



# Teaching with the FireSmart Magnetic Boards

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The FireSmart magnetic boards can be used in combination with the FireSmart Materials Kit to teach on a variety of topics depending on audience and focus.

## Purpose

To illustrate the basic concepts of FireSmart for personal home and property including:

### 1) Priority Zones

- a. 0-10 m – Priority Zone 1 – The Low Fuel Zone
- b. 10-30 m – Priority Zone 2 - The Reduced Fuel Zone
- c. 30 – 100m – Priority Zone 3 - The Reduced Hazard Zone

### 2) Housing Materials

- a. FireSmart options

### 3) Roofing Materials

- a. FireSmart options

### 4) FireSmart Landscaping

- a. plant proximity
- b. coniferous vs deciduous
- c. pruning
- d. thinning
- e. importance of trimming lawn

### 5) Roof/Gutter Cleanliness

- a. leaves as an ignition source

### 6) Eaves

- a. closed vs open

### 7) Location of Combustibles

- a. moving out of Low Fuel Zone – at least 10 m from house

### 8) Decks + Sheathing

- a. sheathed vs unsheathed

### 9) Ignition Sources

- a. burn barrel/fire pit safety
- b. electrical lines

### 10) Water Sources

- a. pump
- b. hose

### 11) Accessibility

- a. visible address sign
- b. accessible driveway

## Materials

### FireSmart Materials Kit

Samples of:

- wood siding/wood shingles
- asphalt shingles
- cement board
- metal tile shingles
- metal sheeting
- vinyl siding

### Magnetic Board

2 metal boards with yard and house

Magnets include the following:

Houses	Roofs	Plants	Other
Stucco/cement board Wood vinyl metal	Asphalt metal clay/tile wood	2 - conifer shrubs 3 - unpruned coniferous 3 - pruned coniferous 2 - large deciduous 4 - medium deciduous 2 - small deciduous 2 - purple shrubs 1 – yellow shrub 1 – pink flower shrub 2 – small shrubs	lawn mower deck open deck closed propane tank water pump hose shovel/rake leaves in gutter magnifying glass closed eaves magnifying glass shed burn barrel campfire firewood

## Teaching Children about FireSmart using the Magnetic Board

Generally, there are 3 main focuses when teaching children about FireSmart:

**1) FireSmart Materials**

- a. what your home is made of can make a difference

**2) Location of Combustibles**

- a. moving wood at least 10m from the house
- b. propane tank at least 10m from the house

**3) Fire Hazards**

- a. trees too close to burn barrels and fire pits
- b. trees under power lines
- c. leaves in gutters
- d. leaves under deck
- e. importance of mowing the lawn

### Set-up

- 1) Prop the board up against a wall/table in an accessible location
- 2) Set-up the board with a High Hazard home for example:
  - a. wood house
  - b. wood roof
  - c. open deck
  - d. gutters clogged

**Property**

  - e. no lawn mower
  - f. wood in low fuel zone
  - g. tall trees under electrical wires
  - h. trees too close to fire pit/ burn barrel
  - i. propane tank too close to house
- 3) Place unused house and roof magnets on the floor/ground in front of the board.
- 4) Place unused *other* magnets in the red rectangle on the right side of the board.
- 5) Place the materials samples in an easily accessible spot.

## The Session – Under 9 Years Old

Have the students help you make the home more FireSmart by finding possible hazards.  
This age group usually require a lot of prompting to find problems

### Introduction

- 1) Introduce the concept of FireSmart.
  - “a way to help keep wildfire from burning our homes”

### House/Roofing Material

- 1) Introduce the house and invite them to find some things that are not safe if there was a fire.

- 2) Bring up what the house is made of:
  - a. Show them the wood sample.
  - b. Ask them what it is.
  - c. What happens to wood in a fire?
    - i. burns
  - d. Do you think that’s very safe?
    - i. no
  - e. Should we change what the house is made of?
    - i. yes

- 3) Introduce the other material options:

**Let the students touch and feel the samples when you introduce them.**

- a. vinyl – a kind of plastic
    - i. What happens to plastic in a fire?
      1. melts
    - ii. Is it safe in a fire?
      1. no
  - b. metal sheeting
    - i. Do you think it would be safe in a fire?
      1. yes
  - c. cement board
    - i. What about this? This is cement board. Do you think it would be safe in a fire?
      1. might not know
    - ii. It’s kind of like your sidewalk. Would the sidewalk burn?
      1. no
    - iii. So then is it safe in a fire?
- 4) So what should we change the house to?
    - a. Choose a volunteer to choose and change the house material magnet.
  - 5) What about the roof should we change that?
  - 6) The roof is made of wood.
    - a. show them the wood sample
    - b. What happens to wood in a fire?
      - i. burns

- c. So is that safe?
  - i. no
- 7) Introduce the other material options.  
**Let the students touch and feel the samples when you introduce them.**
  - a. asphalt
    - i. It's safe as long as it doesn't get too old.
  - b. metal sheeting
    - i. Do you think it would be safe in a fire?
      - 1. yes
  - c. metal tiles
    - i. What about this? It's made of metal. Do you think it would be safe in a fire?
      - 1. Yes
- 8) So what should we change the roof to?
- 9) Choose a volunteer to choose and change the roof material magnet.
- 10) Ask for anything else they see that might be a problem in a fire, or looks unsafe.

### Other Changes - no specific order for the following

- **let the students make the changes**
- 11) Leaves in the gutters.
  - a. fuel source, leaves burn very easily
- 12) Leaves and lumber under the deck.  
2 options:
  - a. remove the deck
  - b. clean out under the deck and sheath in the deck to prevent leaves from making piles
- 13) Trees too close to burn barrel/fire pit.  
2 options:
  - a. move the pit/barrel
  - b. move the trees
- 14) Firewood too close to the house.
  - a. move to spot at least 10 m away
- 15) Propane too close to the house.
  - a. move to a spot at least 10 m away
- 16) Trees under power lines.
  - a. cut down

### **Additional Options - ask if there is anything else that can be done**

- 17) Mowing the lawn is a good idea.
  - a. tall grass burns more than short grass
  
- 18) The pump to the dugout.
  - a. in a fire there is no power – so an alternative water source can be important
  
- 19) Hose
  - a. having a hose available is a great idea especially when it comes to campfires and burn barrels
  
- 20) Yard Tools
  - a. having them close by when using a fire pit or burn barrel is like extra security in case it gets out of control
  - b. can also connect to use for cleaning up leaves

### **Final**

- 21) Declare it a FireSmart Property! Congratulate students on good work.

## The Session – Over 9 years old

Usually the students will bring up things they think aren't safe without much prompting. As long as they find all the possible hazards, it doesn't really matter what order. In general just let a volunteer come up and make a change: sometimes they will verbally tell what change they are going to make or they will just come up and make the change. Prompt them to tell you what change they have made and why.

### Introduction

- 1) Introduce FireSmart.
  - a. a way to help keep wildfire from burning our homes
- 2) Investigate wildfire sources:
  - a. power lines
  - b. lightning
  - c. vehicles - hot exhaust pipes
  - d. rail – sparks from rail lines create fires
  - e. run away camp fires
- 3) Introduce the house and invite them to find some things that are not safe if there was a fire.

### House Material

When a student brings up the housing material, ask them what the material should be changed to. They likely won't know, so then introduce the options and let the student who originally pointed it out make the change to their choice of material.

Let the students touch and feel the samples when you introduce them.

- 4) vinyl – a kind of plastic
  - a. What happens to plastic in a fire?
    - i. melts
  - b. Is it safe in a fire?
    - i. no
- 5) metal sheeting
  - a. Do you think it would be safe in a fire?
    - i. yes
- 6) cement board
  - a. What about this? This is cement board. Do you think it would be safe in a fire?
    - i. might not know
  - b. It's kind of like your sidewalk. Would the sidewalk burn?
    - i. no
  - c. So then is it safe in a fire?

## Roof Material

When a student brings up the roof material, ask them what the material should be changed to. They likely won't know, so then introduce the options and let the student who originally pointed it out make the change to their choice of material.

- 7) Introduce the other material options.

Let the students touch and feel the samples when you introduce them.

- 8) asphalt
  - a. It's safe as long as it doesn't get too old. When it gets old the corners begin to turn and that exposes the underside to embers. The underside of the shingle is very flammable.
- 9) metal sheeting
  - a. Do you think it would be safe in a fire?
    - i. yes
- 10) metal tiles
  - a. What about this? It's made of metal. Do you think it would be safe in a fire?
    - i. Yes
- 11) Ask for anything else they see that might be a problem in a fire, or looks unsafe.

## Other Changes - no specific order for the following

- 12) Leaves in the gutters.
  - a. fuel source, leaves burn very easily
- 13) Leaves and lumber under the deck.
  - 2 options:
    - a. remove the deck
    - b. clean out under the deck and sheath in the deck to prevent leaves from making piles
- 14) Trees too close to burn barrel/fire pit.
  - 2 options:
    - a. move the pit/barrel
    - b. move the trees
- 15) Firewood/Propane too close to the house.
  - a. move to spot at least 10 m away
- 16) Trees under power lines.
  - a. cut down

**Additional Options - ask if there is anything else that can be done**

**Prompt the students to look at the magnets in the red space on the right side of the board. Are there any tools that might be helpful in a fire.**

- 17) Mowing the lawn is a good idea.
  - a. tall grass burns more than short grass
  
- 18) The pump to the dugout.
  - a. in a fire there is no power – so an alternative water source can be important
  
- 19) Hose
  - a. having a hose available is a great idea especially when it comes to campfires and burn barrels
  
- 20) Yard Tools
  - a. having them close by when using a fire pit or burn barrel is like extra security in case it gets out of control
  - b. can also connect to use for cleaning up leaves

**Final**

- 21) Declare it a FireSmart Property! Congratulate students on good work.

## Other Fun Activities Using the FireSmart Magnetic Boards

### Advanced

The basic use of the FireSmart Magnetic board includes three focuses: location of combustibles, housing/roofing material and ignition sources. However, the FireSmart Magnetic boards are very versatile and can be used to teach about other concepts within the realm of FireSmart Home and Property management.

The 11 hazard factors of FireSmart include:

- **bold: hazards that can be covered using magnetic boards**
  - ***bold/italic: hazards covered in the 3 focuses (at least in part)***
  - none: not coverable by magnet boards
- 1) ***Roof Material***
  - 2) ***Roof Cleanliness (includes gutters)***
  - 3) ***Exterior Material***
  - 4) ***Eaves, Vents and Openings***
  - 5) ***Balcony, Deck or Porch***
  - 6) **Windows and Doors with Windows**
  - 7) ***Location of nearby Combustibles***
  - 8) **Setback from Edge of Slope**
  - 9) **Forestry Vegetation**
    - a. **<10 m**
    - b. **10-30 m**
  - 10) ***Surface Vegetation***
    - a. ***< 10 m***
    - b. ***10-30 m***
  - 11) **Ladder Fuels**

The magnets and structure of the board will allow for the illustration of the concepts surrounding Forest Vegetation hazard and by association Ladder Fuels. This includes concepts such as:

- 1) deciduous trees versus coniferous trees
- 2) introduction to ladder fuels including:
  - a. deciduous shrubs
  - b. pruned coniferous vs unpruned coniferous
- 3) replacement of Non-FireSmart landscaping versus removal of non-FireSmart landscaping
- 4) the importance of a conifer free low-fuel zone (0-10 m)

### Material Mix-up

Have the students place the materials in order from least FireSmart to most FireSmart prior to presentation.

## Fix-up Frenzy

Time teams to see how quickly they can make the poor house into a FireSmart House.

### **Variation**

Set-up a home with a poor FireSmart Rating.

Allow each team 5 minutes to examine the home/property and come up with a strategy of what can be done to make the home more FireSmart.

Then time the teams in a relay style competition to make the changes, one student and one change at a time.

## Be the Assessor!

Use the FireSmart Magnetic Home Assessment to challenge students to complete an assessment of the home and property.

### **Variation**

Take photos of the properties and give the students a few minutes to look at them. Challenge them to place them in order of the Least FireSmart to the Most FireSmart. Then have the students complete a FireSmart Magnetic Home Assessment on each property to find out who's right.

### **Addition**

Have a materials price list and see what changes the students would make to the home to make it more FireSmart, and how much it would cost. Or provide them with a budget and see how many points they can get rid of within that budget.

## Around the World

Try using several of these activities in a station style FireSmart Challenge. Each team competes against the other to have the most correct and complete information.

**“Wildfire will be hard to start if we all do FireSmart”**