Chapter 15
Section 2

Scientists use differences in appearance and structure to group organisms.

Answer this question in your notes.

How do scientists decide if organisms are the same species?

In 1942 Ernst Mayr proposed the biological species concept.

It stakes that a biological species is a group of actually or potentiating interbreeding natural population that are reproductively isolated from other such groups.

What does this mean?

Reproductive isolation occurs when a barrier separates groups.

Sometimes these barriers are not complete so we get hybrid.

Can you think of a hybrid animal?

Asian elephants and African elephants do not interbreed. They are separate species.

The biological species concept fails when referring to organisms that reproduces asexually.

Modern biologists recognize species by studying their features.

Only about 1.5 millions species have been described, but there are an estimated 6 million species in the tropics (only 500, 000 have been described.)

Convergent Evolution- organisms evolve similar features _____ often because they live in similar _____. i.e.: wings of _____ and wings of _____.

independantley

habitats

birds

insects

Analogous characters- similar features that evolve through convergent evolution.

Phylogeny- the evolutionary history of a species

Cladistics- a system of taxonomy that reconstructs phylogenies by inferring relationships based on similarities.

Derived Traits- unique charcterisitcs.

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