



# *Little Door to the Nineth of December*

## Mass Extinctions

Today's little door discusses the five mass extinctions of the past.

However, it is important to know that extinctions themselves are a natural part of evolution. **As they occur naturally and periodically, there's a natural background to the rate and frequency of extinctions:** Every 1 million years, 10 % of the species are lost; Every 10 million years, 30 % of the species are lost; and every 100 million years, 65 % of the species are lost. It's not out of line with what we would expect, because extinction also drives evolution. When one species ends, a new one will take its place in the ecological niche. So, when this rate of extinction happens much faster and affects more species than what is to be expected from the natural background rate, it tells us about additional environmental or ecological pressure that leads to more extinctions.

Usually, at least 75% of species go extinct within a relatively short period of time (relative by geologic standards), usually within less than two million years. And these five mass extinctions were at the **End Ordovician** (444 million years ago; mya), **Late Devonian** (360 mya), **End Permian** (250 mya), **End Triassic** (200 mya) and **End Cretaceous** (65 mya).

