

Questions page 187

- 1a. Three kinds of evidence that support the theory of evolution are: fossils, similarities in early development and similarities in body structure (homologous structures).
- 1b. The major differences that scientists have discovered between today's whales and the fossils of whales' ancient ancestors is that whales' ancient ancestors had legs and walked on land, while modern whales do not.
- 1c. This difference shows that whales and animals with four legs are probably descended from a common ancestor because the four legs of ancient whales are homologous structures of the legs of modern land animals.
- 2a. Scientists try to determine how closely related species are by examining evidence from DNA, protein structure, fossils, early development, and body structures.
- 2b. The most reliable kinds of evidence would be DNA and protein structure because they show specific distinct patterns that can be easily compared.
- 2c. The kinds of evidence that might show whether or not insects and birds are closely related are DNA, protein structure, and early development.
- 3a. Isolation can lead to the formation of a new species when a group of individuals remains isolated from the rest of its species long enough to evolve different traits.