

INKBIOLOGY FLASHCARDS

Classification, biodiversity and conservation

Unit B18 · 19 cards · fronts and backs

Print double-sided, flipping on the long edge, and each answer lands behind its question. Cut along the card borders.

Definitions in mark-scheme wording, and the misconceptions that lose marks. These cards and each lesson's whole-lesson check run on the website with spaced-repetition scheduling, at inkphysics.co.uk/biology/flashcards.

DEFINITION

Define: Taxonomy.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Define: Taxon.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Define: Binomial.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Define: Phylogeny.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Define: Phenetic classification.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Define: Phylogenetic classification.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Define: Homologous structures.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Define: Analogous structures.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Any one group in that hierarchy: Mammalia, Primates and Homo are all taxa.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

The naming and classifying of organisms into a hierarchy of groups.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

The evolutionary history of a group: which lineages split from which, and in what order.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

The two-part international name of a species: genus then specific name, italicised, genus capitalised.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Grouping organisms so that each group contains a common ancestor and all of its descendants.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Grouping organisms by observable similarity, without regard to how they are related.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Structures with the same function and different origins, produced by convergent evolution.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

DEFINITION

Structures with the same underlying plan, inherited from a common ancestor, whatever they are now used for.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY CLOSENESS

SPOT THE ERROR

Say what is wrong with this claim:

Humans evolved from chimpanzees.

CLASSIFICATION AND PHYLOGENY: SORTING BY ANCESTRY, NOT BY MEASURING BIODIVERSITY: RICHNESS, EVENNESS AND THE INDEX TH

DEFINITION

Define: Species richness.

DEFINITION

Define: Species evenness.

MEASURING BIODIVERSITY: RICHNESS, EVENNESS AND THE INDEX TH

DEFINITION

Define: Species diversity.

DEFINITION

Define: Genetic diversity.

MEASURING BIODIVERSITY: RICHNESS, EVENNESS AND THE INDEX TH

SPOT THE ERROR

Say what is wrong with this claim:

The habitat with the most individuals in it is the most diverse.

DEFINITION

Define: In situ conservation.

CONSERVATION: KEEPING A SPECIES WHERE IT LIVES, OR SOMEWHERE ELSE

DEFINITION

Define: Ex situ conservation.

DEFINITION

The number of different species in a community.

MEASURING BIODIVERSITY: RICHNESS, EVENNESS AND THE INDEX THAT SORTS THEM BOTH

SPOT THE ERROR

Chimpanzees are not our ancestors but our cousins. The two lineages separated from a shared ancestral population six to eight million years ago, and both have been changing ever since. A phylogeny is a record of splitting, with no direction and no finishing line.

PHYLOGENY: SORTING BY ANCESTRY, NOT BY L

DEFINITION

Richness and evenness together, usually expressed as an index.

MEASURING BIODIVERSITY: RICHNESS, EVENNESS AND THE INDEX THAT SORTS THEM BOTH

DEFINITION

How equally the individuals are shared out between those species.

MEASURING BIODIVERSITY: RICHNESS, EVENNESS AND THE INDEX THAT SORTS THEM BOTH

SPOT THE ERROR

Abundance is not diversity. A hectare of ryegrass ley holds enormous numbers of organisms belonging to very few species. Diversity is how many species there are and how evenly the individuals are shared between them, which is what an index is built to measure.

MEASURING BIODIVERSITY: RICHNESS, EVENNESS AND THE INDEX THAT SORTS THEM BOTH

DEFINITION

The number of different alleles present in the gene pool of a population or species.

MEASURING BIODIVERSITY: RICHNESS, EVENNESS AND THE INDEX THAT SORTS THEM BOTH

DEFINITION

Conserving a species outside its natural habitat, in a zoo, a botanic garden, a seed bank or a captive breeding centre.

CONSERVATION: KEEPING A SPECIES WHERE IT LIVES, OR SOMEWHERE ELSE

DEFINITION

Conserving a species in its natural habitat, so that the community and the conditions it is adapted to are conserved with it.

CONSERVATION: KEEPING A SPECIES WHERE IT LIVES, OR SOMEWHERE ELSE

DEFINITION

Define: Endangered species.

CONSERVATION: KEEPING A SPECIES WHERE IT LIVES, OR SOMEWHERE ELSE

DEFINITION

Define: Extinct in the wild.

CONSERVATION: KEEPING A SPECIES WHERE IT LIVES, OR SOMEWHERE ELSE

SPOT THE ERROR

Say what is wrong with this claim:

If a species is in trouble, breed it in a zoo
and put it back.

CONSERVATION: KEEPING A SPECIES WHERE IT LIVES, OR SOMEWHERE ELSE

DEFINITION

A species surviving only in cultivation, captivity or as a population well outside its past range.

CONSERVATION: KEEPING A SPECIES WHERE IT LIVES, OR SOMEWHERE ELSE

DEFINITION

A species at high risk of extinction in the wild, as assessed against criteria such as the IUCN Red List's.

CONSERVATION: KEEPING A SPECIES WHERE IT LIVES, OR SOMEWHERE ELSE

SPOT THE ERROR

A zoo holds a few dozen large animals, far too few to keep a species' alleles, so what comes out is less varied than what went in. Captive animals often cannot hunt or navigate, and a release needs a habitat: if the cause of the decline remains, so does the problem.

CONSERVATION: KEEPING A SPECIES WHERE IT LIVES, OR SOMEWHERE ELSE