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Defensible Spaces

Alaska State Standards: Science - A15, B1, D1, D2, D3
Math - A2, E2, E3
Cultural Standards - C2, D5

Science Concept: Students will describe and understand the importance of defensible spaces around homes or cabins.

Scientific terms: defensible space, fire triangle, flammable, fuel, Ladder fuels, structures, wildfire.

Materials: Paper
Pencils
Clipboards
Checklist
Measuring Tapes

Gear Up: Show video clip of the Big Lake fire. Discuss how the fire may have impacted them or someone they know. Ask why so many homes were destroyed. Could this number have been reduced? How? Introduce Fire Chief Bill Gamble of the Big Lake Fire Department. He will discuss the fire as well as the concept of defensible spaces around dwellings. Look at slides of different houses and how well their defensible spaces are maintained. Compare the slides to determine a "safe" house from a house that wouldn't likely survive a wildfire.

Process Skills: observing, communicating, predicting, inferring.

Explore: Field trip to the Big Lake fire area. Take materials to record what they see. Visit several sights where homes were destroyed. Question the students on how these dwellings may have been saved.

Process Skills: Observing, Inferring, Predicting, communicating.

Generalize: Discuss with the class what they observed on the field trip. What did they see? How could the houses we visited have been saved? What would they do to protect the home they live in against wildfire? Compare student answers to those found on the defensible space checklist. Give students the defensible space checklist and Wildfire home assessment checklist. Discuss what to look for and how to evaluate defensible spaces around the home.

Process Skill: Observing, Predicting, Inferring, communicating

Explore: Visit three, prearranged, homes near the school so the students can use their knowledge about defensible spaces as well as their checklists to evaluate the overall safety of each house. Discuss and come to consensus about the problems and positives about each property. Provide the homeowner with a checklist of potential problems that would need to be changed to make the home a defensible space.

Process Skills: Communicating, Observing, Recording Data, Inferring, Collecting Data.

Generalize: Compare and contrast the finding for each house that was evaluated for wildfire safety. What things did each house have in common? What problems were detected in each house? What recommendations would you make for each homeowner?

Process Skills: Communicating, Inferring, questioning, interpreting data, observation.

Apply/Assess: Students will use the knowledge they have learned to do a wildfire evaluation of their own homes. They will write up a list of items that need addressing. They will also fill out the checklist. These items will then be presented to their parents/guardians who may wish to present the findings to a landlord if applicable.

Extensions: Learn about indoor fire safety. Volunteer to help assess and work to make elderly people's homes more fire safe. Work with the local fire department to improve defensible spaces in public areas around our school and our town.

Defensible Space:

Scoring Guide

Parameters	Outstanding - 5	Satisfactory - 3	Needs Practice
How well do students understand the importance of personal fire protection in the Valley?	Understands the need for fire protection in the Valley. Can give examples of what happens when personal fire protection is inadequate.	Understands the need for protection fire protection measures in the Valley.	No understanding of personal fire protection needs in the Valley.
How well do students understand the need for defensible spaces?	Can describe a defensible space and can give details about what makes a space defensible.	Can describe what a defensible space is.	No understanding of what a defensible space is.
How well can students evaluate a home site for defensible space?	Can evaluate a home site for potential problems and is able to use the data to make suggestions.	Can evaluate a home sight but may need help to describe how to fix any problems that were found.	No understanding of how to evaluate a home site for potential problems.
How well were students able to evaluate their own home and make or recommend the changes that were needed	Was able to evaluate their own home and made valid and necessary recommendations for improvements	Was able to evaluate individual home but needed help to interpret data and make recommendations	Unable to do an individual evaluation or make any recommendations.

Student Name _____

Safety in Fire's Homeland

Put a check in the "YES," "NO," "CAN'T TELL"

		YES!	NO!	CAN'T TELL
	ABOUT THE HOUSE:			
1	Is the roof covered with metal or asphalt shingles?			
2	Are firewood and other wood stored away from the house, not touching the walls or deck?			
3	Are weeds cleared from the sides of the house?			
4	Are trees limbed away from the roof and chimney?			
5	Are dead leaves and needles cleaned from roof and gutters?			
6	Is there a spark arrestor on the chimney?			
7	Is ground bare for 5 feet all around burn barrel			
	Around the House (Safety Zone, Within 10m):			
8	Are trees and shrubs 5m apart?			
9	Are ladder fuels and low branches cleared from underneath big trees?			
10	Is the lawn kept green?			
11	Are flammable liquids stored near house?			
12	Is the house at the top of a slope; is the safety zone 30 meters or more?			
	About The Location:			
13	Is the house on flat ground?			
14	Is the road/driveway wide enough for a fire truck?			
15	Owner knows legal address?			
	Count the Checks in Each Column:			

DEFENSIBLE SPACE CHECKLIST

1. Clear trees, brush and other flammable items at least 30 feet away from your home or cabin, and be sure no branches are left hanging over the roof.
2. Within 100 feet of the structure, thin brush and shrubs, remove tall grass, and spruce tree branches up at least six feet. Stack firewood at least 30 feet away.
3. Make sure your building's roof is made of non-burnable materials and kept clear.
4. Be sure to clear the ground to bare soil for at least 5 feet around approved burn barrels and open fires.
5. If you have a water source, make sure you can reach all around the building with a hose or other method.
6. Put spark arresters on chimneys and chainsaws.
7. Know your home or cabin's legal description or latitude and longitude location.
8. Make sure your home or cabin is accessible to fire fighters.
9. Have the correct tools to fight a fire located in a place you can quickly get to; an ax, shovel, and pump for your water source.
10. Know your local burning laws, and obtain a permit to burn out-of-doors between May 1 and September 30 where required.
11. Don't burn on windy or dry days.
12. Don't dump hot ashes or burning cigarette butts on the ground, and remember that hot mufflers on off-road vehicles can catch dry moss, grass, and leaves on fire.
13. Know your local fire protection and prevention authorities and how to contact them.

From "Protecting Your Home or Cabin From Wildland Fires", Alaska Wildland Fire Coordinating Group, US Government Printing Office: 2000 – 573-278/21013 Region No.