



PRAIRIE WEEK – DAY 4

“Fire on the Prairie”

TEACHER’S GUIDE
Kindergarten – 3rd Grade

Time needed: 30 minutes
Materials needed: Paper, pencil, colored pencils, crayons
Materials provided: Student worksheet. NOTE: All questions presented on the slides will also be present on the student worksheet. Questions may be answered as a discussion in class or individually on their worksheets. However, classroom discussions could be very valuable – if there is time available for them.

Summary: We’ll learn about fire and why fire is good for a prairie.

PowerPoint Slides:

- Slide 1 **QUESTION:** Have you ever seen a prairie fire?
QUESTION: Do you think fire hurts the prairie?
TEACHER HELP: We’ll spend the rest of this section discussing this topic. 😊
- Slide 2 **VIDEO clip** – of the prairie fire – time in seconds
- Slide 3 **Fire can look like it’s hurting the prairie, but it isn’t.**
QUESTION: Can you think of a reason why fire could be good for a prairie?
- Slide 4 **Let’s Find out why fire is important for a healthy prairie:**
- Slide 5 **Prairie plants look big but there is MUCH MORE of the plant’s body underground than what we see above ground!**
TEACHER HELP: Prairie plants have tubers (like potatoes) and rhizomes (like ginger) that store food and water for prairie plants. Plus, they have LOTS of really great roots that absorb water fast!

Slide 6 **Prairie plants have long roots and underground parts that can store food and water.**

TEACHER HELP: Most prairie plants have “fibrous roots” rather than tap roots. Fibrous roots are dense and packed into the first 12” of soil. There, they can quickly and efficiently absorb any rain when it falls. Plants with taproots aren’t as good at absorbing the rain quickly. Trees and shrubs have taproots and don’t usually do well on a prairie – were the rain is sporadic and not predictable.

Think of “sod” – the thick prairie soil was held together by the plant’s roots. When the sod was cut, the prairie was lost.

Slide 7 **Those long prairie roots look like this**

TEACHER HELP: All prairie grasses will have thick roots in the first 12” of soil and many will have long roots that extend deep into the soil – if the soil is deep enough to support those roots.

Slide 8 **In the winter the plant parts above the ground are yellow and dead.**

QUESTION: Are the prairie plant parts that are underground dead too?

Answer: Nope, the prairie is very much alive underground.

Slide 9 **The underground roots and stems are still alive!**

Slide 10 **When the prairie is burned, the dead parts that are above ground are the only things that burn. The parts below the ground are unharmed.**

Using the worksheet provided: DRAW what you think the prairie looks like above the soil and below the soil after it is burned.

TEACHER HELP: The pictures should have nothing but black char above the soil and lots of roots and just about anything they can think of still alive below the soil.

Slide 11 **Fire helps to start new growth by allowing rain and the warm sunlight to reach the soil and the roots.**

TEACHER HELP: This is what the prairie looks like about 2 weeks after it is burned.

QUESTION: Where did the new plants come from?

Answer: new growth comes from the underground storage structures.
Very few prairie plants germinate from seeds.

Slide 12 **Grass grow FAST after a fire!**

TEACHER HELP: This is what the prairie looks like about 2 weeks after it is burned. Note the comparison of the foreground to the background that was burned only a couple of days prior to the photo.

QUESTION: how did the new plants get so large so quickly?

Answer: the plants were able to grow quickly because the underground stores of food and water, plus the warm soil (exposed to the warmth of the sun, without the shading of dead plants) was able to quickly respond to the good growing conditions.

Slide 13 **New green grass – without any of the old, dead stems – is yummy!**

Bison love the new green grass that grows after a fire.

Slide 14 **Fire also helps to kill shrubs and trees.**

Lots of brown sticks = shrubs = BAD

Left side = this prairie is burned every 2 years

Right side = this prairie is burned every 4 years

TEACHER HELP: The prairie needs to be burned at least every 2-3 years to keep the invading shrubs out. This photo clearly shows that burning every 4 years is not sufficient at keeping the shrubs away.

Slide 15 **The prairie needs to be burned about every 2-3 years to stay healthy**

Slide 16 **The next time you smell smoke from prairie fires you'll know why the prairie need to be burned!**

Slide 17 **Next – we'll learn about how rocks saved the tallgrass prairie!**