

Conceptual activity: pronghorn adaptations

Background on this activity: Pronghorn are highly adapted to succeed in their environment. In this activity, you will think about specific adaptations that pronghorn have, how they might have evolved, and how they help them be successful.

1. **Adaptation for speed and predator evasion.** Pronghorn can sprint at speeds up to 60 miles per hour, and can run for miles at up to 45 miles per hour. Many physical adaptations have allowed pronghorn to evolve this ability to evade predators at high speeds. Below is a list of physical characteristics that have evolved to allow pronghorn to run at top speeds. Decide whether you think each trait has been reduced or enhanced during this evolution and explain why.
  - a. Leg length
  - b. Heart size
  - c. Lung size
  - d. Body weight
  - e. Eye size

2. **Behavioral and physiological adaptations.** In addition to physical adaptations, pronghorn also have many behavioral adaptations that increase their chance of survival. Below is a list of behavioral and physiological adaptations that have evolved in pronghorn. Describe what you think are the advantages and/or disadvantages of each one.

a. Living in social groups

Advantages

Disadvantages

b. Seasonal migration

Advantages

Disadvantages

c. Twinning (almost 100% of pronghorn give birth to twins – giving birth to a single fawn is rare, and giving birth to triplets is almost unheard of)

Advantages

Disadvantages

- d. Hiding fawns (during the first few days after birth, pronghorn mothers hide their fawns in shrubs and grasses and the fawns lay flat and do not move until they hear their mother's individual call signaling them to stand up)

Advantages

Disadvantages

- e. Rumination (pronghorn are ruminants, meaning that they have a four-chambered stomach, including one chamber that contains microbes to help break down plant material)

Advantages

Disadvantages

### Resources:

Byers, J. A. 1997. American pronghorn: social adaptations and the ghosts of predators past. The University of Chicago Press, Chicago, IL, USA.

O'Gara, B. W. and J. D. Yoakum. 2004. *Pronghorn Ecology and Management*. University Press of Colorado, Boulder, CO, USA.