🔥 Forests and Fire: A Community FireSmart Game

Materials
2 tennis sized balls

Purpose
To illustrate the importance/effect of thinning trees for in FireSmart applications.

The Game
Each team represents a section of forest. The students represent the trees. A ball represents fire.
There are two stages: unthinned and thinned.

1. Split the class into two forests (teams).
2. Have them form two lines approximately 1.5 meters apart.
3. Have the teams stand side by side, feet shoulder width apart, facing the other team.
4. They are now trees.
    a. They are rooted in the ground.
    b. Their roots begin where their feet end.
    c. They cannot move their feet.
    d. Their bodies are now trunks.
    e. Their trunks can only move side to side.
    f. They cannot twist their bodies.
    g. Their arms, head and neck are their branches, branches can move.

Team 1   Team 2
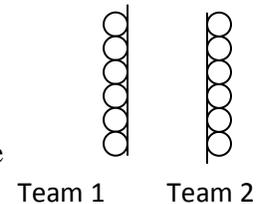
Untreated Forest
5. Show them the ball – this is the fire. The fire can be passed through the branches of trees, but cannot be thrown except for in the FireBreak Scenario.
6. Starting at one end have the students **pass the ball** (the ball cannot be thrown) from their branches to the neighbouring trees branches. Do it again.
7. Ask whether that was hard or easy.

Community FireSmart
8. Have a Forestry Worker come through and thin the trees (every other tree).
    a. Add the thinned trees to the end of the line with similar spacing as the current thinned trees (allows everyone to still participate).
    b. Have the students spread out so that just the tips of their fingers touch.
9. Have the fire go through again.
   Remember – they may not: throw the ball, move their legs, or twist their torso.
10. Ask questions: what was easier, what was harder, why.
        Sometimes they will claim it was easier as a thinned forest (countering the point). Have them spread out a little more, so that they can barely get the ball from one to another.
11. Now reset one team to have un-thinned trees. And leave the other with thinned trees. Have the fires go through again. Switch the thinned and unthinned teams.
12. Talk about the effectiveness of thinning trees.

Additional Activities

Fire Break
Some communities use fire breaks as a fire protection measure. The purpose of a firebreak is to remove fuel between a potential wildfire and a community.

This can be represented by removing a group of trees in the middle of the forest (line).
In this scenario, the trees can throw the fire (like fire brands) but the trees on the other side have to catch it without moving their roots.
The fire is considered "dead" if it hits the ground.
Place a time limit on the amount of time the last tree in the forest side of the fire break can hold the fire before tossing it to the tree on the community side of the fire break.

In most cases the fire will not make it through to the community. If rare cases it will. This is still a realistic representation as though Firebreaks do work to maintain and increase the safety of communities in the face of wildfire, but in extreme cases, they will not prevent the fire from reaching town.

Mix It Up!
Not all forests are structured the same, vary the distances between the trees and have thinned and un thinned sections of the same forest.

Protect Me!
Have someone representing a home or community. Surround the community with trees. Have a forestry team (with the help of the trees) come up with a plan to help protect the community. Depending on the number of students you may be able to have 2 communities competing to create a more effective plan.

Different Trees, Different Fire.
Different trees burn with different intensities. Trees like pine, spruce and fir have tannins that cause higher intensity fires and allow them to catch fire easier. Deciduous trees in the Boreal forest such as Birch, Poplar and Aspen, do not burn or catch fire as readily.

In a fire type scenario therefore, the students representing conifers should burn/catch fire more quickly than the other types of trees. To illustrate this, dictate what type of tree each student is (it may be easier to have an entire line of said trees). If they are a conifer, tell them they are allowed to move twist their torso when moving the fire. If they are deciduous they are not allowed to (you can add extra restrictions to the deciduous trees such as not allowed to move the shoulder etc.). This should increase the rate the fire spreads through the conifer portions of the forest.
This can allow you to run different scenarios – mixed wood, conifer and deciduous. Use the two forests to help illustrate differences between coniferous and deciduous fire spread potential.