

Sixth Grade Program Revised December 2022

Wildfire in the Foothills Table of Contents

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Forward to Educators

Thank you for your time and effort to bring wildfire education into your classroom. Education is a key component of the Butte County Fire Safe Council's mission to build wildfire resilience in Butte County. Educating youth can move us towards living better with fire and, when a wildfire does occur, we are better prepared to stay safe. We strive to have every Butte County school include wildfire and emergency preparedness topics in classroom learning, because wildfire impacts everyone in the region.

Each of your students can play a valuable role in their family's and community's wildfire preparedness. Wildfire in the Foothills is most relevant for sixth-grade students who live in Butte County's wildland urban interface (WUI), where human development and wildland vegetation meet or intermix, contributing to the area's high wildfire risk. This 2022-updated curriculum is also relevant for students living outside the "foothills", including Chico and Oroville. This program gives your students the opportunity to take positive action and be a part of wildfire preparedness and solutions for their families and wider community.

About the Program

Wildfire in the Foothills is intended to be used in the classroom, and not as distance learning or independent study. You may elect to spread the program out across multiple weeks or deliver it over one week. Wildfire in the Foothills is broken into four lessons with PowerPoint presentations, covering topics in forest health, defensible space and home hardening, family preparedness, and evacuation and emergency response. The lesson plans contain slide images with speaker notes and background information. Each lesson is approximately one hour, with the option to extend with additional activities. Some activities can be completed in class, while others have the option for multi-day projects or homework assignments. Activities are written with variations, and you are encouraged to adapt the activity to best fit your students, class goals, and time available for the program. Some activities can be shared back with the Butte County Fire Safe Council, students' families, or others at your school, to grow community awareness and preparedness.

At the end of the four lessons, you have the option to play 'Review with Ready', a Jeopardystyle review game. There is also the option for a school visit from Wildfire Ready Raccoon and/or Butte CAL FIRE. Please contact the Butte County Fire Safe Council in advance to arrange a visit at the end of the fourth lesson, or after 'Review with Ready' on a fifth program day.

Program Extensions

Apart from this program, there are other fire education programs appropriate for Butte County elementary and middle school students. At the end of each lesson plan, you will find links to suggested programs that have lessons that connect or build on the Wildfire in the Foothills

lesson you just completed. Two of these programs are FireWorks and the fire nature journaling REDI Jedi Master Program.

<u>FireWorks</u> is designed for students in grades K-12 and provides students with interactive, hands-on materials to study wildland fire. While many of the activities can be used in any ecosystem, FireWorks has specialized curricula to learn about the Sierra Nevada and Northern California Oak Woodland. Lesson cycles can be accessed through the FRAMES website, and recommendations for specific lesson are linked in the lesson plans.

The <u>REDI Jedi Master Program</u> has nine nature journaling exercises to develop a sense of place and enhance situational awareness related to fire. Wildfire Ready Raccoon's Great Aunt teaches students to observe the nature signs and signals that inform us of the seen and unseen forces influencing fire. If eight sketches are completed, students will end with a story zine that forms their own fire story. Access the REDI Jedi program guide through the link above or navigate to Buttefiresafe.net >> Programs >> Youth Education.

Including a guest speaker is another way to increase learning and engagement with the program. Please contact the Butte County Fire Safe Council if you are interested in learning more about connecting with a subject matter expert who could speak with your class.

Supporting Students

As Butte County residents, students in your class have been negatively impacted by wildfire and may be suffering from community or personal trauma. Student experiences could range from losing a home, person, or animal they know, to the lingering effects from community rebuilding, hazardous air quality, and relocations. The lessons steer away from potentially triggering content, but some of your students may still have a difficult time. Starting lessons with a grounding activity, stretching or physical movement, a breathing exercise, a visualization activity, or a simple game, can help lower stress and begin lessons from a calm place.

It is recommended to let your school administrators know when you begin this program and have a school counselor on hand, if possible. Some students may need additional support during or after lessons. It is advised not to talk about specific past wildfires in your area, and to keep discussions more general, as students may have trauma associated with a particular fire. It is recommended to focus on actions for the future, rather than rumination and storytelling of past wildfire experiences. You may want to make a signal students can show if they want to step outside or are feeling anxious. On the next page, you will find resources that can support you in teaching this program and creating a safe space for your students to learn about wildfire topics.

Class Ground Rules

It is important to set the tone for the program and make ground rules with your class. Creating agreed upon rules can help students feel safer and more comfortable talking about wildfire and keep lessons on-track. Have students brainstorm ideas for rules and record them on a large piece of butcher paper.

Some ground rules could include:

- No jokes or sarcasm about fire.
- Appropriate and respectful comments only.
- It is okay to not share or to take a break.

Post the ground rules up front and bring the poster out each time you start the next lesson. Review expectations before starting the more personal lessons on family preparedness and emergency response. Instead of writing on a poster, you could also edit the PowerPoint to type into a new slide and add it to the beginning of each lesson.

Supporting Resources for Educators

Trauma-Informed Toolkit (2022)

Yasmeen Hossain, Ph.D. Oregon State University The Trauma-Informed Toolkit supports and complements educators' knowledge and skillset in implementing trauma-informed approaches in educational settings.

Resources for Dealing with Wildfire Related Trauma

The National Childhood Traumatic Stress Network

Trauma-Informed Care

The National Childhood Traumatic Stress Network

<u>Helping Teens Cope After a Natural Disaster</u> Centers for Disease Control and Prevention

<u>Helping Children Cope with Emergencies</u> Centers for Disease Control and Prevention

Coping with Disaster Ready.gov

Program Overview

Lesson 1: Fire-Resilient Landscapes

<u>Guiding Question</u>: How can we support healthier and more fire-safe forests? <u>Objectives</u>

Students will be able to:

- 1) Name and describe the Butte County forest zone they live in.
- 2) Describe characteristics of a healthy and unhealthy forest.
- 3) Explain at least two actions people can take to improve forest health.

<u>Assessment Activity</u>: Using the Butte County Forest Health Guidebook, students make a comparison graphic to show characteristics of a healthy versus unhealthy forest.

Lesson 2: Get Ready (Home Preparedness)

<u>Guiding Question</u>: How can we get our home and property fire-ready? <u>Objectives</u>

Students will be able to:

- 1) Explain defensible space by describing the priorities for each Home Ignition Zone.
- 2) Make recommendations to improve a structure's likelihood of surviving a wildfire.

<u>Assessment Activity</u>: Students review as a group with the Ember Blocker game and write a reflection paragraph.

Lesson 3: Get Set (Family Preparedness)

<u>Guiding Question</u>: What can we do now to prepare with our families?

Objectives

Students will be able to:

- 1) Describe the characteristics and contents of a complete Go Bag.
- 2) Explain the components of a Family Communication Plan.
- 3) Communicate why making a Go Bag and Family Communication Plan are important.

<u>Assessment Activity</u>: Students make a storyboard or create a short how-to video demonstrating how to make a Go Bag, Family Communication Plan, or pet/animal emergency plan.

Lesson 4: Go! (Emergency Planning & Response)

Guiding Question: What do we do if a wildfire leads to an evacuation?

Objectives:

Students will be able to:

- 1) Describe how they will put their Family Communication Plan into practice in the event of an evacuation warning or order.
- 2) Recite their home address and what zone number they live in.
- 3) List three or more resources they could use to find information or get help during a wildfire emergency.

Assessment Activity: Students write a reflection letter to Wildfire Ready Raccoon.

Lesson 5: Optional Review Day

'Review with Ready' game with Wildfire Ready Raccoon and/or a visit from Butte CAL FIRE.

Glossary

Lesson 1: Fire-Resilient Landscapes

Elevation

The height above a given level, especially sea level. Butte County's elevation ranges from 60 to approximately 7,000 feet.

Fire Hazard Severity Zones

A mapped area that designates zones (based on factors such as fuel, slope, and fire weather) with varying degrees of fire hazard (moderate, high, and very high). They do not take into account modifications such as fuel reduction efforts.

Prescribed Fire

The controlled application of fire by trained practitioners and experts under specific conditions to reduce fuels and meet objectives to improve ecosystem health.

Resilient

The ability to withstand or recover quickly from difficult conditions.

Topography

The physical features on Earth's surface or the technique of representing elevations of land on maps. Topography includes mountains, ridges, valleys, plateaus, or water features on the land.

Crown Fire

Fires that burn across the tops of trees. Wildfires are much harder to control if they turn into crown fires.

Defensible Space

The buffer created between a building that can burn and the grass, trees, shrubs, or any wildland area that surrounds it. This space is needed to slow or stop the spread of wildfire and it helps protect your home from catching fire, either from direct flame contact or radiant heat. It also provides fire fighters a safer space to work in when protecting structures.

Embers

Small pieces of burning or glowing fuel.

Ember Storm

Embers that are blown into the air and can be carried over a mile from the fire front with strong winds.

Home Hardening

Efforts to prepare a house for wildfire and an ember storm. Home hardening addresses the most vulnerable components of a house with building materials and techniques that increase resistance to heat, flames, and embers.

Home Ignition Zones

The three priority zones for defensible space around a structure. Depending on your source, the zones may have different names. However, the measurements and guidelines are consistent. The following is according to the National Fire Protection Association: Immediate Zone (0 to 5 feet around the house) Intermediate Zone (5 to 30 feet) Extended Zone (30 to 100 feet or property line)

Ladder Fuel

Fuel that can carry a fire burning in low-growing vegetation up to the taller vegetation. This can move fire up into the tree canopy and crown where it can quickly spread to surrounding trees.

The North Winds

Local, dry, seasonal winds that occur during the late summer and fall months. These strong winds travel downslope from the mountains toward the valley. The North Winds blow <u>from</u> the north and travel down the Sierra Nevada Mountains, heating and drying the air as it moves.

Lesson 3: Get Set (Family Preparedness)

Family Communication Plan

A written document that is completed during a family meeting. The plan includes family member contact information, an out-of-town contact, a neighborhood meeting place, a regional meeting place, school information for children.

Go Bag

A pre-packed, easily accessible bag that holds essential items for 72 hours. Every family member should have their own Go Bag, as well as an emergency bag/kit for pets.

Red Flag Warning

Issued for weather events which may result in extreme fire behavior that will occur within 24 hours. This is the highest alert, above **Fire Weather Watch**.

Evacuation Shelter

A temporary place opened to offer safety and resources for people who have evacuated from a disaster.

Evacuation Warning

Alerts people of a potential threat to life and property. People who need additional time should consider evacuating at this time. Start your Family Communication Plan now to prepare for a changing situation.

Immediate Evacuation Order

Requires the immediate movement of people out of an affected area due to extreme danger. Choosing to stay could put your life in danger and obstruct the work of firefighters and rescue workers. Orders will be announced over official social media pages, the radio, and on the interactive Butte County evacuation map, though no single source should be relied on exclusively.

Public Assembly Point

A temporary assembly area that provides a safe place for evacuees to assemble. People will stay here until the threat is past or evacuation routes are accessible. This is also a place for evacuees who cannot evacuate on their own and need assistance getting to a shelter. Evacuees who are capable of evacuating on their own do not need to go to Public Assembly Points unless directed by public safety officials.

Shelter-In-Place

Advises people to stay secure at their current location by remaining in place. There may not be a safe evacuation route at this time. The Ready-Set-Go Evacuation Plan advises what to do if trapped at home, in a vehicle, or on foot.



Guiding Question: How can we support healthier and more fire-safe forests?

Goals:

- To build confidence in making observations and sharing ideas about fire in class.
- To highlight regional and ecological differences in Butte County forests.
- To learn what a healthy forest looks like and how people can support forest health.

Objectives:

Students will be able to:

- 1) Name and describe the Butte County forest zone they live in.
- 2) Describe characteristics of a healthy and unhealthy forest.
- 3) Explain at least two actions people can take to improve forest health.

Materials and Preparation:

- Read *Forward to Educators* section about the Wildfire in the Foothills program and recommended resources.
- Prepare to project the PowerPoint slideshow for *Lesson 1: Fire-Resilient Landscapes*.
- Butte County Forest Health Guidebook for each student.
- Optional- Butcher paper to make a Ground Rules poster.

Standards:			
NGSS	Crosscutting	Patterns	
	Concepts	Scale, Proportion, and Quantity	
		Structure and Function	
		Stability and Change	
	Science and	Developing and Using Models	
	Engineering	Analyzing and Interpreting Data	
	Practices	Constructing Explanations and Designing Solutions	
		Obtaining, Evaluating, and Communicating	
		Information	
	Disciplinary Core	LS2.A: Interdependent Relationships in	
	Ideas	Ecosystems	
		LS2.C: Ecosystem Dynamics, Functioning, and	
		Resilience	

Subjects: Science, Speaking and Listening, Reading, Art

Duration: 60 minutes

Setting: Classroom

Vocabulary:

Elevation, Fire Hazard Severity, Topography, Resilient, Prescribed Fire

> 1 Lesson 1: Fire-Resilient Landscapes

	LS4.C: Adaptation ESS3 (A-C): Earth and Human Activity
Environmental	Principle 1: People Depend on Natural Systems
Principals and	Principle 2: People Influence Natural Systems
Concepts	Principle 3: Natural Systems Change in Ways that
	People Benefit From and Can Influence
	Principle 5: Decisions Affecting Resources and
	Natural Systems are Complex and Involve Many
	Factors

Lesson Overview:

Fire is commonly viewed as dangerous, destructive, and uncontrollable. While fire can be those things, this is not the whole picture. This lesson frames fire as a natural process that is part of every landscape. Fire exclusion is not a sustainable strategy for living with fire, and nationally we are experiencing the consequences of a century of fire suppression. Fire suppression has led to dense, overcrowded forests. Overcrowded forests, combined with drought, extreme weather, and expanding human development in the wildland, contributes to Butte County's history with and vulnerability to catastrophic wildfire. The lesson builds to examine how fire affects the landscape you live in, and differentiates between low-intensity, prescribed fire, and unplanned, high-intensity wildfire. The lesson's focus is on fire impacts to forest health and ecosystems, rather than human impact.

Following the presentation slides, students use the Forest Health Guidebook, created by the Butte County Fire Safe Council and Butte County Resource Conservation District, to learn about one of Butte County's three "forest zones": blue oak woodland, Sierran mixed hardwood, and mixed conifer woodland. Students use information from the Guidebook to make a diagram of a healthy versus unhealthy forest for one forest zone. The activity could be expanded as an outdoor nature journaling opportunity or completed in the classroom.

Butte County Background Information:

Abbreviated from the 2021-2025 Butte County Community Wildfire Protection Plan:

Butte County is located on the eastern side of the northern Sacramento Valley and encompasses over 1.1 million acres. The county ranges in elevation from 60 feet to 7,000 feet above sea level and is divided in half with two topographical features. The Sacramento Valley section in the western portion of the county is relatively flat and is predominantly grassland and farmland. The foothills and mountainous regions of the northern Sierra Nevada and southern Cascade Mountains comprise the eastern portion of the county. This area is scattered with homes and communities intermixed amongst woodland fuels creating a serious Wildland Urban Interface (WUI) problem. These are areas where wildland fire once burned only vegetation but now burns homes as well. Butte County has a Mediterranean climate with cool, wet winters and hot, dry summers. Precipitation is normally in the form of rain, ranging from approximately 20 to 80 inches per year, with snow in the higher elevations. The average high temperature for January is 55 degrees and for July is 96 degrees, with many days in which temperatures reach over 100 degrees.

Procedure:

1. Go through presentation slides for *Lesson 1: Fire-Resilient Landscapes*. Notes are included in the speaker notes section of the presentation, as well as here. To save space in the lesson plans, reference links and photo credits are included in the PowerPoint speaker notes only.



This program is intended for sixth-grade students in Butte County.

YOU are part of building a firesafe community!

The knowledge you gain in this program will help you, your family, and your community to be more wildfire-ready.

Key

Topics



The Butte County Fire Safe Council has worked in Butte County since 1998 in wildfire hazard education, mitigation, and recovery. We are non-profit organization based in Paradise, CA that serves communities across Butte County. A key part of our community education is working and learning with students and teachers! Thank you for taking the time to participate in this program and bring this important topic into your classroom time.

In the foothills, it is not a matter of IF a fire will occur, but WHEN a fire will occur.

Pictured: Wildfire Ready Raccoon, the Butte County and Paradise Ridge Fire Safe Council mascot.

Ready's mission is to prepare Butte County residents, especially kids and families, for wildfire. Ready helps the Fire Safe Councils spread the word about actions everyone can take to keep their family and communities safer from wildfire. Sixth graders can play a significant role in their family's preparedness! Have you seen Wildfire Ready Raccoon at a community event? Where?

Forest Health
Fire-Resillent Landscapes
The Ready-Set-Go Model
Defensible Space and Home Hardening
Go Bags and Pet/Animal Preparedness
Family Communication Plan
Emergency Response
Evacuation Zones, Maps, and Communications

Prepare students for the program by giving an overview of the key topics, split into four lessons.

This first lesson will cover forest health and fire-resilient landscapes.





Have students brainstorm a list of class expectations for learning about and discussing wildfire. Preview "Forward to Educators" section for recommendations for tone setting and ground rules. Write rules up on the whiteboard and take a picture, record on a large piece of paper, or create a new slide and type directly into the presentation to capture student ideas. Have everyone give a thumbs up or other agreement signal to commit to the group rules, before continuing with the lessons.

Every lesson will have a Ready Raccoon guiding question that we will explore and discuss as a class.

Guiding Question: How can we support healthier and more firesafe forests?

We don't need to answer this question yet. We will gather evidence and learn more about the forest type we live in. People who live in and around forests have a great responsibility. To live more safely with wildfire, particularly in the wildland-urban interface (WUI), where human development meets or intermingles with wildland vegetation, we need to learn how to keep our property and the forest around us healthy and fire-safe. This lesson will explore larger strategies for forest health, as well as small-scale actions people can take around their homes to create a more fire-safe landscape.

Group share: What did you use the map for? Was it printed or digital?

Go through the next six slides with introductory questions to get students talking, sharing observations, interpreting graphics, and establish a sense of place within Butte County.

Pair share discussion then select volunteers to answer. Some useful features to include on a map: title, legend, scale, north arrow, and labels.



Review features on the Butte County map to see if students got the major features.

We can also see where the major cities/towns are, state roads, and other features like parks, lakes, and forests.

We live in a beautiful and unique area with many land features and natural places to explore.

Pictured: Table Mountain, Lake Oroville, Butte Creek Canyon



What types of information

What features should be included on a useful map?

can maps tell us?



Elevation, climate, light, water, soil, and temperature all contribute to where plants can survive and how plant communities are formed on a landscape.

Every landscape has its own history and relationship with fire, which is heavily influenced by humans.





Ecosystem health, plant structure and arrangement, and the presence of certain species in a landscape gives us clues about that area's history and relationship with fire. Knowing how our landscapes have been shaped by fire in the past can help us to live more sustainably and safely with fire now and in the future.

What do you notice about this landscape?

Photo: Skyway lookout point above Butte Creek Canyon

Discussion of the word "resilient". Resilient: Able to withstand or recover quickly from difficult conditions.

What does it mean to be fire-resilient? (As people? As forests?)

In the next two videos we will learn about what people can do to improve forest health and help forests be more resilient to wildfire.

Background: Artwork from Ali Meders-Knight, Mechoopda Tribal Citizen and educator, from the Butte County Forest Health Guidebook.



Video Review

1. What are signs of an unhealthy forest?



2. What are some strategies to improve or maintain forest health?

Video Length: 5:04

Visit an active fuels reduction project in Magalia to witness strategies the Butte County Fire Safe Council uses to support forest health.

Class discussion

1. Overcrowded. Lots of brush, small trees, and ladder fuel. Sunlight cannot reach the forest floor.

2. Mechanical thinning, chipping, grazing with goats, and prescribed fire.

Have you seen herds of goats grazing for fire safety around your community?

We will learn about prescribed fire in the next video.





Video Review



 What is the difference between a prescribed fire and a wildfire?
 What are some

2. What are some benefits prescribed fire can bring to an ecosystem?



Butte County Forest Zones



A side-by-side comparison of a dense, overcrowded forest and a thinned, healthy forest.

Photos: Forestland in Magalia before and after BCFSC project work.

Video Length: 5:30

Learn about the ecological benefits and uses of prescribed fire with CSU Chico professor and fire practitioner, Dr. Don Hankins, at a recently burned area on Doe Mill Ridge in Forest Ranch.

Class discussion

1. A prescribed fire is a low-intensity, intentional fire set to meet ecological objectives, reduce fuels, and improve wildfire safety. A wildfire is an unplanned, unwanted fire, with the potential to be high-intensity and ecologically damaging.

2. Prescribed fire benefits:

- Reduces hazardous fuels under more controlled circumstances with less smoke than wildfires.

- Minimizes the spread of pest insects and disease.
- Removes unwanted plant species and improves habitat.
- Recycles nutrients back to the soil.
- Promotes the growth of trees, wildflowers, and other plants.

Photo: A prescribed fire in progress at the Big Chico Creek Ecological Reserve (BCCER) in Forest Ranch. Courtesy of BCCER.

Natural Fire Cycle graphic from Open Space Authority https://www.openspaceauthority.org/

Butte County Forest Zones from low to high elevation: Blue Oak, Sierran Mixed Hardwood, Mixed Conifer Zone

Image: Miriam Morrill of Pyrosketchology, from the Butte County Forest Health Guidebook.





Pass out a <u>Butte County Forest Health Guidebook</u> to each student.

(Inside cover) Read the key aloud that gives a brief description and notes common plant species for each forest zone.

Which forest zone best describes where your school is located? Do you live in a zone that is different from where you go to school?

If you live in an uncolored area, you likely live in an urban or agricultural area.

Assessment Activity:

Contact the Butte County Fire Safe Council for copies of the Butte County Forest Health Guidebook.

Access the Guidebook online: <u>https://buttefiresafe.net/forest-health-guidebook/</u>

Use the Guidebook and content from the presentation to make a side-by-side graphic comparing a healthy versus unhealthy forest. In addition to illustrations, bullet point or make notes describing elements for each side. It is recommended students learn about the forest zone they <u>live</u> in, not necessarily the forest zone their school is located in. Depending on time, color can be added, the activity could be taken outdoors to sketch the forest around you, or students can share their work with a partner. This activity can also be given as homework or saved for another day to give more time for quality work.

Encourage students to take the Guidebook home to share with their families. The Guidebook is intended to give Butte County landowners information and recommendations to improve forest health and reduce wildfire risk on their property. Each section contains background information, signs of health, strategies for maintaining or improving health, proper care after a wildfire, Traditional Ecological Knowledge connections, and a local success story. It also demonstrates the differences between good fire and harmful fire, and the impact each could have on a forest.

Students will read through and base their graphics on one section:

- Blue Oak (Pages 2-10)
- Sierran Mixed Hardwood (Pages 11-19)
- Mixed Conifer Woodland (Pages 20-28)

<u>Option 1:</u> The whole class focuses on the forest zone closest to their school or where they live. <u>Option 2:</u> Divide the class into three and have one-third of the class learn about each forest zone. After students are finished with their diagrams, make groups of three with a student representing each zone. Students share their findings and compare similarities and differences between the three forest zones.

Evaluation:

	Good	Fair	Poor
Diagram	Students make a comparison illustration and include three or	Students make a comparison illustration and include one or two	Comparison sketches do not include written points about forest health.
	more written points about forest health.	written points about forest health.	Torest nearth.
Explanation	Students can give three or more examples of elements of a healthy versus unhealthy forest.	Students can give one or two examples of elements of a healthy versus unhealthy forest.	Students cannot give an example of element of a healthy versus unhealthy forest.

Lesson Extensions Recommendations:

Fire Nature Journaling: REDI Jedi Master Program Lesson 1: Landscape Patterns, Patches, and Fire https://buttefiresafe.net/education-programs/fire-redi-master-program/

FireWorks: Northern California Oak Woodlands Natural and Cultural Ecology Cycle (M.1.1- M.1.7) https://www.frames.gov/fireworks/curriculum/norcal-oak-woodlands

FireWorks: Sierra Nevada M11 Who Lives Here? Adopting a Plant, Animal, or Fungus <u>https://www.frames.gov/catalog/24552</u>



Lesson 2: Get Ready (Home Preparedness) Defensible Space & Home Hardening

Guiding Question: How can we get our home and property fire-ready?

Goals:

- To give students an introduction to wildfire preparedness.
- To give students agency in wildfire preparedness by building knowledge they can communicate to their families.

Subjects: Writing, Speaking and Listening

Duration: 60 minutes

Setting: Classroom

Vocabulary:

The North Winds, Embers, Ladder Fuel, Defensible Space, Home Hardening, Home Ignition Zones

- **Objectives:** Students will be able to:
 - 1) Explain defensible space by describing the priorities for each Home Ignition Zone.
 - 2) Make recommendations to improve a structure's likelihood of surviving a wildfire.

Materials and Preparation:

- Print a defensible space worksheet for each student. (Last page of the lesson plan.) <u>Full Wildland Fire Junior Ranger Book</u>
- Prepare PowerPoint for Lesson 2: Get Ready (Home Preparedness)

Standards:			
NGSS	Crosscutting	Scale, Proportion, and Quantity	
	Concepts	Structure and Function	
	Science and	Developing and Using Models	
	Engineering	Engaging in argument from evidence	
	Practices		
Disciplinary Core		ESS3.B Natural Hazards	
	Ideas		
Environmental		Principle 3: Natural systems change in ways that	
Principles and		people can benefit from and can influence.	
Concepts			

Lesson Overview:

This lesson is the beginning of the series on wildfire preparedness. These topics may be more difficult for students to discuss, especially students who have experienced a personal loss or community trauma from wildfire. It is recommended to review the class Ground Rules and remind students that discussion will be steered towards actions that can be taken in the future. Reiterate that everyone has a unique experience or feeling about fire, but discussion will be kept more general. Students are encouraged to show a signal if they would like to step outside or take a break and it is okay to chose not to share during discussion.

Students are a key component of the social and cultural shift that is needed to live with fire and drive behavior change. The purpose of this lesson is to give students knowledge about achievable actions they can communicate to their families about defensible space and home hardening. Students may not have the ability to make physical changes at home now, but as future adult community members and potential land or homeowners, they are important concepts to be familiar with. Try to focus the lesson on actions that do not require expensive remodels or major landscaping, which could feel unachievable and overwhelming. Families who live in rentals may be limited on the changes they can make to structures and property. It is recommended to refer to houses as "structures" whenever possible and acknowledge that these structures come in many shapes and sizes, including apartments and mobile homes. In a wildfire recovery area, students may be living in vastly different housing situations. Some may be in a new, rebuilt home with sparse or no vegetation on their property, while others are living in an older, surviving home that is surrounded by thick vegetation.

Students can start discussions at home and help with smaller projects such as removing surface fuels and ladder fuels. They can also be valuable observers, pointing out potential hazards and offering suggestions and encouragement to be more fire-safe. The printable handout is another way to support students in starting wildfire preparedness discussions at home.

Ember Blocker Game Description:

This game is an opportunity to end the lesson on a fun note, review key topics, and shake off the seriousness of the lesson with physical movement. Ideally, split the class into two groups to have two games played at the same time with smaller numbers. The game can also be played as a large group.

Materials:

One or more soft balls such as a dodgeball or rubber ball. An optional orange safety vest for the Ember Blocker.

Have the group form a big circle. One volunteer comes to stand in the middle of the circle and will represent a structure. That student cannot move their feet once in place; they must be stationary like a building. A second volunteer will be the "Ember Blocker" and can move freely around the structure. The rest of the group must stay in the large circle formation and cannot

move in closer once the game begins. Make sure there is at least 10 feet of distance between the structure in the center and the outside circle. The object of the game is for the students in the large circle to hit the structure with the ball. The ball represents an ember. Students in the circle can try and throw the ember directly at the structure or pass to a student in the circle with an open shot. The Ember Blocker can defend the structure by standing between the thrower and hitting away the ball. To avoid injury, students throwing the ball may not throw above chest-height.

If the structure is hit by an ember, the student who threw the ball must give one way that a structure can be protected from embers either by improving an element of defensible space or home hardening. The thrower then becomes the next Ember Blocker, and the Ember Blocker becomes the structure, creating a rotation of students between the positions. Play until students have sufficiently summarized the lesson's topics or time is up. It is recommended to play for 5-10 minutes.

The activity leader should maintain safety and fair play, while encouraging discussion and appropriate sharing about defensible space and home hardening. Encourage students not to repeat an answer that has already been shared. Ask follow-up questions when appropriate to encourage deeper answers. For extra challenge, multiple embers can be added, and there could be a second Ember Blocker.

At the end of the game, remind students that they can be the Ember Blocker in real life by sharing what they learned with their families and helping by pointing out fire hazards on and around their home.

Procedure:

1. Go through the PowerPoint presentation for Lesson 2: Get Ready (Home Preparedness)





Review ground rules. Replace this slide with the picture or new slide of brainstormed expectations or review the paper poster. "In today's world, there really isn't any one project or agency or landowner that can make a community fire-safe. It takes everyone working towards improving their land and homes for us to truly move towards becoming a fire resilient community."

- Paradise Forest Management Plan (2021)





Factors that can put structures at risk from a wildfire:

- Windy conditions
- Flying embers
- Dense vegetation and fuels

Wind-driven Fire

- "The North Wind" is a local, seasonal wind that occurs during the late summer and fall months, traveling downslope from the mountains toward the valley.
- Dry wind dries out fuel and increases the air temperature from friction.
- Wind-driven fires produce large amounts of <u>embers</u>.

Ask a student volunteer to read the quote aloud. Class gives a "thumb-o-meter" response to show agreement with the quote. (Thumb up- strongly agree, in the middlesomewhat, thumb down-disagree)

Share thoughts on the statement or reaction.

<u>The Paradise Forest Management Plan</u> is available as a digital StoryMap on the BCFSC website. It contains many topics in the four lessons about forest health, lessons learned, and protecting communities from wildfire. This is a great resource to share with adults.

Students can help at home by educating the rest of the family about today's lesson and contribute to fire-safe projects on their home and property.

Video Length: 2:28 Introductory video from the National Interagency Fire Center about home hardening and ember defense.

Today's lesson will look at these factors and what can be done to lessen the risk from wildfire by preparing the space around a structure, and the structure itself.

Dry, downslope winds can speed through mountain passes at nearly 100 mph. The North Winds blow <u>from</u> the north and travel down the Sierra Nevada Mountains. Wind is the most critical factor affecting fire behavior.



Fuel-driven Fire • Supported by dense vegetation. Fires can burn as: - Surface fires (surface litter and duff) - Canopy fires (btrough the trees) - Crown fires (across the tops of trees) • In urban areas, structures can act as fuel. Wildfires are much harder to control if they turn into crown fires. Firefighting efforts are focused on keeping fire on the ground where it is easier to defend against and extinguish.



Ladder fuel is fuel that can carry a fire burning in lowgrowing vegetation up to the taller vegetation. This can move fire up into the canopy and crown where it can quickly spread to surrounding trees. The tree will not survive this fire, whereas it could often survive a surface fire.

The tree on the right does not have ladder fuels around the base. Pruning trees up six to ten feet high and removing brush and ladder fuel are key parts of fire-safe landscaping.

Defensible space addresses the land around your home, while home hardening addresses improving the fireresistance of the structure itself.

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Preparing at Home

Defensible Space & Home Hardening



Video Length: 3:30

Join BCFSC Field Coordinator, Ben TestHart, for a defensible space inspection with one of Butte County's most recognizable residents. Wildfire Ready Raccoon has been working hard to get his property ready, but did he miss anything?

What is defensible space?

Defensible space acts as a buffer between a building and the surrounding vegetation. It is meant to slow or stop the spread of wildfire and protects the structures from direct flame contact and radiant heat. It also reduces the flammable area an ember can land and start a spot fire. Defensible space is explained through the <u>Home Ignition</u> <u>Zone</u> model that divides a structure's required 100 feet of defensible space into three zones: 0-5, 5-30, and 30-100 or the property line.

Pass out the worksheet about defensible space from the National Park Service Wildland Fire Junior Ranger Activity Book.











Popcorn read aloud the points for each zone from the worksheet.

0-5 feet

✓ Make sure gutters, patios, and roofs are clear of dead leaves and pine needles.

✓ Remove flammable mulch and vegetation within 5 feet of your home.

 \boldsymbol{v} Use rock mulches or hard surfaces surrounding your home.

5-30 feet

✓ Clear flammable objects (furniture, lawn mowers, wood piles, propane tanks).

✓ Remove all dead plants/leaves and weeds.

 \boldsymbol{v} If you have a lawn, keep it watered and mowed to 4 inches or less.

v Remove tree or shrub branches that overhang within 10 feet of your house, roof, or chimney.

30-100 feet (Or property line. 200 feet if structure is on a steep slope)

√ Remove dead vegetation.

√ Trim tree limbs 10 feet above the ground.

✓ Create separation between trees and shrubs.

Trees between 30-60 feet from the home should have at least 12 feet from canopy tops and trees 60-100 feet from the home should have at least 6 feet between canopy tops.

Uh oh, there's a lot of work that needs to be done to make this property fire-safe.

Students write in complete sentences four recommendations to improve the fire safety of the house pictured. Share findings after 5 minutes.

Fire-hardened means your home is prepared for wildfire and an ember storm. It does not mean *fireproof*. Home hardening addresses the most vulnerable components of your home with building materials and techniques that increase resistance to heat, flames, and embers that accompany most wildfires.

	1220	
Roof	Deck/Porch	House Siding
Skylights	Patio Furniture	Garage Door
Chimney	Flowerbeds	Garbage Cans
Windows	Woodpiles	Fencing
Vents	Rain Gutters	

You're the defensible space inspector!

Use your worksheet and learning from the lesson to evaluate the wildfire readiness of the houses on the next 5 slides.

What did they do well? What needs more work?



Butte CAL FIRE, as well as the Butte County Fire Safe Council, can lead voluntary defensible space inspections to make recommendations and help educate people about how to protect their property.







Play "Ember Blocker" outside to review the lesson content. You will need a soft ball like a dodgeball or foam ball. See the lesson plan overview for a game description.

Assessment:

Students write a short paragraph about their thoughts on the importance of creating defensible space and home hardening to prepare for a wildfire. Students can respond to the following questions in their paragraph:

- What are three *home hardening* actions you think are particularly important?
- What are three *defensible space* actions you think are particularly important?
- Is there anything you learned today that you think your family should know about?
- What are some wildfire preparedness actions you think people your age could help with at home?

Evaluation:

	Good	Fair	Poor
Paragraph Response	Students show a strong understanding of wildfire home preparedness topics in their paragraph reflections.	Students show an understanding of wildfire home preparedness topics in their paragraph reflections.	Students do not show an understanding of wildfire home preparedness topics in their paragraph reflections.

Lesson Extension Recommendation:

FireWorks: Northern California Oak Woodlands M.3.4.A Assessing Your School https://www.frames.gov/fireworks/curriculum/norcal-oak-woodlands

Protect Your Home

Wildland Urban Interface

The Wildland Urban Interface (WUI) is where homes or other buildings are built near or in the forest, grassland, or other natural area. People living in this area must take extra precaution to protect their home from wildfire.



Immediate Zone (0-5 feet from the home):

- ✓ Make sure gutters, patios, and roofs are clear of dead leaves and pine needles.
- ✓ Remove flammable mulch and vegetation within 5 feet of your home.
- ✓ Use rock mulches or hard surfaces surrounding your home.

Intermediate zone (5-30 feet from the home):



- ✓ Clear flammable objects (furniture, lawn mowers, wood piles, propane tanks).
- ✓ Remove all dead plants/leaves and weeds in this area.
- \checkmark If you have a lawn, keep it watered and mowed.
- ✓ Remove tree or shrub branches that overhang within 10 feet of your house, roof, or chimney.



Extended zone (30-100 feet from your home):

- ✓ Remove dead vegetation.
- \checkmark Trim tree limbs 10 feet above the ground.
- ✓ Create separation between trees and shrubs. Trees between 30-60 feet from the home should have at least 12 feet from canopy tops and trees 60-100 feet from the home should have at least 6 feet between canopy tops.

Go to Firewise.org or LivingWithFire.info to learn more about preparing your home for wildfire.

Fire Safety Starts with YOU!

2

Look at the picture below and list at least 4 things that this homeowner should fix to make their home more safe from wildfire.



1.	
2.	
3.	
4.	



Lesson 3: Get Set (Family Preparedness)

Guiding Question: What can we do now to prepare with our families?

Goals:

- To support students with information, resources, and encouragement to start conversations at home about wildfire preparedness.
- To empower students to take the steps to make a Family Communication Plan and Go Bag at home.

Subjects: Listening and Speaking, Writing, Health

Duration: 60 minutes

Setting: Classroom

Vocabulary: Go Bag, Family Communication Plan, Red Flag Warning

Objectives:

Students will be able to:

- 1) Describe the characteristics and contents of a complete Go Bag.
- 2) Explain the components of a Family Communication Plan.
- 3) Communicate why making a Go Bag and Family Communication Plan are important.

Materials and Preparation:

- Print the student handout for this lesson. (Last page of the lesson plan)
- Prepare PowerPoint for Lesson 3: Get Set (Family Preparedness)

Standards:		
NGSS	Crosscutting	
	Concepts	
	Science and	
	Engineering	
	Practices	
	Disciplinary Core	ESS3.B Natural Hazards
	Ideas	
Environmental		Principle 3: Natural Systems Change in Ways that
Principals and		People Benefit From and Can Influence
Concepts		

Lesson Overview:

After the lesson about defensible space and home hardening, Lesson 3 continues to focus on wildfire preparedness at home. The three main topics for this lesson are the Family Communication Plan, Go Bags, and pet/animal preparedness. Students are encouraged to think about how they can take an active role in wildfire preparedness with their family. We can't know exactly when the next fire will occur, but we can be ready!

People across the world have created Family Communication Plans and prepared Go Bags to respond to other types of disasters, such as hurricanes, earthquakes, and tornados. This information is widely useful, and not unique to wildfire preparedness. When people develop a Family Communication Plan, there is less chance of panicking during an emergency. If the family is separated, family members have a planned meeting location and way to communicate. Since every wildfire is different, those who have planned have more options than those who are simply reacting to the situation.

At the end of the lesson, students should be able to explain the significance of each topic and understand how to fill out the Family Communication Plan. Students should be given a few days to fill out their Family Communication Plans, allowing for time to reflect and coordinate with family availability. Ideally, every member of the family is at the meeting, and they have involved the out-of-town emergency contact in the process. You may want to require students to get a family sign-off and bringing a copy back to class to review in the next lesson. Every family member should keep a copy of their Family Communication Plan in their Go Bag and it is a good idea to keep a copy in the car, in case you are not able to return home for Go Bags.

The suggested assessment activity is to have students work in small groups to make short howto videos about one of the three main lesson topics. These videos can then be shared back with students' families or shared with a wider audience to grow community awareness.

Procedure:

Go through the PowerPoint presentation for Lesson 3: Get Set (Family Preparedness)



Guiding Question: What can we do now to prepare with our families?



The topics in today's lesson are widely useful and are a good idea for every family to have planned for. Having a Go Bag, Family Communication Plan, and animal preparedness plan can be applicable in many emergency situations beyond a wildfire. These topics are the easiest way for sixth graders to make an impact in their family's preparedness! Encourage students to take home all the resources from the lesson and share with their family!

A Go Bag is something you pre-pack that holds essential items you will need for 72 hours. It should be light enough for one person to carry and packed in a sturdy bag that can be grabbed quickly.



Draw an outline of a backpack on the whiteboard. Have students brainstorm elements of a good Go Bag (not what goes inside it) and mind map around it. A Go Bag should be sturdy, spacious, easily carried, and may have additional helpful features like pockets, waterproofing, or expandable sections. Students might have more ideas. Every family member should have their own personal Go Bag. This includes pets, which will be discussed later in the lesson. Having a Go Bag ready will give you confidence that you have your most important items with you, and you don't have to worry about leaving behind valuables during a rushed and stressful situation.



Optional activity: Go Bag Sort

Spread out a wide variety of items across a table in the front of the room and have students sort the items into a <u>Take</u> and <u>Don't Take</u> pile. Depending on the class size and time, students could physically move items or vote with thumbs up or down on items the presenter holds up. Have students share explanations to justify their decisions. Preview the worksheet to make sure there are examples of important items represented. You can have fun adding in items that may not be the best fit, or items that could be a good fit, but are in the wrong form. For example, would you really pack an entire roll of paper towels, or could you bring a small container of wet wipes? Would you bring a big chip bag filled with air space or packaged trial mix? This activity could take 10-15 minutes, depending on time availability, discussion, and level of interest.





A <u>Family</u> <u>Communication</u> <u>Plan</u> is a written document that prepares each family member to know what to do and how to stay in contact during an emergency.

Identify two safe exit points from inside your home.



Having a Family Communication Plan will set up students and their families to stay safer and calmer in the event of an emergency or evacuation. This document should be kept in a place that is easy to access, such as on the refrigerator or in an envelope with other emergency related documents such as printed local maps, copies of important documents, and area-specific emergency information. Keep a copy in your Go Bag. The plan should include what to do if you are all home together or separated. It is also a good idea to take a picture and upload a digital copy.

Photo: <u>Be Ready Butte</u>

Family Communication Plan

Start by filling in the school's information together. Write your school's address, phone number, and Facebook name (if applicable) on the whiteboard to be copied by students. Leave the rest of the spaces blank for students to fill in during the family meeting. Discuss the school's on and offcampus evacuation location. Discuss the importance of having an out-of-town contact and what role that person could play in an emergency.

This is important in the event of a house fire or if a typical exit point is unsafe to use. Students can volunteer examples of exit point options from their homes.



Pick a neighborhood meeting place.



Make sure you practice with your family periodically, so you remember what to do in a moment of stress. The first time you try something shouldn't be during an emergency. Make sure you check with an adult before trying any new escape routes, especially out windows.

Perhaps this place is a street corner, trusted neighbor's house, or somewhere with a clear identifying feature. It should be no more than a two-minute walk from home. Share ideas about areas students would suggest and why it could be a good place to meet. If students live in a wildfire recovery or remote area, there may not be a lot around them, and the safest meeting place is just outside their home.



It may not be possible for the whole family to meet up at home. The fire's progress, road closures, or evacuation orders could affect where family members are able to get to. Set a regional meet up place and a backup meeting place. This place should be somewhere easy to access with people around who could help you, such as a school, public library, store, police/fire station, or official public assembly point. If you are not able to get home or to either meeting location, stay with friends, teachers, or a trusted adult and evacuate with them. Begin your Family Communication Plan by checking in with your family's out-of-town contact person to tell them who you are with and where you are going. In an emergency, texts can go through easier than phone calls and it is easier to make calls going out of the affected area than to someone else inside the emergency zone.



Call out a handful of categories of pets/animals and have students raise their hand if their family has them. All types of pets should be part of the family emergency plan and depending on the type of pet, they will need very different care and planning. A horse vs. a fish vs. a parrot all need special items and care.

Pet preparedness Video from TakeAction teen program.

Video length: 1:48







North Valley Animal Disaster Group HOTLINE (530) 895-0000

People who create a Family Emergency Plan and have **practiced** it have more options during an emergency. They can react more quickly and calmly during a stressful situation.

Homework: Hold a family meeting and fill out the rest of the Family Communication Plan. If you already have a written plan, review it together and make a copy for your Go Bag or to turn in for credit. Pass out the <u>North Valley Animal Disaster Group</u> (NVADG) trifold. Label and add the Hotline **(530) 895-0000** to the Family Communication Plan. Even if you don't have a pet now, you might later. You may also be in a situation where your family is helping another person who has an animal.

Control what is within your ability to control. Make sure your whole family knows about the importance of having Go Bags, creating a Family Communication Plan, and planning for your pets or animals. If students already have a Family Communication Plan, they can review it, make sure everything is up-to-date, and make a copy of it, rather than making a new plan.

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Assessment Activity (multi-day):

Students work in a small group to make a three to five-minute how-to video about one of the key topics from the lesson. Topic options include how to make a Go Bag, the steps and importance of a Family Communication Plan, or how to make a pet/livestock preparedness plan and Go Bag. It is recommended to have students film the videos at school. This activity could be spread over several days, depending on how much time you can apply to this and what students can accomplish outside of class time.

If students are covering pet/animal preparedness, they may want to take video footage of their animals, since they are not allowed to be brought to school. While the format and rules are up to you, students could show animals in other creative ways, such as using a stuffed animal or editing in already filmed videos of animals. If you opt not to do the how-to video, students could make a comic strip or a video storyboard describing the steps instead.

- 1. Decide if students will make a how-to video or a comic strip/storyboard.
- 2. Split the class into small groups, explain the project, and set guidelines and the timeline.
- 3. If you select making how-to videos, explain how you want videos to be captured and edited. Clarify what equipment your class has available and what personal equipment may be used.
- 4. Give groups time to develop their topic, brainstorm how they want to present it, and make an outline. Oversee video filming, editing, and project process.
- 5. When finished, share the final products! This can be as a movie premiere in class, shared with other grades at your school, sent to students' families digitally, or shared back with the Butte County Fire Safe Council. The more that students see their work and ideas being recognized by other people the better, and the more wildfire preparedness reaches outside the classroom walls to the community.

Assessment Activity	Good	Fair	Poor
How-to activity	Students' video or	Students' video or	Students' video or
- Go Bag	comic strip	comic strip	comic does not
- Family Emergency	demonstrates a	demonstrates a fair	demonstrate an
Plan	strong understanding	understanding of the	understanding of the
- Pet/animal	of the topic and	topic and	topic and misses
preparedness	communicates all the	communicates most	many of the
	steps involved.	of the steps involved.	important
			components.
Group Project	Students collaborate	Students collaborate	Students did not
Cooperation	positively in their	semi-positively in	collaborate positively
	small groups and	their small groups	or not everyone
	contribute to the	and contribute.	contributed.
	success of the		
	project.		

Evaluation:
Lesson Extension Recommendations:

Lead a peer review and facilitate students in giving positive feedback and observations about each other's videos.

Students imagine their videos will be posted on the Butte County Fire Safe Council's YouTube page to share with the community. Students write a title, one-paragraph video description, and create a thumbnail graphic that would appear with their video.

Family Communication Plan

Step 1: Hold a family meeting and make your plan.Step 2: Make a copy for each family member's Go Bag.Step 3: Scan or take a picture for digital back-up.



Home Information	Out-of-Town Contact
Name:	Name:
Phone:	Address:
Address:	Cell:
Zone #:	Email:
Guardian #1 Information	School Information
Name:	School:
Workplace:	Address:
Work Phone:	Phone:
Cell:	Facebook:
Guardian # 2 Information	Zone #:
Name:	Evacuation Location:
Workplace:	School
Work Phone:	School:
Cell:	Address:
	Phone:
Neighborhood Meeting Place	Facebook:
	Zone #:
	Evacuation Location:
Regional Meeting Place	School:
6	Address:
Primary:	Phone:
	Facebook:
Coccedence	Zone #:
Secondary:	Evacuation Location:

*Review as a family every year and keep it up to date.



NATIONAL FIRE PROTECTION ASSOCIATION The leading information and knowledge resource on fire, electrical and related hazards





Lesson 4: Go! (Emergency Planning & Response)

Guiding Question: What do we do if a wildfire leads to an evacuation?

Goals:

- To give an overview of what could happen during an evacuation and how to find local information during a wildfire emergency.
- To connect students to resources to share with their families.

Subjects: Health, Listening and Speaking, Writing

Duration: 60 minutes

Setting: Classroom

Vocabulary: Evacuation Warning, Evacuation Order, Public Assembly Point, Shelter-In-Place

Objectives:

Students will be able to:

- 1) Describe how they will put their Family Communication Plan into practice in the event of an evacuation warning or order.
- 2) Recite their home address and what zone number they live in.
- 3) List three or more resources they could use to find information or get help during a wildfire emergency.

Materials and Preparation:

- <u>*"Ready, Set, Go" Evacuation Plan* and Community Map</u> for each student or access it online to project overhead.
- Print an <u>Emergency Communications Trifold</u> for each student.
- Prepare PowerPoint for Lesson 4: Go! (Emergency Planning & Response)

Standards:		
NGSS	Crosscutting	
	Concepts	
	Science and	
	Engineering	
	Practices	
	Disciplinary Core	ESS3.B Natural Hazards
	Ideas	
Environmental		Principle 3: Natural Systems Change in Ways that
Principals and		People Benefit From and Can Influence
Concepts		

Lesson Overview:

This lesson builds on personal and family preparedness topics and contains potentially lifesaving information about what to do in the event of a wildfire emergency and evacuation. Ideally, continue with this lesson after students have had time to complete their Family Communication Plans. This lesson may be triggering for students who have been through an evacuation or had family members or friends impacted. It is recommended that you have a school counselor on hand to support students who wish to leave the classroom or want to talk with a mental health professional. It is important to keep control of the lesson by focusing discussions on the actions that students can take in the future.

The two printable resources for this lesson are from the Butte County Office of Emergency Management and the Butte County Fire Safe Council. The *"Ready, Set, Go" Evacuation Plan* contains an inserted community map, however, the map does not include the community zones, as of 2022. The map is still useful to identify travel routes, emergency assembly points, and cross-reference your location with the digitally accessed zone map. Request copies or print these resources ahead of time so students can review them in class and take copies home.

Families may want to designate an emergency envelope on the refrigerator or other prominent place at home that every family member can access to keep important documents such as these and a copy of the Family Communication Plan. These take-home resources support the program's goal of using youth to reach a wider community audience with wildfire preparedness and safety information.

Procedure:

1. Go through the PowerPoint presentation for *Lesson 4: Go! (Emergency Planning & Response)*



Guiding Question: What do we do if a wildfire leads to an evacuation?

Video length: 3:40 <u>The Official Wildfire Ready Raccoon Rap</u> Listen for three things that Wildfire Ready Raccoon suggests to help people get ready for wildfire. What does he say related to evacuation?



Review the school's wildfire emergency plan with participation from the classroom teacher. What should happen for the following:

- Shelter-in-place
- Evacuate to another part of campus
- Evacuate off-campus

To students: No matter what action your class takes, stay calm, stay with the group, and pay attention to your teacher for directions.



Do you KNOW YOUR ZONE?

The zone program started with Town of Paradise, which is divided into 14 zones. As of 2021, there are evacuation zone numbers for all of Butte County.

Zone numbers will be used for public alerts during a wildfire or other emergency that may require an evacuation. It is important to remember the **numbers** of the zone, as every zone has a different number and no two are the same.



Butte County's zone map is available online through Buttecounty.net or <u>HERE</u>. The map will auto-update to show an active **Evacuation Warning** or **Order** affecting any zone in Butte County. If the zone is not colored in yellow or red, there are no current alerts.

To find your zone number and updates, enter an address in the lower left search bar. You can also drag the map and zoom in to search, if your address is not found.



The map can be accessed by computer or phone. It is a good idea to bookmark the map on your computer for easy access.

Search "<u>Butte County Sheriff</u>" scroll down and click on the *Know Your Zone* logo in blue.



What zone is your school in?

What zone do you live in?







Get out class-provided individual devices, such as Chromebooks, to practice using the interactive map to look up zone numbers. If there is time, you can also give students challenges to find the zone of other well-known locations or businesses in your area.

The map is not the easiest to use the first time, so it's a good idea to practice and familiarize students with the search feature and how to find information. After sufficient time for every student to be successful, check in about zone numbers and have students add their home zone number to their Family Communication Plans, if they have them in class. Write the zone number in the information section of the *"Ready Set Go" Evacuation Guide*. The most important part is the zone number, not the lettering that describes the location within the county (ex: BUT-TOP-___)

Compare the digital map with the printed map of your area inside the *"Ready, Set, Go" Evacuation Plan.* The digital map has the most up-to-date information regarding zone numbers and boundaries, but the printed map can be used as a supporting resource. Check your community's emergency travel route and emergency assembly points.

After a quick discussion, pass out the Emergency Communications Trifolds with information about the zone program, signing up for alerts, and trusted social media sources.

A cell phone is one more tool in the toolbox that students should use if they have one. You can sign up for CodeRED mobile alerts, save emergency contacts and map locations, take a picture of your Family Communication Plan, and upload important photos and documents digitally. If students don't have a cell phone, they can encourage their family to do this and may remember this information when they do get a phone. Remember, text, don't talk. In an emergency impacted area, text messages have a better chance of going through than calls. Group texts can share the same information quickly to multiple family members.



Official Twitter accounts are a reliable and quick way to get emergency updates. CAL FIRE and Butte County Sheriff will share real time updates as they can to Twitter. It is also a social media source that does not require an account to log in. Accounts can be viewed on the <u>Be Ready Butte website</u>

Know when to go!

What is an Evacuation Warning versus an Evacuation Order?



EVACUATION WARNING

VACUATION ORDER

Evacuation Warning Potential threat to life and/or property. Those who require additional time to evacuate, and those with pets and livestock should leave now.

Evacuation Order Immediate threat to life. This is a lawful order to leave now. The area is lawfully closed to public access.

Assessment Activity:

Write a letter to Wildfire Ready Raccoon.

Explain expectations for letter format, content, and length. Writing a letter guides students in reflecting on the most important or memorable Wildfire in the Foothills topics. This activity has the option to share student conclusions and stand-out topics back with the Butte County Fire Safe Council to help improve youth outreach. Ready Raccoon loves hearing from students! Illustrations, poetry, and other creative mediums are encouraged as an alternative. You can mail letters in a class envelope to:

Butte County Fire Safe Council PO Box 699 Paradise, CA. 95967

Optional sentence starters:

- Something that surprised me about wildfire is _____
- I used to think _____, but now I think _____ about wildfire.
- Something that my family and I have already done to prepare for a wildfire is _____.
- Something I plan to do in the future to prepare for a wildfire is _____.
- Some things I will put, or already have, in my Go Bag are _____.
- Something important I learned in class that I shared with my family is _____
- When I talked with my family about the Family Communication Plan they said ______.
- Something I think more people in my community should know about wildfire is _____.
- I can help my family protect our home from embers by _____.
- To prepare my pets for a wildfire I can _____.
- If my friends do not know about wildfire preparedness, I would tell them _____.

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Evaluation:

Letter to Ready	Good	Fair	Poor
Raccoon			
Length and Format	Students write a	Students write a	Students write a few
	small paragraph to	small paragraph in a	sentences of
	one page in length in	letter format.	reflection, but not in
	a letter format.		a letter format.
Content	The letter	The letter	The letter
	demonstrates a	demonstrates an	demonstrates a weak
	strong understanding	understanding of one	understanding of
	of three or more	or two program	program topics and
	program topics with	topics and gives	does not make the
	strong personal	some personal	connection to
	relevance.	relevance.	personal relevance.
Spelling	The letter is mostly	The letter contains a	The letter contains
Punctuation	free from errors,	few errors and is	many errors and is
Grammar	easy to understand,	overall	difficult to
Readability	and well organized.	understandable and	understand or
		organized.	unorganized.

Lesson Extension Recommendations:

<u>REDI Jedi Master Program</u>

Nature Journaling Support For Evacuation Planning Lesson 9: <u>Illuminating Fire Practices</u>

Review with Ready! Play a Jeopardy-style review game covering content from Lessons 1-4.

Pre-schedule a visit with Wildfire Ready Raccoon and/or Butte CAL FIRE. Call the Butte County Fire Safe Council office (530)877-0984 to schedule visits.

Do You Need Assistance During an Emergency?

The Special Needs Awareness Program is a voluntary program for individuals with Access and Functional Needs, such as physical/developmental or intellectual disabilities, chronic conditions or injuries, limited English proficiency, older adults, children and low income households, homeless and/or transportation disadvantaged and pregnant women. The SNAP program will provide additional evacuation information, which may include evacuation assistance, as well as notification for extreme heat/cold events and Public Safety Power Shutoffs (PSPS) events. For more information, visit www.buttecounty.net/dess

Do You Live in a Public Safety Power Shutoff area with low or no cellular coverage?

Butte County is partnering with Bare on the Ridge, PG&E and Alert FM to provide Alert FM devices to the community. Households can check their eligibility and register at www.buttecounty.net/dess or by calling 530.552.6887. To learn more about Alert FM, visit www.alertfm.com

Helpful Information and Links

For Evacuation Plans and Emergency Preparedness Information, visit www.buttecounty.net/oem

> Toll Free Butte County Emergency Information Line: 833.512.5378

Television and Radio StationsKHSL Channel 12KNVN Channel 24KRCR Channel 7KPAY 1290AMYankee Hill Community Radio 1630 AMMagalia Community Radio 1460AMParadise Community Radio 1500AM

General Mobile Radio Systems (GMRS) Information is available at www.buttecountycert.com

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@CALFIRE_ButteCo @BC_PubHealth







Be Informed

Know your zone-**memorize** your zone number. Know how you will **receive information**.

Be Prepared

Have a plan. Think ahead. Organize an emergency kit or go-bag. Register for emergency alerts.

Be Ready

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Are You Familiar with Evacuation Terms?

Evacuation Warning, Evacuation Order and <u>Shelter in Place</u>. It's important to know what these terms mean.

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Alerts people in an affected area(s) of potential threat to life and property. People who need additional time should consider evacuating at this time. An Evacuation Warning considers the probability that an area will be affected and prepares people for the potential of an Evacuation Order.

Evacuation Order

Requires the immediate movement of people out of an affected area due to imminent threat to life. Choosing to stay could result in the loss of life. Staying may also impede the work of emergency personnel. Due to the changing nature of the emergency, the Evacuation order may be the only warning people in the affected area(s) receive.

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For Code Red Enrollment Assistance, Call: 1-866-939-0911



Wildfire in the Foothills Review with Ready!

100- True/False 200/300- Multiple Choice 400/500- Short Answer

Lesson 1: Fire-resilient Landscapes

100

True or False, tropical savannah is one of the forest zones found in Butte County. False

200

Which of the following terms describes the mapped representation of the likelihood of a wildfire and the potential harm it could cause to people and structures? Elevation Risk Fire Hazard Severity Zones Wildland Hazard Charts Evacuation Planning

300

Which of the following landscapes has a dense structure with many cone-bearing, evergreen trees? Grassland Chaparral Blue Oak Woodland Mixed Conifer Woodland

400

What are two actions people can do to improve the health of the forest zone you live in? Answers vary. Information can be found in the Forest Health Guidebook and videos in the presentation about fuels reduction and prescribed fire.

500

What are three positive benefits that low-intensity fire can bring to a landscape? Answers may include:

Replenish nutrients, stimulate plant growth and food productivity, reduce hazardous fuels, reduce pests and disease, remove competition for light and water, and support seed germination.

Lesson 2: Get Ready (Home Preparedness)

100

True or False, if you have 100 feet of defensible space, embers cannot reach your house during a wildfire.

<mark>False</mark>

200

Most wildfire home ignitions are caused by: Fire tornados Embers Electricity malfunction Ponderosa pine trees

300

Which of the following parts of a structure need to be considered for "home hardening" to protect from wildfire? Decks Windows Gutters Vents All of the above

400

What characteristics or types of plants are fire hazards and should be removed from around a home?

Answers may include:

Plants with oils and waxes, such as juniper. Non-native, flammable plants such as weeds, seasonal grasses, and broom plants. Plants that grow on, up against, or are overhanging a structure. Trees with low limbs creating ladder fuels. Trees growing too close together in the 100 foot zone (Closer than 10 feet). Dead or dying vegetation and leaf/needle debris.

500

What is one recommendation for each of the three Home Ignition Zones? (0-5, 5-30, 30-100) From the defensible space Jr. Ranger worksheet:

<mark>0-5 feet</mark>

Make sure gutters, patios, and roofs are clear of dead leaves and pine needles. Remove flammable mulch and vegetation within 5 feet of your home. Use rock mulches or hard surfaces surrounding your home.

5-30 feet

Clear flammable objects (furniture, lawn mowers, wood piles, propane tanks). Remove all dead plants/leaves and weeds. If you have a lawn, keep it watered and mowed to 4 inches or less.

Remove tree or shrub branches that overhang within 10 feet of your house, roof, or chimney.

30-100 feet (Or property line. 200 feet if structure is on a steep slope)

Remove dead vegetation.

Trim tree limbs 10 feet above the ground.

Create separation between trees and shrubs.

Trees between 30-60 feet from the home should have at least 12 feet from canopy tops and

trees 60-100 feet from the home should have at least 6 feet between canopy tops.

Lesson 3: Get Set (Family Preparedness)

100

True or False, a family should all share one large Go Bag. False

200

Which of the following actions should a family do to prepare for wildfire? Each person has a personal Go Bag. The family has designated an out-of-town contact person. The family has written and copied a Family Communication Plan. The family has made a plan and Go Bag for their pets. All of the above.

300

Which item would you <u>not</u> put in a Go Bag? Filled water bottle Printed evacuation map <mark>Blow-up mattress</mark> Change of clothes

400

Why should a family select a regional meeting place and a backup meeting place in their Family Communication Plan?

It may not be possible to all meet back at home before evacuating. The fire may block access to home, close roads, or make the first chosen meeting place unsafe to get to. Evacuation orders may direct traffic out of certain areas.

500

Describe three things you should do to prepare your pets or livestock for an evacuation. <mark>Answers may include:</mark>

Build a Go Kit for your pet. Make sure you have a collar with ID tags and a harness or leash. Have copies of your pet's documents available online. Practice loading them into carriers or cages. Have a picture of you and your pet together. Have phone numbers and addresses for emergency animal shelters (NVADG).

Lesson 4: Go! (Emergency Planning and Response)

100

True or False, Twitter is not a reliable source to find information during a wildfire. False, depending on what source you are looking at.

200

What is true about an Immediate Evacuation Order? You will receive three orders before you must leave. It is safe to stay if you have defensible space around your home. It requires the immediate movement of people out of an area. CAL FIRE could use your help fighting the fire at this point.

300

How is Butte County broken up to communicate emergency updates and evacuation orders? By color By elevation By forest type By zone number

400

What is the name and/or location of your closest Public Assembly Point? *Note, people do not have to go to an Emergency Assembly Point if they have a safe evacuation route and do not need help. People who can evacuate should go independently. Answers vary, refer to the Emergency Travel Routes and Public Assembly Point Map

500

In the "Get Set!" section of the *Ready, Set, Go Evacuation Plan,* what are two things people should do inside the home and two things outside of the home before evacuating? Bonus: What could you do to help your family and what do you think is a task better left for an adult?

<mark>Inside</mark>

- Shut all windows and doors, leaving them unlocked.
- Remove flammable window shades and lightweight curtains. Close metal shutters.
- Move flammable furniture to the center of the room, away from windows and doors.
- Shut off gas at the source (meter or tank). Turn off pilot lights.
- Leave your lights on so firefighters can see your house under smoky conditions.
- Shut off the air conditioning.

<mark>Outside</mark>

• Put your Go Bag in your vehicle.

- Back your car into the driveway with vehicle loaded and all doors and windows closed.
 Carry car keys with you and have a spare. Leave gates open for access.
- Check on neighbors and make sure they are preparing to leave.
- Gather up flammable items from the exterior of the house and bring them inside (patio furniture, toys, door mats, trash cans, etc.) or place them in your pool.
- Turn off propane tanks.
- Move propane BBQs and appliances away from structures.
- Connect garden hoses to outside water valves or spigots for use by firefighters. Fill water buckets and place them around the house.
- Don't leave sprinklers on or water running, they can affect critical water pressure.
- Leave exterior lights on so your home is visible to firefighters in the smoke or darkness
 of night. Have a ladder available and place it at the corner of the house so firefighters
 can quickly access roof.
- Seal attic and ground vents with pre-cut plywood or commercial seals.

Protect Your Home

Wildland Urban Interface

The Wildland Urban Interface (WUI) is where homes or other buildings are built near or in the forest, grassland, or other natural area. People living in this area must take extra precaution to protect their home from wildfire.



Immediate Zone (0-5 feet from the home):

- ✓ Make sure gutters, patios, and roofs are clear of dead leaves and pine needles.
- ✓ Remove flammable mulch and vegetation within 5 feet of your home.
- ✓ Use rock mulches or hard surfaces surrounding your home.

Intermediate zone (5-30 feet from the home):



- ✓ Clear flammable objects (furniture, lawn mowers, wood piles, propane tanks).
- ✓ Remove all dead plants/leaves and weeds in this area.
- \checkmark If you have a lawn, keep it watered and mowed.
- ✓ Remove tree or shrub branches that overhang within 10 feet of your house, roof, or chimney.



Extended zone (30-100 feet from your home):

- ✓ Remove dead vegetation.
- \checkmark Trim tree limbs 10 feet above the ground.
- ✓ Create separation between trees and shrubs. Trees between 30-60 feet from the home should have at least 12 feet from canopy tops and trees 60-100 feet from the home should have at least 6 feet between canopy tops.

Go to Firewise.org or LivingWithFire.info to learn more about preparing your home for wildfire.

Fire Safety Starts with YOU!

2

Look at the picture below and list at least 4 things that this homeowner should fix to make their home more safe from wildfire.



1.	
2.	
3.	
4.	

Family Communication Plan

Step 1: Hold a family meeting and make your plan.Step 2: Make a copy for each family member's Go Bag.Step 3: Scan or take a picture for digital back-up.



Home Information	Out-of-Town Contact
Name:	Name:
Phone:	Address:
Address:	Cell:
Zone #:	Email:
Guardian #1 Information	School Information
Name:	School:
Workplace:	Address:
Work Phone:	Phone:
Cell:	Facebook:
Guardian # 2 Information	Zone #:
Name:	Evacuation Location:
Workplace:	School
Work Phone:	School:
Cell:	Address:
	Phone:
Neighborhood Meeting Place	Facebook:
	Zone #:
	Evacuation Location:
Regional Meeting Place	School:
6	Address:
Primary:	Phone:
	Facebook:
Coccedence	Zone #:
Secondary:	Evacuation Location:

*Review as a family every year and keep it up to date.



NATIONAL FIRE PROTECTION ASSOCIATION The leading information and knowledge resource on fire, electrical and related hazards



Do You Need Assistance During an Emergency?

The Special Needs Awareness Program is a voluntary program for individuals with Access and Functional Needs, such as physical/developmental or intellectual disabilities, chronic conditions or injuries, limited English proficiency, older adults, children and low income households, homeless and/or transportation disadvantaged and pregnant women. The SNAP program will provide additional evacuation information, which may include evacuation assistance, as well as notification for extreme heat/cold events and Public Safety Power Shutoffs (PSPS) events. For more information, visit www.buttecounty.net/dess

Do You Live in a Public Safety Power Shutoff area with low or no cellular coverage?

Butte County is partnering with Bare on the Ridge, PG&E and Alert FM to provide Alert FM devices to the community. Households can check their eligibility and register at www.buttecounty.net/dess or by calling 530.552.6887. To learn more about Alert FM, visit www.alertfm.com

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