About the Cover

Wolves, like the one shown on the front cover guarding a skeleton of a caribou, were close to extinction in the 1930s. In Yellowstone National Park, the removal of the wolves had ripple effects on the ecosystem. Without a natural predator, the elk population increased, and the preferred food source of the elks—cottonwood and willow trees—began to dwindle. With fewer trees to stabilize the stream banks, the aquatic habitats suffered.

Through research and experiments, scientists gathered information on the evolutionary history of the organisms in the community and how the ecosystem functions as a biological system. They discovered that it was the demise of the wolves, and not other ecological factors, that were responsible. Wolves were reintroduced in the late 1990s, and the Yellowstone ecosystem is beginning to return to a healthy status.

Within this text you will find that these same three themes:

- Evolution
- Nature of Science
- Biological Systems

form the threads that connect the content together. Unit-level learning outcomes, feature readings, and new digital assets, are combined to integrate the themes into the course content. Like the complex interactions of the species in an ecosystem, the many parts of the biological sciences are interconnected. By understanding these connections, students can grasp the importance of biology to their lives.

Unit Learning Outcomes

The learning outcomes for this unit focus on three major themes in the life sciences.

Evolution	Support, with examples, the statement that "Darwin's theory of evolution by natural selection is a unifying theory of biology."
Nature of Science	Examine the methods by which scientists obtain evidence in support of evolutionary change.
Biological Systems	Analyze how evolution occurs at the molecular, organismal, and population levels of biology.

Following the Themes

CHAPTER 15 DARWIN AND EVOLUTION

UNIT 3 EVOLUTION

Evolution	Darwin's theory of natural selection proposes that all life on Earth descends from a common ancestor.
Nature of Science	A scientific theory, such as Darwin's theory of evolution by natural selection, is supported by abundant evidence.
Biological Systems	Evolution by natural selection comes about from interaction between the organism and its environment.

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