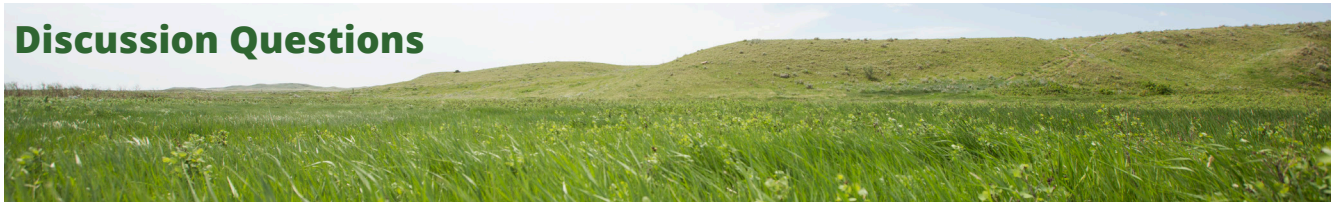








Discussion Questions



- Grasslands would not be home to countless food webs without the rich soil and the plant life they are able to support.
 - Explain (or draw a visual that shows) how energy moves through a grassland ecosystem, using several species from the Northern Great Plains as examples.
 - Advanced:* Describe the transfer of energy through grasslands using the terms “producers,” “consumers,” and “decomposers” in your answer.
- Grassland ecosystems are known for having many interdependent relationships, meaning each living thing relies on other living things to survive.
 - Select two organisms found in the Northern Great Plains and explain the connection between them. What is their relationship? How do the actions of one affect the other?
 - Advanced:* Give examples of mutualism, competition, and predation using grassland species.
- Wildflowers like goldenrod, milkweed, and coneflower are more than just nice to look at.
 - Name two organisms that would be affected if there were no wildflowers, and explain how they would be affected.
 - Advanced:* Changes to an ecosystem’s biodiversity—such as the depletion of wildflowers—can impact resources that humans depend on as well as the services the ecosystem provides. How does decreased grassland biodiversity impact humans?
- Plants can reproduce in a variety of ways, sometimes depending on the behavior of animals to disperse their seeds or pollen. Many plants use their unique structures to increase the likelihood of successful reproduction, such as displaying bright colors or emitting sweet scents that attract pollinators, but there is still a lot of reliance on the role of the animal.
 - Explain the process of pollination and how pollinated  plants rely on the actions of animals like bees.
 - Advanced:* What factors could impact how successfully the plants reproduce? Explain how probability can play a part when describing this cause-and-effect relationship between flowering plants and bees.  
- Human activities are destroying habitats  around the world, both directly (through actions like deforestation and unsustainable agriculture) and indirectly (as a consequence of climate change).
 - When their environment changes, how do species adapt? Do they survive? Do they change? Or do they perish? Consider the Northern Great Plains species listed below and describe what you think happens to them when their grassland habitat is no longer there and/or healthy.
 - Bison
 - Bumblebees
 - Black-footed ferrets



- b. *Advanced:* When an environment changes, the species that remain often evolve as they adapt to the change. This can result in a species developing new skills or traits, and sometimes an entirely new species can be created over time.
- Select one grassland species and identify an adaptation that has helped it survive throughout changes to its environment.
 - What do you think determines whether or not a species can adapt to change?
6. When there are too many organisms competing for the same resources, the growth and survival of those species are affected.
- In grasslands, increased presence of livestock like cattle is threatening the survival of the native wildlife. Why?
 - Advanced:* Apply this concept to humans. As the human population continues to grow, what resources might we compete for? How might this impact the human species and the environment?
7. The resource guide mentions several benefits that grasslands provide, both in the form of resources like food and habitat and in the form of ecosystem services.
- What is an ecosystem service? Give one example of a service that grassland ecosystems provide.
 - Advanced:* If grasslands were removed or damaged to the point that they could no longer provide these benefits, what would happen? Predict what would happen if grasslands were not able to provide the following:
 - the soil filtering and holding a lot of water in the ground
 - the grasses storing carbon and preventing it from entering our atmosphere
 - the wildflowers supporting pollinators that give us food
8. Despite the damage humans have caused, we can still take action to help protect Earth's resources around the world.
- What is being done to protect grasslands here in the United States? What can you do in your own community?
 - Advanced:* What factors do organizations like WWF need to consider when coming up with solutions to protect regions like the Northern Great Plains? Consider social and economic to protect regions like the Northern Great Plains? Consider social and economic as well as environmental impacts.

Educational materials developed in support of the [One Square Foot](#) Initiative and the PBS documentary [My Garden of a Thousand Bees](#) on PBS.

