

Solutions

2.1 A Read relationships from the branching order. Rotating branches at a node does not change ancestry. A branch length represents time or change only when the diagram gives a scale.

2.2 $\text{difference} = 8/50 \times 100 = 16\%$.

2.3 False. A modern species is not automatically the ancestor of another modern species. Similarity caused by convergent evolution can mislead a classification based on one trait.

2.4 taxon. taxon means A named group in a classification.

3.1 A=10%; B=30%. Site choice, substitution-rate assumptions and repeated substitutions affect interpretation; percentage difference alone supplies no calibrated time.