

Florida Forest Service
presents

Wildfire Safety



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Fire in Florida

More than 17.3 million acres of Florida is covered with forests. Although the state's abundant rain and sunshine are vital to the survival of Florida's forests, another element is necessary to maintain them ... fire. For thousands of years, Florida's forests have developed because of the presence of fire. In fact, many of Florida's ecosystems require fire in order to exist.

Prior to the arrival of humans in Florida, weather conditions and fuels were the only contributing factors to wildfire occurrences. When the first humans arrived in Florida more than 10,000 years ago, their activities provided new ignition sources for fire. Along with periodic natural fires, Native Americans used fire as a tool to shape the environment and to improve hunting opportunities.

Lightning fires and fires set by early humans helped to maintain natural areas that grew herbs, berries, grasses and low shrubs. Later, when European settlers began colonizing Florida, they remarked about the open forests and grasslands swept clean by good fire.

Fire is a chemical reaction known as combustion. It can be defined as rapid oxidation of a material accompanied by the release of energy in the form of heat and light. To have fire, three ingredients are needed: oxygen, heat and fuel. These three elements are known as the fire triangle. Removing any of these three ingredients will extinguish a fire.

Oxygen

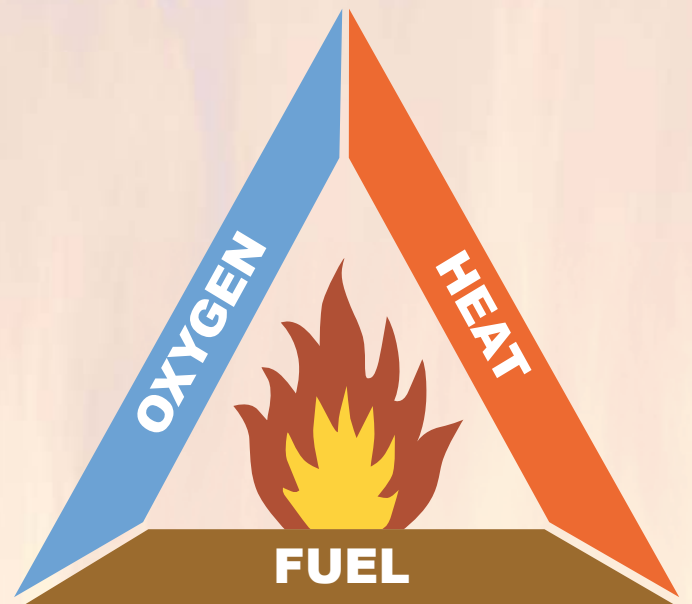
Oxygen is the first component of the fire triangle. For a fire to burn, the air around it must be at least 16 percent oxygen. Therefore, Earth's atmosphere, at about 21 percent, provides plenty of oxygen to sustain a fire. Removing the oxygen by putting dirt on a fire, for example, smothers it.

Heat

Heat is the second component of the fire triangle. Heat and temperature are closely related. Heat is the energy of molecules that have been excited into faster motion, while temperature is a measure of the magnitude of this molecular activity. In order for ignition to occur, plant material must be heated to the point where enough volatile compounds will be released for ignition to take place, about 655 ± 72 degrees Fahrenheit (346 ± 40 degrees Celsius). The heat necessary to ignite a fire can come from many different sources, including human carelessness and lightning.

Fuel

Fuel is the third side of the fire triangle. Fuel is any material capable of burning. In Florida, wildland fuels can include yard waste (e.g., pine straw, dead leaves, twigs), grasses (e.g., wiregrass, cogon grass), shrubs (e.g., saw palmetto, gallberry) and trees (e.g., pine trees). Fuels in a Florida forest include dried and dead materials, such as branches, grasses, leaves and pine needles, as well as living grasses and shrubs, such as palmetto and gallberry and young pines. Many fire-adaptive plants in Florida contain volatile resins that encourage and spread fire through the ecosystem. Human structures can also become fuel for fire. Fire will burn any available flammable material in its path, even houses.



Take a Forest Break

Learn about forest activities near you at VisitMyForest.org

1 Support good fires. Prevent bad ones.

Prescribed fire is a safe way to apply a natural process, ensure ecosystem health and reduce wildfire risk. Prescribed fires, planned and professionally managed, clear underbrush and renew habitats. With prescribed fires, wildlife thrives and wildfires are prevented. See more about good fires in your area at goodfires.org.

2 Champion conservation

Florida's forests provide clean water and air, essential natural resources and wildlife habitats. Do your part to champion the conservation of forestland. For seven simple ways you can help, visit visitmyforest.org/conservation.

3 Leave no trace

Florida's forests are places of beauty and peace. You can help preserve the wonder of unspoiled nature by practicing Leave No Trace hiking and camping. Learn how at Int.org/programs/principles.php.



Fact vs. opinion

Knowing the difference between fact and opinion is very important, especially when it comes to safety, being prepared, and protecting the environment and health. Define the words "fact" and "opinion." With your class, create a solid definition for each term. Draw a line down the center of a piece of paper. Label one side "Fact" and the other "Opinion." Working with a small group of your classmates, think about and write down examples of facts and opinions. Read the pages in this Newspaper in Education publication, and look for at least five factual statements and five opinionated statements. Finally, look through the newspapers for more examples of facts and opinions. Discuss some of your examples with your class and explain why the statements fall into each category.



Fire in Florida's Ecosystem

Fire and water are among the primary forces shaping Florida's landscape. As Florida's climate has changed over the years, plant and animal species have adapted.

Some of Florida's species provide clear examples of adaptations to fire.

Southern pine trees have thick bark that insulates the inner, living tissue from fire's heat. Longleaf pine is so fire resistant that mature trees usually escape the injurious effects of low-level fire and become seed trees, reforesting the new openings in the burned area. The Ocala sand pine exhibits another adaptation for coping with fire: The "serotinous" cones remain closed until a fire's intense heat opens the cones and allows the seeds to fall on fresh soil exposed by the passing fire.

Seeds of many plants grow best under the conditions created by fire-exposed mineral soil, increased nutrients provided by ash and open areas with plenty of sunlight.

Animal life also depends on fire. The gopher tortoise, whose burrows provide habitat or shelter for hundreds of other species, is dependent on periodic fire to provide fresh browsing vegetation. Without fire, the scrub habitat changes; in overgrown scrub, plants create so much shade and leaf litter that the open, sandy patches disappear along with the species that prefer them.

Canopy closure reduces or eliminates habitat for Florida mice, pygmy mole crickets, scrub lizards and sand skinks. Overgrown oaks produce fewer acorns for animals such as Florida scrub-jays, Florida mice, black bear and acorn weevils.

The threatened Florida scrub-jay requires areas with open pine cover (less than 15 percent), where pine densities are kept low by frequent understory fires. The best vegetation for the jays consists of a mosaic of different age classes of scrub, most of which have burned within the last 20 years. Without fire, oaks become too tall and the habitat becomes too dense for the Florida scrub-jay because predators are not easily seen.



A native burrowing gopher tortoise

The endangered red-cockaded woodpecker inhabits longleaf as well as loblolly and shortleaf pine forests. Understory fires are essential to prevent the development of hardwood midstory growth; without such fires, these birds will abandon their territory. Red-cockaded woodpeckers today are found predominantly in areas with a history of aggressive, prescribed burning. In addition, understory burning increases populations of arthropods—many of which breed and feed



A native Florida scrub-jay





Fire clears out the dead underbrush



A native Florida key deer



An egret feasts on insects as the bugs flee the nearby fire.

in charred trees—likely aiding insectivorous loggerhead shrikes and American kestrels.

During a fire, many species of small animals, such as ants, Florida mice, gopher frogs, mole crickets and ox beetles, are able to flee, or they find refuge in an existing (gopher tortoise) burrow beyond the reach of the heat. Birds can easily fly away from the flames. Larger mammals can often sense and easily outmaneuver a fire.

Infrequent, devastating, high-intensity fires

may destroy the tree canopy, but they allow sunlight to bathe the forest floor and aid in the regrowth of new plants. These hot fires leave behind a nutrient-rich ash that feeds the new plants as they resprout. Since most surface vegetation is burned away, little or no competition for nutrients exists, so young pine seedlings are able to establish easily and grow quickly.

Scrub habitat regenerates rapidly after most fires. Larger mammals, such as deer

love to eat the fresh regeneration of grass that occurs after a fire. The new grass buds that grow immediately after a fire are known as “ice cream” species of grass. They are the favorite grass for deer to eat. As the majority of a Florida panther’s diet consists of deer, any management activity that improves the deer population also improves the panther population.



New life out of the ash, just a few days after a fire.

Ecosystems

Everything in the natural world is connected. An ecosystem is a biological community of interacting organisms and their physical environment. In other words, an ecosystem is a community of living and nonliving things that work together. Think about all of the different parts of the ecosystem in which you live. Research one of the animals or trees from this publication and make a list of all of the interacting organisms that live within that ecosystem. Next, look for articles, photos and advertisements in the newspaper about your community. Make a list of all of the parts of your ecosystem. Choose some of the most important parts and create a cartoon depicting your personal ecosystem.



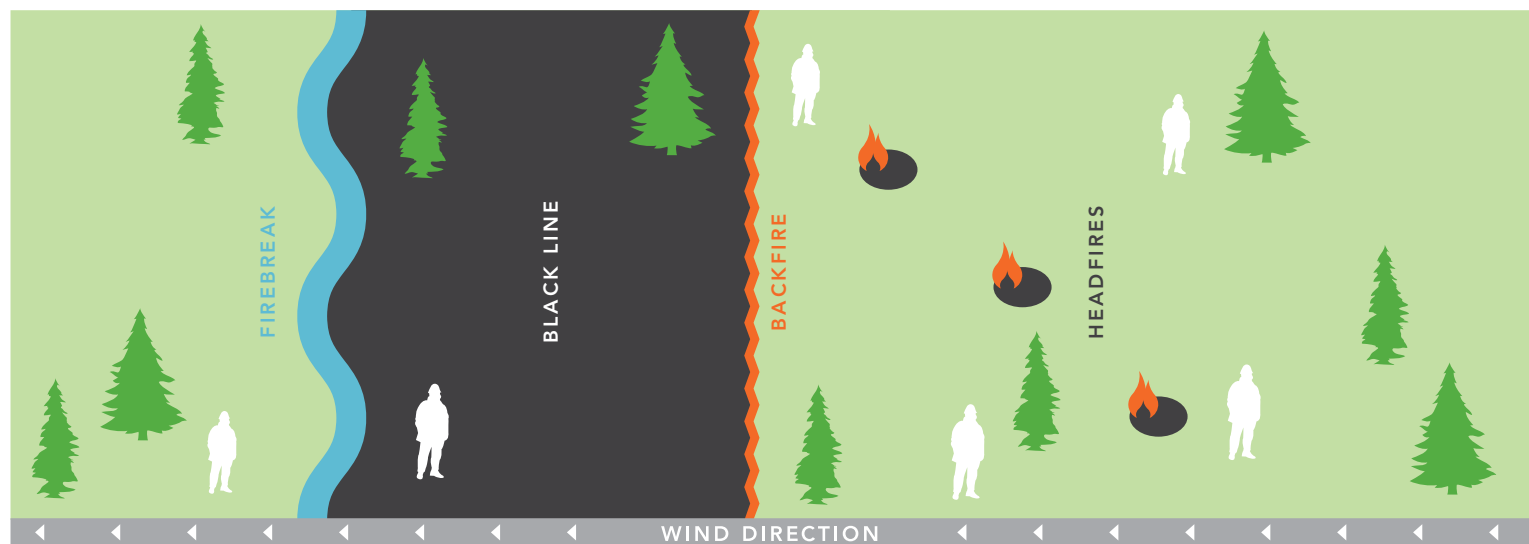
Prescribed Burning

Now that we know that many of Florida's native species will disappear unless fire is reintroduced back into the habitats, people in charge of preserving and maintaining natural areas now include prescribed burns as part of their management plans.

Prescribed burns are intended to do three things: **1) mimic natural conditions; 2) maintain a variety of plant communities; and 3) decrease the amount of accumulated plant material**, thereby reducing the chance of devastating wildfires. A prescribed burn is not a one-time event, but a process that must be continually reapplied to the landscape.

Fire provides a coming-out party, complete with charcoal. In the absence of good fires, these plant species — and their animal dependents — may eventually become absent themselves. Burn managers and natural resource professionals work together to create a burn plan to get just the right combination of wind, weather and flames to have a useful/good fire.

HOW PRESCRIBED FIRES WORK



1

Burn managers find a natural **firebreak**, such as a creek, or create one with a tractor and harrow.

2

A **backfire** is set downwind to create the **black line**, a burned area that will contain the prescribed fire.

3

When weather conditions are favorable, **headfires** are carefully ignited upwind so they will burn to the **black line**.

4

Crew members patrol throughout the prescribed burn to ensure the fire is contained.

Only in the last century has fire in the forest been viewed as a monster. We are now beginning to realize that fire is a natural agent essential for maintaining the natural ecosystems of Florida. Fire is neither all good nor all bad. It is natural. It is powerful. In the proper places, in the right hands, at the right times, fire can be an asset and an ally. To employ fire as a useful friend is much more logical than confronting it as an enemy.



Florida Forest Service



The Florida Forest Service, a division of the Florida Department of Agriculture and Consumer Service, was founded in 1927 in response to uncontrolled wildfires that burned during the 1920s. The Florida Forest Service has the responsibility to prevent, detect, suppress and extinguish wildfires wherever they occur within Florida. The Florida Forest Service performs wildfire prevention through education and wildfire hazard mitigation programs.

In addition to wildland firefighting, the Florida Forest Service also manages 37 state forests covering more than 1,068,000 acres, provides urban and community forest assistance, and provides technical forestry assistance to private landowners.

The Florida Forest Service relies heavily on federal, state and local partners to fulfill its statutory responsibility for wildfire prevention and suppression. Mutual aid agreements throughout the state mean that the county and/or municipal fire trucks frequently respond along with a Florida Forest Service firefighting unit. Although some fire lookout towers are still staffed on a seasonal basis, most wildfires in Florida are now reported by Florida Forest Service patrol aircraft or citizens who call 9-1-1.

The Florida Forest Service accomplishes its mission to safeguard the lives and property of Florida's citizens by combining a unique array of equipment that enables it to attack wildfires and respond to other emergency needs—no matter what the terrain or location. This equipment also permits the Florida Forest Service to carry out our other land management responsibilities on public and private lands. The Florida Forest Service has a long and distinguished record of successful response to all types of emergency situations.

The firefighting bulldozer is the Florida Forest Service's primary on-the-ground firefighting piece of equipment. The firefighting bulldozers can plow down to mineral soil, creating an 8-to 10-foot-wide fire break in most vegetation types in Florida. The firefighting bulldozer removes the fuel element of the fire triangle, thus stopping an oncoming wildfire before it can reach homes, property and resources.

The firefighting bulldozer enables wildland firefighters to reach deep into the woods to suppress fires that are inaccessible by other means. It is also used as a wildfire prevention tool to assist landowners to create firebreaks on their land or to prepare the land for prescribed burning. This size firefighting bulldozer has also been used very effectively to clear roads following hurricanes.



The brush patrol (Wildland Fire Engine) is used for deep-woods penetration during the direct suppression of wildfires and to protect structures in the wildland/urban interface. The brush patrol is also used as a standby unit during prescribed burning for landowners who utilize Florida Forest Service assistance programs, and for prescribed burning on state land. These special pumper units are fabricated by the Florida Forest Service to meet these special firefighting requirements.



Making a Difference

The people who work at the Florida Forest Service are making a difference in their community. What types of jobs do you think there are at the Florida Forest Service? Go to the Florida Forest Service website, FloridaWildfirePrevention.com, and write down all of the different types of jobs you can find. Choose five of these jobs and write a few sentences about how you think the people who have these jobs make a difference in their community. Next, find an article in the newspaper that depicts someone making a difference in the community. Write down the main points of the article. Share what you have learned with your class.

Specialized Equipment for Florida's Wildfire

The helicopter fleet: The Florida Forest Service operates two types of helicopters from five locations strategically located throughout the state. The Bell UH-1H (Huey) is the larger of the two and is primarily used for wildfire suppression. Helicopter pilots fight wildfires by dropping up to 320 gallons of water from a bucket suspended below. The main responsibility of the helicopter is to allow ground units (tractors and brush units) to get closer to the fire by dropping water and/or fire retardant on the fire. The helicopters can also be used for structure protection. The helicopter can drop water on a home to protect it from fire brands or the wildfire itself.



Fire Spotting



The Florida Forest Service airplane fleet consists of 20 single-engine (Piper and Cessna) and two light, twin-engine (Piper Navajo) airplanes. These airplanes are used to scout out wildfires and serve as “eyes in the sky” for firefighters on the ground. Smoke can impede ground crews, and the airplanes circle the fire, while communicating to them hazards and fire weather.

A fire lookout tower, fire tower or lookout tower provides housing and protection for a person known as a “fire lookout” whose duty it is to search for wildland fire. The fire lookout tower, or view shed, is a small building usually located on a high vantage point in order to maximize the viewing distance and range. From this vantage point, the fire lookout can see any trace of smoke that may develop, determine the location by using a device known as an alidade, and call fire suppression personnel to the fire.

More Specialized Equipment

A drip torch is used to set backfires, burnouts and prescribed burns. The drip torch consists of a reservoir of liquid fuel attached to a nozzle. Fuel is dripped out of the nozzle past an igniter, allowing flaming drops of fuel to hit the ground. These droplets start a fire in the area where they are deposited. Drip torches are commonly used to create a line of fire, and are much safer than alternatives such as dribbling fuel on the ground and then igniting it.



A roller chopper is a metal drum with protruding metal shelves which is pulled by a bulldozer that knocks down and cuts up flammable understory plants such as palmetto and gallberry. The shelves act as knives. Roller chopping is essential in areas that have not had frequent fires, where vegetation may grow to dangerous heights. Saw palmetto returns to extremely flammable levels within a few years unless it is knocked down and cut up, even after a fire. The debris quickly decomposes, providing room for plants and animals, and keeping fires at more manageable heights.



Making Connections Beyond the Text

The Florida Forest Service uses helicopters, airplanes, fire towers and specialized equipment every day and in many ways. Technology has changed the way emergency services protect the environment and respond to danger. Read through this publication and write down all the ways technology is used for wildfire safety. With a partner or in a small group, research some of the technology and points discussed and how they are beneficial. Look in your newspaper for examples of how technology is used by other emergency services in your community. Research this subject on the Internet, as well. Based on what you have learned, write an editorial focusing on how technology has changed the way we protect ourselves and prepare for disaster. Use the editorials in the newspaper as models. Share your editorial with your class.



Mulcher grinders are machines with toothed, rotating drums that grind vegetation and create a layer of mulch that decomposes. The process is more costly than roller chopping but allows rangers to work closer to homes. The result is a layer of mulch that plants, roots and new seeds can easily grow through. Areas quickly regrow following the treatment.

PPE: Personal Protective Equipment

Florida Forest Service wildland firefighters are equipped with special gear to keep them safe while fighting fires. This gear is called Personal Protective Equipment (PPE).



- 1 Wildland helmet** – A lightweight, plastic helmet is designed to protect the head from blows and also offer some protection from the heat and flames.
- 2 Eye protection** – Wildland firefighters wear a visor or safety goggles to protect the eyes from smoke, dust and small flying objects.
- 3 Protective clothing** – All personnel are required to wear Nomex protective clothing during all fire operations. The fabric is fire-resistant, but not fireproof. This is a durable fabric that provides good thermal protection. It will burn when exposed to flames, but stops burning when flames are removed. Instead of melting or burning to ash, it forms a char that helps protect skin. The yellow color is more visible in dark and smoky environments.
- 4 Gloves** – Leather or Nomex gloves are designed to protect hands against blisters, cuts, scratches and minor burns during fire operations.
- 5 Fire shelter** – A fire shelter is the most important component of a wildland firefighter's personal protection equipment. A fire shelter is a safety device of last resort used by wildland firefighters when trapped by wildfires. It is designed to reflect radiant heat, protect against convective heat and trap breathable air in an attempt to save the firefighter's life. The fire shelter fits inside a pouch and can be worn on the wildland fire fighter's belt.
- 6 Leather boots** – All boots for wildfire suppression and field work are required to be leather lace-up boots with an eight-inch minimum height.
- 7 Radio** – A radio is an important component to ensure effective communication, which is essential for safety during a wildfire.



Fire Safety

Fire safety is essential for everyone to know and understand. Research fires and fire safety on the Internet. Look for articles in the newspaper that pertain to fire or fire safety. Write a letter to the editor about the importance of what you have learned. Be sure to include specific examples from your sources to support your ideas. Once you are finished editing your letter, read it to the class.

Wildland Urban Interface

Over the past 50 years, more and more Floridians have moved out of the cities to build homes and businesses in outlying areas known as the wildland urban interface. In fact, almost one-third of our population lives in interface areas, where structures intermingle with forests and wildlands. Residents here, however, usually do not realize they may live too “close to nature.” They may, in fact, be living on the edge of a wildland fire disaster. When dry years come, Florida experiences severe wildfires—wildfires that destroy homes, disrupt people’s lives and impact our economy. Visit Firewise.org to find out what the experts know about the best way to make your home and neighborhood safer from wildfire.



Why Homes Burn

Wildland Urban Interface homes are usually lost because of the “little things” associated with the two most vulnerable parts of a home: the roof and the area immediately surrounding the structure. The most vulnerable part of the house is the roof and soffits. Wood shingles can easily catch fire from flying fire embers. Roofs with fire-resistant shingles can also catch fire from embers if there is an accumulation of leaves and pine needles on the roof and in the gutters. Exposed eaves can allow fire embers into the attic and catch the roof on fire. Vinyl soffits are not recommended in fire-prone areas unless they have backing of 1/8-inch noncombustible (wire) mesh. Vinyl soffits melt easily and can allow fire embers into the attic area. Remove the kindling from your roof by cleaning debris and leaves out of gutters and downspouts.

Three Ways Homes Burn



Direct flame: The home burns because the woods carry the fire directly to the home. To prevent direct flame contact from occurring, keep the woods at least 30 feet away from your home and its attachments.



Radiant heat: The home burns or has extensive damage because the home is too close to the woods and the heat transfers to the home. Give yourself added protection with “fuel breaks,” such as driveways, gravel walkways and lawns.

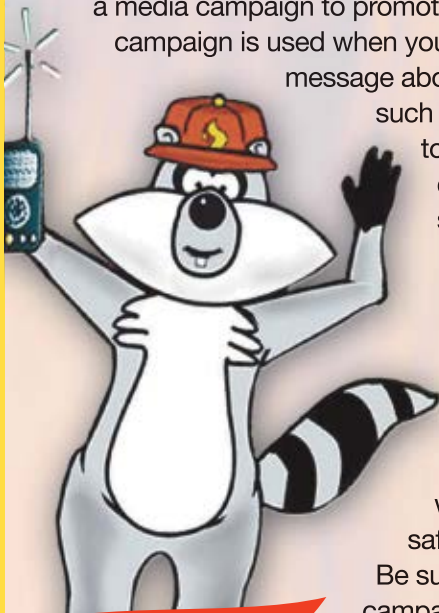


Fire brands: This is the most dangerous because fire brands can fly up to a quarter mile, starting new fires ahead of the main fire. They land on roofs, in gutters, on dry dead grass, through open windows and underneath homes.

Meet Rocco

Rocco is Florida Wildfire Prevention's raccoon mascot. You can explore Florida's forests with Rocco on his fun and interactive website. Go to FloridaWildfirePrevention.com to find fun online activities that promote forest responsibility. Rocco teaches the importance of forest ecosystems in Florida, how to protect homes from disastrous wildfire, how to build and extinguish campfires, and how fire inclusion and exclusion affect forests.

Think about why a raccoon would make a good mascot for Florida Wildfire Prevention. How could Rocco be used in a media campaign to promote wildfire safety? A media campaign is used when you want to share a positive message about a theme, product or event, such as wildfire safety. Working together with other students, come up with a plan to get your school and family to focus on this topic. Look at the ads in the newspaper. Think about the dynamics of the ads. Think about ways to draw people's attention to an ad and its message. Next, design an ad for the newspaper and its website that focuses on wildfire safety for people of all ages. Be sure to include Rocco in your campaign. Share your campaign with your class.



Smokey Bear

Smokey Bear was born on Aug. 9, 1944, when the U.S. Forest Service and the Ad Council agreed that a fictional bear named Smokey would be the symbol for their joint effort to promote forest fire prevention.

Artist Albert Staehle was asked to paint the first poster of Smokey Bear. The poster depicted a bear pouring a bucket of water on a campfire and saying "Care will prevent 9 out of 10 fires." Smokey Bear soon became very popular as his image appeared on a variety of forest fire prevention materials. In 1947, his slogan became the familiar "Only YOU Can Prevent Forest Fires!"

Then in the spring of 1950, in the Capitan Mountains of New Mexico, a young bear cub found himself caught in a burning forest. He took refuge in a tree, and while managing to stay alive was left badly burned. The firefighters who retrieved him were so moved by his bravery, they named him Smokey.

News about this real bear named Smokey spread across the nation, and he was soon given a new home at the National Zoo in Washington, D.C. The living symbol of Smokey Bear, he played an important role in spreading messages of wildfire prevention and forest conservation. Smokey died in 1976 and was returned to Capitan, New Mexico, where he is buried in the State Historical Park.

In 2009, the Smokey campaign celebrated its 65th anniversary! To



find out more about Smokey's story and to see how the campaign has changed through the years, please visit SmokeyBear.com.

Check out the "Stop Wildfires" section of the website. Using the comics in your newspaper as a model, create a comic strip depicting one of the prevention methods shown on the website. Write a brief narrative to go along with your comic, explaining why you chose this focus for your illustration.

Going Beyond the Text

In small groups, think of questions you have about any of the topics in this educational publication. Write down at least 10 questions. Use these websites as resources to get answers to your questions. Write a blog post with your questions and answers. Share what you have learned with the rest of your class.

Florida Forest Service
FloridaForestService.com

Florida Wildfire Prevention
FloridaWildfirePrevention.com

Firewise Communities USA
Firewise.org

Federal Alliance for Safe Homes (FLASH)
FLASH.org

Insurance Institute for Business and Home Safety
DisasterSafety.org

Florida Disaster
FloridaDisaster.org

Word Search

It is fun to learn new things, and there is a lot of information on the pages of this publication, including some challenging words. Find the words in the word search, and then look them up in a dictionary. Write down the meanings of each word and then create a new game for your classmates using these words (bingo, matching, memory). Be creative!

Canopy	Endangered	Species
Corollary	Habitat	Statutory
Combustible	Hazard	Suppression
Conservation	Landscape	Thermal
Combustion	Prescribed	Vegetation
Decompose	Regenerate	Urban
Devastating	Reservoir	

X Y U M D P B F Y R C E W D T J T R P N
 U P U J I C Q R S O A C E J H N T R U O
 O W U N A F O Y M P Z R X F E P C I H I
 O Y Q N V T I B X H E L Y X R A O O K T
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 A Y A H A E T O A J F G T R R R O V O P
 C I Z C Q B R A H Z K E Z B Z P N Q P O
 V J Y H S O R A N W E T R L D H P L Y P
 I M X V L D M U T U U A U X W U G U J D
 H J M L P O N P X E E T T X Z O A Y S N
 C B A Y Z I W A O R B I K U K R R I Q M
 R R Y D B T N I L E S O P M O C E D F K
 Y N K V D R F B A U X N U O I E S Y U G

Fire: A Chemical Reaction

In order to prevent yourself from being injured by fire, you must know what fire is. Fire is a chemical reaction between different chemical elements, each of which contains stored energy. In order for fire to happen, you must have the right kind of mixture to create the chemical reaction. For a fire to occur, you must have heat, fuel and oxygen. Remove any one of these elements and the fire will not happen.

Fire is a visible, tangible side effect of matter changing form. Fire is one part of a chemical reaction which involves electrons. According to Albert Einstein's law of conservation of energy, energy is neither created nor destroyed; it can only change in form. This is basically what happens when a fire occurs.

Learn more about the science of fire on the How Stuff Works website. Go to science.howstuffworks.com/environmental/earth/geophysics/fire. Create an infographic showing what fire is, based on the information you have learned. Share what you have learned with your class.

Fire Safety Campaign

A media campaign is used when you want to share a positive message about a theme, product or event, such as fire safety. Working together with other students, come up with a plan to get your school and family to focus on the topic of fire safety. Look at the ads in the newspaper. Think about the dynamics of the ads. Think about ways to draw people's attention to an ad and its message. Next, design an ad for the print and digital editions of the newspaper and its website that focus on fire safety with people of all ages. How is the ad on the print edition going to be different than the Web version of the ad? Share your ideas with your classmates.

Defining Heroes

Firefighters battling fires in a forest or going into a burning building to save people's lives are exhibiting heroic behavior. Many people consider emergency personnel – firefighters, law enforcement officers and paramedics – to be heroes. What is your definition of a hero? Write down your definition. With your classmates, make a list of all of the qualities of a hero. Also include examples of people that fit these qualities. Everyday people sometimes perform heroic actions. Look in the newspaper for a story about courage. Summarize the story and explain why you think the people involved are being courageous. Be sure to show specific examples that you can share with your class. Create a cartoon to show the important points in the story.



Get Your Family Involved!



Getting your home ready to stand up to a wildfire is something the whole family can do by following some easy tips.



Get your family together and use the Homeowner Wildfire Safety Check List on page 19 to determine the level of wildfire risk at your house.



For each item you check that puts your home at risk, talk with your family about how you can make that risk lower or eliminate it altogether.



Have a family discussion about what you would do if there were a wildfire near your home. Would you try to get home from school? Would your parents come home from work? Where would everyone meet? How would you get your pets out of the house? What would you need to have with you (medications, clothes, money, important papers, etc.)? Talk about everything you would need if you had to leave home for a few days. How would you know if you could go home or needed to stay away?



When you have finished talking about the risks at your house, decide how you can lower them and what your evacuation plan looks like. Write everything down and be sure every member of your family has a copy and knows what it says and means.



Planning Ahead

It is important to have a plan, especially in emergencies. When it comes to fire safety, having a plan is essential. Just as your school conducts planned fire drills, your family should, also. Look through today's newspaper for two pictures of two different types of homes. Carefully review these pictures, and write a fully developed paragraph showing an escape plan for each home. Be sure to explain why the escape plan would be difficult or easy. Share what you have learned with your class and parents.

When Wildfire Threatens

Protect Your Family

- Evacuate all family members and pets.
- Include special items needed for infant, elderly or disabled family members and pets.
- Contact a friend or relative and let them know where you are going.
- Tune in to a local television or radio station and listen for updates and instructions.
- Place valuable papers and mementos in the car.
- Wear protective clothing – sturdy shoes, cotton or woolen clothing, long pants, a long-sleeved shirt, gloves and a handkerchief to protect your face.
- Choose a route away from fire hazards. Watch for changes in the speed and direction of fire and smoke.

Protect the Exterior of Your Home

If you have time before you evacuate, take these steps to protect your home:

- Close all exterior doors and windows.
- Place combustible patio furniture in the house or garage.
- Shut off propane at the tank or natural gas at the meter.
- Make sure all garden hoses are connected to faucets and attach a nozzle set on “spray.”
- Consider placing a lawn sprinkler on the roof if water pressure is adequate. Do not turn on the water until burning embers begin to land on the roof in order to conserve the water supply.
- Wet or remove shrubs within 15 feet of the home.



Should your house be threatened by wildfire, you may be advised to evacuate by a fire or law enforcement official. Never try to fight the fire yourself if you have been asked to evacuate the area.

Protect the Interior of Your Home

- Close all interior doors.
- Leave a light on in each room to increase the visibility of your home in heavy smoke.
- Remove lightweight and/or non-fire-resistant curtains and other combustible materials from around windows.
- If available, close fire-resistant drapes, shutters or venetian blinds.
- Turn off all pilot lights.
- Move flammable furniture into the center of the home, away from windows and sliding glass doors.



Working Together for a Common Goal

Response to wildfires in the state of Florida is primarily a partnership effort between the Florida Forest Service and local fire agencies. Frequently, when a fire emergency occurs, the notification is processed through the local 9-1-1 emergency phone system. The local fire department responds and the Florida Forest Service is notified and responds if necessary.

As the first responder, the local department may arrive on scene first and determine the need for forestry resources to continue. Depending on the location, the Florida Forest Service, or the appropriate federal agency on federal property, may arrive first and determine the need for additional resources.

The Florida Forest Service has statutory responsibility for all wildfires within the state of Florida. Local fire agencies have responsibility for fire protection within their jurisdictional boundaries. Using the National Incident Management System (NIMS) model, the first arriving agency assumes command of the incident. Command is then transferred as necessary as additional units or agencies arrive on the scene.

In a working incident, the primary agency having responsibility for the fire will assume command of the operation after their arrival. When fires involve the interface between the wildland areas and urban and suburban communities, there is joint responsibility to combat the spread of these fires by both the local agencies and the Florida Forest Service. In these cases, all agencies must work together and support one another in a unified command operation to provide the most efficient use of resources.

On a wildfire, there could be more than one hundred people working on one fire. Not all personnel are firefighters. There could be dispatchers, media experts, mechanics, accountants, meteorologists, police, local experts (on land, fuel, terrain, waterways, etc.), electrical and infrastructure experts and many more specialized individuals depending on the severity or complexity of the fire.



Photo by Sam Wolfe/Treasure Coast Newspapers



Journaling to Self Discovery

Anne didn't mean to set a wildfire, but she did. Not only did it result in people's homes being damaged, but now Anne will have a felony record. It is important to think about consequences before you take action. Keeping a journal is a great way to learn more about yourself, which will result in you making good choices when confronted with choices. Who are you? Why do you do what you do? Do you have strong convictions? Are you able to stand up to others when your ideas are questioned? While you are keeping your journal, read the daily newspaper to learn more about the world around you and to test yourself. What are your thoughts about the things you read in the news? To begin your journal, write about something that you have read in the newspaper that directly affects your life. Also write about the ideas presented in this Newspaper in Education publication. Share some of your journal entries and thoughts with your classmates.

Arson. Bad Choice.

Listen in. Three friends are having a conversation after school.



Where has Anne been lately?
I haven't seen her around.



Haven't you heard? She started that fire last spring and was charged with arson.



Arson? What's the big deal?



The wildfire she set got out of control, and it damaged some homes. She didn't mean to do it, but it happened just the same. She went to court and they sent her to the detention center. She might be there for five years!



Wow! That is big! Well, at least she will have it behind her soon.



That's what I thought, but when I looked up what happens when you are convicted for a felony, it gets pretty scary.



What do you mean?



Well, even when she gets out, there are lots of things she might not be able to do again.



Like what?



Well, she won't be able to vote or take a gun when she goes hunting with her dad. She won't be able to go into the Navy to finish her education like she planned, because felons are not allowed into the military. And even worse, there are lots of jobs she won't be able to do because she won't be able to get the licenses she needs. I found lots of other consequences online.



Wow ... she really got punished.



Real bad choice! Not worth it!



Definitely not worth it!

Woods Arson Penalty

- 3rd Degree Felony
- 5 Years in Prison
- \$5,000 Fine

Arson Alert Hotline:
1-800-342-5869

Report suspicious fires

May receive up to a \$5,000 reward for information leading to an arrest.



Florida State Forests

A state forest is an area of land that has trees growing in wild settings and is managed by the Florida Forest Service. The Florida Forest Service manages over 37 state forests across Florida. Many different people work in our state forests – including foresters, biologists, park rangers and forest rangers – to make sure that the forests continue to be healthy.

State forests provide recreation for visitors with camping and horseback riding, homes and food for wildlife, clean drinking water, and trees to make paper and other products. In 2014, there were more than 2 million visits to Florida’s state forests.

Florida Forest Facts

-  For every tree that is cut down, five new seedlings are planted in the state of Florida.
-  There are only about a dozen species of palm trees that are truly native to Florida although nearly one hundred different types are cultivated and grown here. Sabal palm, also known as cabbage palm, is the state tree of Florida.
-  Florida’s forest products industry has a total annual economic impact of \$14.52 billion and provides 75,000 jobs.
-  More than 5,000 products that we use start from a tree. The list includes bandages, mulch, crayons, gum, ink, money, lumber, medicines, fruit, nuts, paint, paper and fuel to run our cars and trucks.
-  Since 1987, the forestland base has decreased by 41,500 acres per year, with more than 50 percent of the decrease associated with urban growth. Still, Florida’s forests cover more than 17.3 million acres – almost half the land area.
-  The water you drink has most likely been filtered through a forest. Trees improve water quality by slowing and filtering rainwater, as well as protecting aquifers and watersheds.
-  Seventy-five percent of Floridians live in towns and cities. Urban trees do many important jobs for us, including providing shade, cooling our homes, cleaning the air and producing oxygen.
-  The amount of oxygen produced by an acre of trees per year equals the amount consumed by 18 people annually. One acre of trees removes up to 2.6 tons of carbon dioxide each year.
-  More species of trees can be found in Florida than in any of the other lower 47 states. More than 290 tree species can be found growing in Florida, and Florida is home to more than 95 champion trees, which is more than any other state. A champion tree is a classification for the oldest and biggest trees of a specific species.
-  Florida’s forests provide habitat for more than one hundred species of animals. Some are threatened or endangered, including the Florida panther, black bear, key deer, big cypress fox squirrel and red cockaded woodpecker.
-  Foresters examine trees to look for good growth, insects, diseases and a need for fertilizer.
-  Equipment is used to harvest trees from Florida’s forests and to transport them to the mills, where paper and lumber are made.



Do the Research

Research the term “urban forest” on the Internet. What is an urban forest? How does an urban forest differ from a traditional forest? Create a chart showing the attributes of both urban and traditional forests. Be sure to include at least three points on your chart. Take the information you have gathered and write either a comparison or argument essay about this topic. Create an infographic or cartoon to enhance your ideas.

Homeowner Wildfire Safety Checklist

Protecting your family and property is as easy as “Ready, Set, Go!”

- Roof Cleaned of Debris
- Gutters Cleaned
- Two Escape Routes
- Family Wildfire Plan
- Cleared Access to Home
- Address Clearly Marked
- Tree Limbs Pruned
- Firewood Stored Away from Home
- Combustible Materials Away from Home
- Keep Woods 30 Feet Away from Home
- Have an Outside Water Source
- Less Flammable Landscaping



Learning New Words

When you study new things, you often come up against some tough vocabulary words, such as habitat, regenerate, maneuver and insectivorous. Most vocabulary words are learned from context clues, but sometimes it is necessary to look up the definition in a dictionary. While you read this publication, be sure to highlight or circle words you don't know. Try to figure out the words' meanings by looking for clues in the sentences around them. Write down your best guess, and then look the words up in a dictionary. As a group activity, make a list of the words your classmates identified and see which ones stumped the class. Next, use these words for a news scavenger hunt. See if you can find these words in the newspaper. The group that finds the most words wins the game.

Newspaper in Education



The Newspaper in Education program (NIE) is a cooperative effort between schools and local newspapers to encourage the use of newspapers in print and electronic form as educational resources – a “living textbook.” Our educational resources fall into the category of informational text, a type of nonfiction text. The primary purpose of informational text is to convey information about the natural or social world.

Florida Press Educational Services, Inc. (FPES) is a non-profit 501(c)(3) organization of newspaper professionals that promotes reading, particularly for young people. The primary objectives of FPES have been established by the Newspaper Association of America.

FPES participates in Newspaper in Education (NIE), an international program that encourages the use of the daily paper as an up-to-date, instructional classroom tool. Through NIE, newspapers are used in all subjects as a progressive teaching resource, from primary through adult education levels.

For more information about FPES, visit fpesnie.org
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Credits

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Florida Standards

By emphasizing analytical thinking and problem-solving skills rather than rote memorization, the Florida Standards are intended to reflect the knowledge and skills that students need for success in college and careers and to prepare them for success in the future. This publication and the activities focus on the following Florida Standards for grade four. **Health:** HE.4.B.4.2; HE.4.B.4.4; HE.4.B.5.1; HE.4.B.5.4; HE.4.C.2.5 **Language Arts:** LAFS.4.L.1.1; LAFS.4.L.1.2; LAFS.4.L.2.3; LAFS.4.L.3.4; LAFS.4.L.3.5; LAFS.4.L.3.6; LAFS.4.RF.3.3; LAFS.4.RF.4.4; LAFS.4.RI.1.1; LAFS.4.RI.1.2; LAFS.4.RI.1.4; LAFS.4.RI.1.5; LAFS.4.RI.3.7; LAFS.4.RI.3.8; LAFS.4.RI.3.9; LAFS.4.SL.1.1; LAFS.4.SL.1.2; LAFS.4.SL.1.3; LAFS.4.SL.2.4; LAFS.4.SL.2.6; LAFS.4.W.1.1; LAFS.4.W.1.2; LAFS.4.W.1.3; LAFS.4.W.2.4; LAFS.4.W.2.5; LAFS.4.W.2.6; LAFS.4.W.3.7; LAFS.4.W.3.8; LAFS.4.W.3.9; LAFS.4.W.4.10; LAFS.K12.L.1.1; LAFS.K12.L.1.2; LAFS.K12.L.1.3; LAFS.K12.L.1.4; LAFS.K12.L.1.5; LAFS.K12.L.1.6; LAFS.K12.R.1.1; LAFS.K12.R.1.2; LAFS.K12.R.1.3; LAFS.K12.R.2.4; LAFS.K12.R.2.6; LAFS.K12.R.3.7; LAFS.K12.R.3.8; LAFS.K12.R.3.9; LAFS.K12.R.4.10; LAFS.K12.SL.1.1; LAFS.K12.SL.1.2; LAFS.K12.SL.1.3; LAFS.K12.SL.2.4; LAFS.K12.SL.2.5; LAFS.K12.SL.2.6; LAFS.K12.W.1.1; LAFS.K12.W.1.2; LAFS.K12.W.1.3; LAFS.K12.W.2.4; LAFS.K12.W.2.5; LAFS.K12.W.2.6; LAFS.K12.W.3.7; LAFS.K12.W.3.8; LAFS.K12.W.3.9; LAFS.K12.W.3.10 **Science:** SC.4.L.17.4; SC.4.N.1.1; SC.4.N.2.1; SC.4.P.10.2; SC.4.P.11.1; SC.4.P.11.2 **Social Studies:** SS.4.C.2.3; SS.4.FL.1.1

Know the Law Before You Burn

There are several chapters in the Florida Statutes that cover forest fire laws and open burning regulations because 80 percent of all wildfires in the state of Florida are caused by people.

In the last 10 years, the Florida Forest Service has suppressed 32,289 wildfires that have burned more than 1,306,273 acres.

Escaped yard waste burns are the leading human cause of wildfire in Florida. Many residents burn yard waste (trimmings, leaves, grass clippings, palm fronds, etc.) after landscaping their yards. If not done safely and properly, a yard waste burn could escape and become a wildfire. If a yard waste burn escapes, the burner may be held liable for suppression costs and any resulting damages that occur.

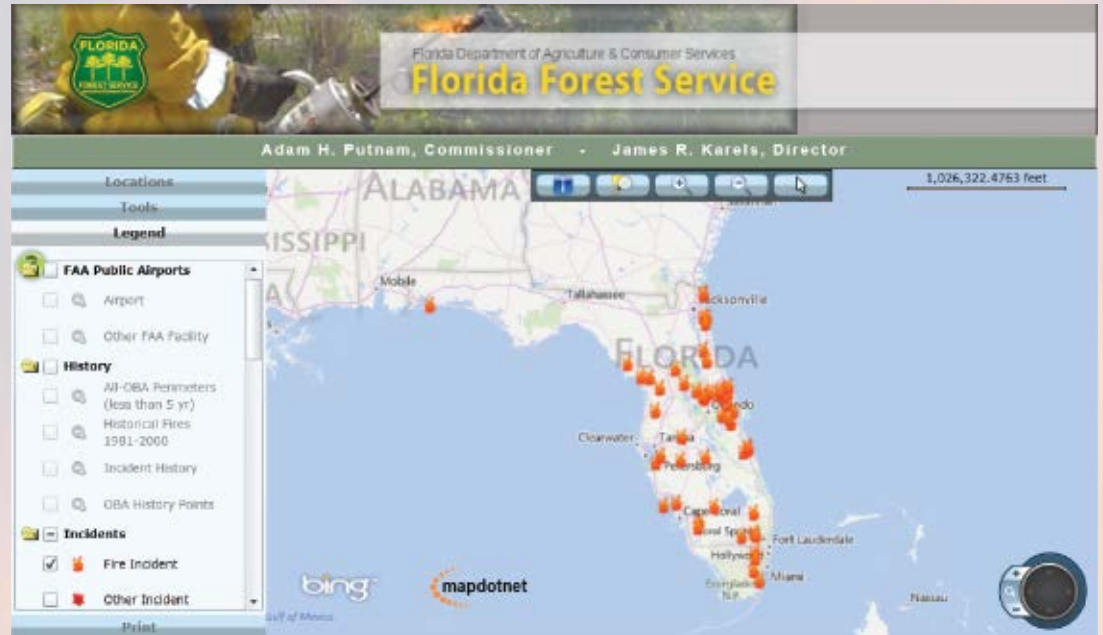
Most accidental yard waste escapes occur when a person leaves a fire unattended or when high winds carry firebrands into dry, flammable vegetation.



A forest ranger explains to a resident that it is illegal to burn household garbage (paper products, treated lumber, plastics, rubber materials, tires, pesticides, paint and aerosol containers).

Fire Science and Technology

Fire Science and Technology – The Florida Forest Service uses mapping software to track existing/active wildfires and authorized burns in real time. When you click on a red flame (wildfire) or black peg (burn authorization), you can obtain information that updates every hour from the most recent data. This tool is available for the public to view on the Florida Forest Service web page.



Fire Science and Technology – In a dense forest, paved roads and street lights are nonexistent. Safety is a priority and communication is essential. In addition to radio communication, the Florida Forest Service has installed tracking devices on all of its firefighting apparatus.

Asset Tracking uses the Global Positioning System (GPS) from several satellites, and computer software to develop a map of firefighters' locations and movement.

The Incident Commander (IC) uses this information to develop tactical decisions based on weather, terrain, fire behavior and hazards. The IC can also use the map to locate a firefighter.



Florida Department of Agriculture and Consumer Services Florida Forest Service FloridaForestService.com

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