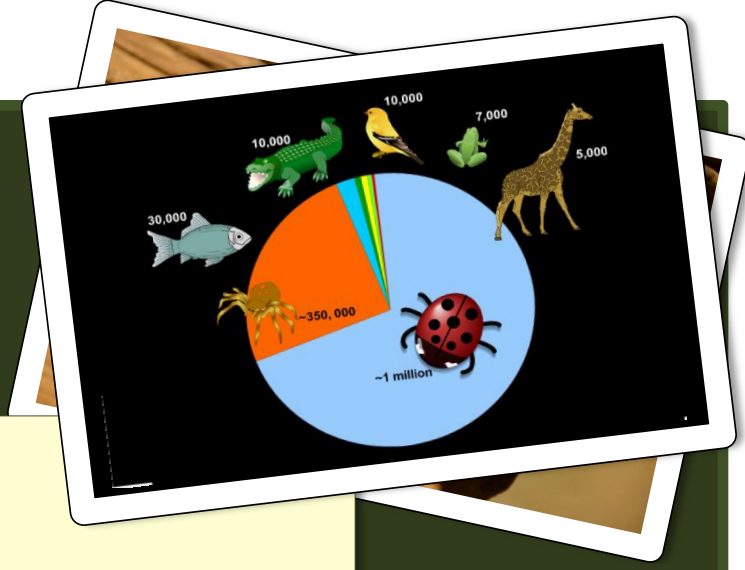
education session

Classification Session

How and why do we group organisms?



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Learning Outcomes:

At the end of the session:

- ✓ **All students** will know how the taxonomic hierarchy works and be able to understand how new species are grouped
- ✓ **Most students** will remember key characteristics of specific taxonomic groups
- ✓ **Some students** will understand the key difference between species and hybrid and will start to understand how subspecies are defined and how they lead to the evolution of new species

Session Outline:

The session starts with the benefits of classification. We then discuss the evidence used by scientists to sort organisms using biological classification (DNA, biochemistry, etc.). Physiology, and the inherent problem of convergent evolution are discussed in more detail. The session then looks at the taxonomic hierarchy starting with domain through to order, giving examples of organisms in each rank and what features define each group. The students then have the chance to investigate a variety of animal biofacts (skulls, furs, etc.). Working together they will sort these objects into invertebrates and the five main vertebrate (fish, amphibian, reptile, bird and mammal) groups. After the activity, the mammal group is further focused on looking at monotremes, marsupials and placental mammals, with further focus on the primate order. Definition of species is talked about which leads into what sub-species are and how they evolve, as well as why hybrids are not true species.

Curriculum Links

Biology

- Understanding of the classification system
- Main characteristics of subphylum vertebrata
- What defines a species and how this differs from subspecies
- What a hybrid is

Please note, no live animals are used in this session.