity is a measure of the variety of life that occurs within an ecosystem. The number of different species that live in an ecosystem determine the biodiversity.

Richness is defined as the number of unique species that are present, but does not include the number of individuals within those groups.

Abundance is the number of individuals present in each group relative to the total number of individuals. Richness and abundance are both measures of biodiversity.

The **Simpson's Diversity Index** is a measure of diversity which takes into account the number of species present, as well as the relative abundance of each species. As species richness and evenness increase, diversity increases.   The equation shows how the diversity is calculated, with the value of D ranging between 0 and 1, with 1 representing a high diversity.

$$D = 1 - \left(\frac{\Sigma\, n(n-1)}{N(N-1)} \right)$$

n = the total number of organisms of a particular species
N = the total number of organisms of all species

The bag of seashells you have represents a sample from a beach near Bradenton, Florida. Calculate the biodiversity of your sample using the Simpson's Diversity Index.   (The rows do not necessarily indicate the number of species in your bags, you may need more rows, or fewer.)

Species/Taxa	Number (n)	n (n-1)
Total	N (total) =	Σ n(n-1) =

Show Calculation:

Analysis - What does the biodiversity index of your sample tell you about the beach where it was collected from