

Chapter 17, The History of Life (continued)

Section 17-4 Patterns of Evolution (pages 435-440)

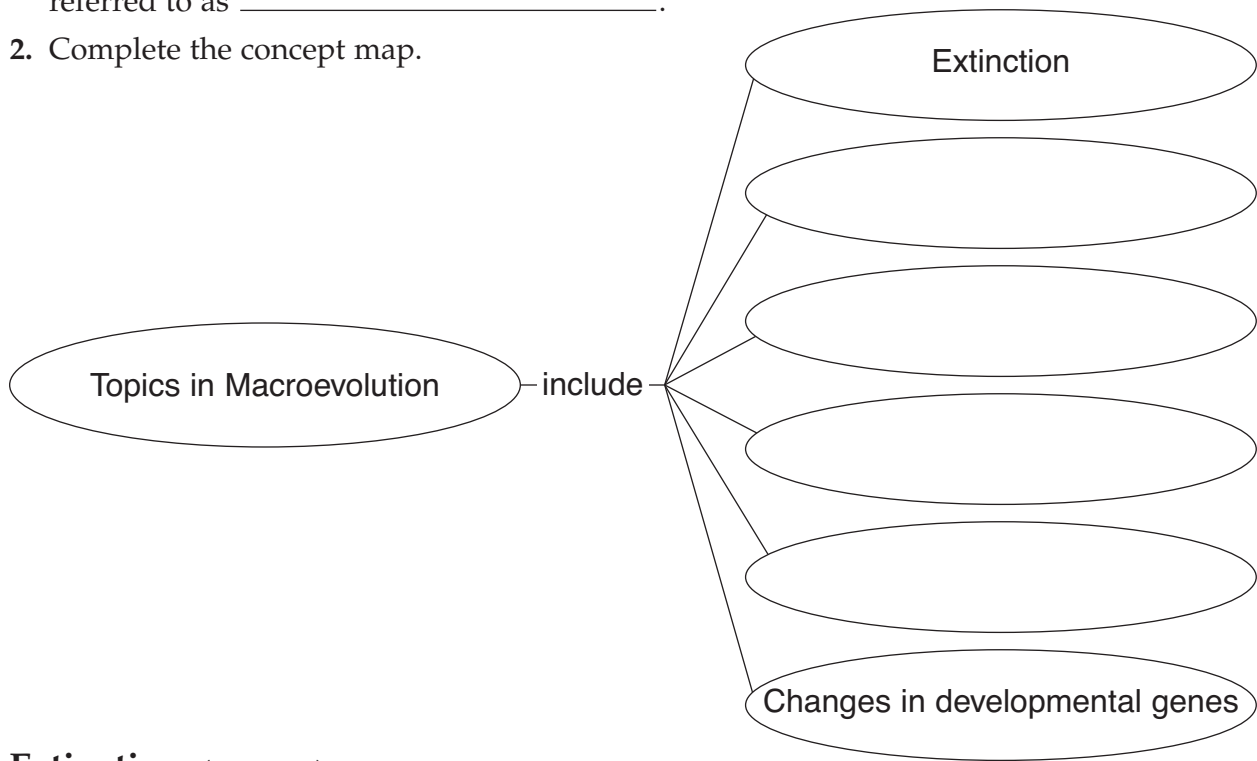


TEKS FOCUS: 5B Cell differentiation in the development of organisms; 7B Results of natural selection in extinction

This section describes six important patterns of large-scale, long-term evolutionary change.

Introduction (page 435)

1. The large-scale evolutionary changes that take place over long periods of time are referred to as _____.
2. Complete the concept map.



Extinction (page 435)

3. What are possible causes of mass extinctions? _____

4. What effects have mass extinctions had on the history of life? _____

Adaptive Radiation (page 436)

5. The process of a single species or a small group of species evolving into diverse forms that live in different ways is called _____.
6. What led to the adaptive radiation of mammals? _____

Convergent Evolution (pages 436–437)

- 7. The process by which unrelated organisms come to resemble one another is called _____.
- 8. Circle the letter of each choice that is an example of convergent evolution.
 - a. Bird’s wing and fish’s fin
 - b. Shark’s fin and dolphin’s limb
 - c. Human’s arm and bird’s wing
 - d. Human’s leg and dolphin’s limb

Coevolution (pages 437–438)

- 9. The process by which two species evolve in response to changes in each other over time is called _____.
- 10. How have plants and plant-eating insects coevolved? _____

Punctuated Equilibrium (page 439)

- 11. The idea that evolution occurs at a slow, steady rate is called _____.
- 12. What are some reasons rapid evolution may occur after long periods of equilibrium?

- 13. The pattern of long, stable periods interrupted by brief periods of more rapid change is called _____.
- 14. Is the following sentence true or false? Evolution has often proceeded at different rates for different organisms. _____

Developmental Genes and Body Plans (page 440)

- 15. How can hox genes help reveal how evolution occurred? _____

- 16. Is the following sentence true or false? Changes in the timing of genetic control during embryonic development can contribute to the variation involved in natural selection.
