Ranchers depend on healthy grasslands for their livelihood. Remember what cows eat? GRASS! Without grass, we wouldn’t have any hamburgers to eat!!! Because of this close relationship with the land, ranchers are critical in the conservation of the prairie.

What is conservation?
Conservation (kaan-sr-vay-shn) is the practice of using resources wisely.
When the prairie is healthy, so is the ranching business! Ranchers must manage where, when and how much grass cattle eat.

This is a job that takes a lot of knowledge and careful observation of the prairie. Another name for this job is **RANGE MANAGER**.
Let’s learn about the tools that range managers use....
Tool #1

Cattle
Before cattle, other grazing animals like bison grazed the prairie. Great herds of bison were constantly on the move throughout the grasslands – grazing areas and then moving on to allow those areas to recover. This kept the prairie healthy by keeping bad plants out and adding nutrients to the soil.

**Today cattle do the same job that bison once did on the prairie.**
Range Managers use cattle as a tool to manage the prairie ecosystem. They monitor when, where and how much cattle eat.

1. They make sure cattle graze each pasture, which churns the soil and makes room for more plants to grow.

2. By making sure the cattle don’t eat too much of the grass, or overgraze, range managers keep the grasses healthy.
Soil Compaction - when soil particles are pressed together reducing the space between them and increasing the soil’s density.

While grazing, cattle return nutrients to the soil and break up the surface crust. Making sure cattle do not stay in one pasture too long, ensures that the soil will not become compacted.
Erosion – Erosion is a process where natural forces like water, wind, ice, and gravity wear away rocks and soil.

Cattle grazing for the right amount of time in each pasture increases soil health and decreases soil erosion. Leaving cattle in one place for too long can contribute to erosion.
How to cattle help the prairie?

**Plant Diversity** - the term "plant diversity" describes the presence of many different plant species in their natural habitats.

Grazing can help encourage a wider variety of plants. It can also reduce non-native plants, allowing desirable grasses and wildflowers to grow.
Tool # 2 Bulldozer
Range managers use bulldozers, herbicides and other tools to manage what plants are growing on a ranch.

Range managers use a combination of mechanical and chemical methods to remove plants that are bad for the prairie and livestock.
The most problematic plants on the prairie are called brush. Brush includes woody plants like small shrubs and trees, that are not native to the prairie. Mesquite, juniper and cedar are the most common invaders.
More native plants can grow!
By removing non-native brush, plants like grasses, wildflowers and small shrubs can grow. This creates more habitat for wildlife and more food for cattle!
Tool # 3

Hunting & Trapping
Too many animals can lead to problems on the prairie. In areas with too much wildlife, range managers use hunting and trapping as tools to keep the number of animals from getting too high.

This ensures the prairie can provide plenty of food, water and shelter (habitat) for all the creatures that call it home.
Without management, the number of wild animal numbers would grow until there were too many animals for the prairie to support. There would be so many animals that many problems would arise – habitat loss, starvation, and death.
Wildlife Management is the process of managing wildlife populations and habitat.
Tool # 4

Match
The prairie ecosystem has always included fire. However, not all fires are alike. Prescribed fires, or controlled burns, control some plants and encourage the growth of others.
Both natural- and man-caused fires occurred frequently throughout history. Fires increased plant diversity and quality, benefited soils, and controlled invasive plants like mesquite, juniper and cedar.
Prescribed Fire BEFORE
(Notice the trees)

Prescribed Fire AFTER
(Notice the grasses)

Ranchers today used prescribed fires to create these same benefits for the prairie.
Prescribed fire (match) helps the prairie by:
1. Removing bad plants
2. Increasing the types of good plants
3. Reducing the risk of wildfires by removing fuel (dead plants and dry grass.)
Tool # 4

Dirt Work
One of the most important resources on a ranch is the soil. Soils are the base for everything in the prairie. Without soil, nothing would grow, animals would not have anything to eat, and water would not be able to soak in.
Range managers tend to the soil with tractors, seed drills, and similar machines to ensure that:

1. the right plants grow for a healthy prairie and healthy cattle
2. water from rainfall is stored for use in the ground, creeks, ponds or in a manmade ponds called “tanks”

Healthy soil = water soaking in
Dirt Work helps the prairie by keeping soils healthy, this:
1. Increases the amount of plants for livestock and wildlife to eat.
2. Decreases erosion
3. Increases to soils ability to hold water
Range managers conserve the prairie and help feed the world by paying close attention to the prairie using the right tools to keep it healthy. In this game, you will use ranching tools to fix problems that come up on the land.