



Digging Deeper

TELLING GEOLOGIC TIME

Species

Every plant or animal belongs to a species. A species is a population of plants or animals that can breed to produce offspring that can then produce offspring themselves.

Biologists believe that new species evolve from existing species by a process called natural selection. Here's how it works. Genes are chemical structures in the cells of the organism. The nature of the organism is determined by its genes. The organism inherits the genes from its parents. Occasionally, a gene changes accidentally. That's called a mutation. The changed gene is passed on to the next generation. Most mutations are bad, some are neutral but some mutations make the organism more successful in its life. Organisms that inherit that favorable new gene are likely to become more abundant than others of the species.

Sometimes the population of a species becomes separated into two areas, by geography or by climate. Then the two groups no longer breed with each other. The two groups then slowly change by natural selection. Each group changes in different ways. Eventually, the two groups are so different that they can't breed to produce offspring any more. They have become two different species.



As You Read...

Think about:

1. **What is a species?**
2. **How do species change through time?**
3. **What are index fossils? How are they used in stratigraphic correlations?**
4. **How has radioactivity been used to refine the geologic time scale?**