

### Activity 3. Part 2. Tree Density: Journal Activity

#### INSTRUCTIONS:

- Have a student go to the white board and create two big columns. Mark one 'BAD FIRE' and the other 'GOOD FIRE'. Have the class brainstorm characteristics that describe both fires. If an answer fits in both columns, put the idea in both. When everyone is done brainstorming, circle the ideas that are in both columns.
- Read the following story and look for characteristics about fire behavior. Write about the characteristics in your journal.

#### READING:

"It was early spring. A car caught the tall grass on fire down by the big road between the wheat fields and the open space just east of our neighborhood. We had not seen any deep snows that winter. The summer and fall before had been wet; the grass had been tall and fun to hide in. We had heard the wheat harvest was fantastic.

We saw the fire trucks drive by, making lots of noise. Black smoke was billowing into the air. All the kids hopped on our bikes and pedaled down to have a closer look. The police officer was not very happy to see us and yelled at us to get back. A car was in the middle of the fire. Everyone was backing up when the car, without any noise, let out a huge ball of red flame and started to crackle. The fire sprang to life and started running through the tall grass very quickly. The little fire truck went up the road to the turn leading into the wheat field and prepared for the fire. The big fire truck started pouring water onto what was left of the car. The little fire truck waited for the fire, turned on the hoses, and like magic the fire went out at the dirt road. The firefighters came back to where we were sitting on our bikes and watched the other side of the fire meet up with the fields and die out. Paved roadways stopped the other two sides of the fire.

By now there was quite a gathering of kids from the neighborhood. The fire chief came over to talk to us; he was smiling and saying "hi". He asked us what we all thought about the fire. Some kids were scared; they thought the fire was going to go across the fields and burn their houses. Others thought the fire was exciting. One of the firefighters laughed and said, "That fire could have never crossed the field. There was nothing for it to burn." The fire chief went on to talk to us about being careful with matches and fireworks. Within a few days, the burned field was a deep green."

Stop and talk about the characteristics you found.

## **STUDENT INFORMATION AND JOURNAL QUESTIONS:**

The following are important characteristics about fire.

1. Dry, tall grass is a fire hazard. We generally see this kind of grass in the fall. It only takes one hour of low air moisture for the grass to be tinder-box dry. This car was running poorly and backfired, which started the grass fire. Today these types of fires are often started by hot tail pipes that sit close to the ground.
2. Snow bends the tall grasses over. The snow makes grass less likely to ignite because it keeps the grass close to the ground and allows it to hold more moisture. If the grass grows tall and snow bends it over many years in a row, it will choke the grass to death because the new chutes cannot get sunlight and perform photosynthesis.
3. "...and I mean fast." Grass fires can run up to 60 miles per hour. They can be deadly.
4. Firefighters study fire behavior. They understand fuels and learn to predict how a fire will behave. This type of grass fire was a light burn.
5. Fire recycles nutrients back into the ground, making them available for new plants to use.
6. The police officer wasn't being mean. He knew the car was about to explode, and was scared the kids would get hurt.

Spend a little time talking about safety and how you can prevent fires.

How does the story about the grass fire relate to big forest fires?

Fires behave differently in different circumstances: The wildfires of 2002 did not just run along the ground like the grass fire. The 2002 fires were able to get up into the treetops by climbing up what are called ladder fuels. Ladder fuels are plants, like tall grasses or shrubs, between the forest floor and the tops of trees that allow fire to climb upwards into treetops. On June 9, 2002 the Hayman Fire ran across the tops of the trees at an average speed of 19 miles per hour. The fire was not only up in the tops of trees, but also on the ground and in the middle ladder fuels. The Hayman Fire burned extremely hot; we call this a severe fire burn.

Make any additions or changes to your brainstorming on the board. Copy the information on the board into your journal.