

Adaptation

GRADES 3–5

Guiding Question

What characteristics, or adaptations, help plants and animals survive in their habitats?

Connecting Concepts

- For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (NGSS, LS4.C: Adaptation)
- Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (NGSS, LS1.A: Structure and Function)
- Forests provide habitat for fish and wildlife. (PLT FLF, 2.A.1)

Scope and Sequence

The collection and arrangement of content below supports an intentional student learning progression.

Activity	Description
Charting Biodiversity	Students explore the amazing diversity of life on Earth and discover how plants and animals are adapted for survival.
Birds and Bugs (in Grades K–2, see 3–5 Variation)	Students explore how camouflage can affect an animal's ability to survive.
Have Seeds, Will Travel (in Grades K–2, see 3–5 Variation)	Students collect and classify different seeds and learn about their different dispersal mechanisms.
Peppermint Beetle (in Grades K–2, see 3–5 Variation)	Students discover how bark beetles use their sense of smell to communicate with each other and survive.

See plt.org/academic-standards for detailed standards correlations for each activity.

Storyline

Students explore the concept that organisms have complex adaptations that enable them to survive in their habitats.

Storyline continued on next page.



Adaptation (cont.)

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- Begin with the activity Charting Biodiversity, in which students organize different species of plants and animals according to their physical characteristics and begin to consider how certain characteristics help species adapt to environmental conditions.
- Next, do the Variation for Grades 3–5 in the activity Birds and Bugs. In this activity, students participate in a modeling activity to explore how an animal's coloration affects its ability to survive.
- Next, lead students in the Variation for Grades 3–5 in the activity Have Seeds, Will Travel. After examining different dispersal mechanisms for seeds, challenge students to design a seed with a specific dispersal mechanism or one that fits a specific environment. Encourage them to think about how their seed design would enable the plant to better survive in that environment.
- Conclude with the Variation for Grades 3–5 in the activity Peppermint Beetle, in which students research an invasive beetle, such as the emerald ash borer. Ask them to explain how the beetle's specific adaptations enable it to thrive in North American forests. Encourage them to use observations from the unit activities to support their reasoning.

