

Background Information For Students

About Bushfires

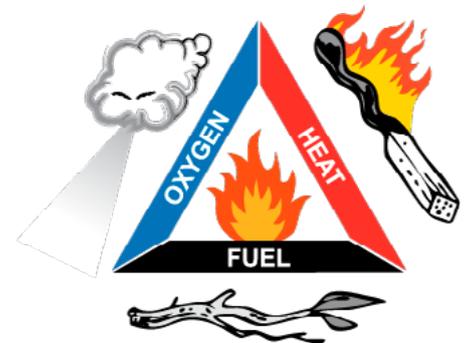
What is a bushfire?

A bushfire is a fire that burns in grass, bush, scrub or woodland. They are very dangerous to people, the environment, and animals.

How do bushfires start?

Most bushfires start from things such as lightning, matches, or electricity. Like any fire, a bushfire is a chemical reaction that needs three things to burn:

1. Oxygen – we need oxygen to survive and so do fires.
2. Fuel – anything that burns (leaves, wood, gas bottles) is fuel and will ‘feed’ a fire.
3. Heat – intense (strong, fierce) bushfires make more heat, can be harder to control and will cause more damage.



Bushfires can start at any time, but can be more dangerous in particular areas and at certain times of the year. The strength and power of a fire depends on three things:

1. Vegetation – this can affect the heat and speed of a bushfire. For example, a bushfire in a forest filled with heavy undergrowth will be different to a bushfire in grassland or coastal scrub.
2. Weather – extreme heat, low humidity, strong winds and low rainfall increase a bushfire’s intensity and how fast it spreads.
3. Topography (land characteristics) – fires move faster and with greater strength up slopes than they do on flat ground or downhill.

How do bushfires spread?

Bushfires spread in three ways: direct flame contact, radiant heat and burning embers.

1. Direct flame contact – when flames touch unburnt fuels they raise their temperature and cause them to ignite (catch fire). This can happen faster when the wind blows the flames ahead or when the fire is travelling uphill.
2. Radiant heat – radiant heat is the heat you feel from a bushfire and it can cause the temperature of fuel to increase enough for it to catch fire. This can happen even before the fire reaches the fuel.



Bushfire Safety



- 3. Burning embers – embers are burning leaves and twigs which are carried by the wind and cause small fires to start where they land. If the small fire is not put out it can smoulder, grow and spread. Embers are carried ahead of the actual fire (sometimes up to 30km ahead) by wind and can land on flammable material. Embers are the main reason why houses burn down in bushfires and they can occur before, during or after the actual fire passes.

Fire Danger Ratings

What is a Fire Danger Rating?

A 'Fire Danger Rating' is linked to weather forecasts and tells people how bad a bushfire that starts on that day might be. A higher rating will mean that a fire will be more dangerous and harder to control. The ratings do not predict that a bushfire WILL happen, but they help you to prepare and make decisions about what to do if one does.

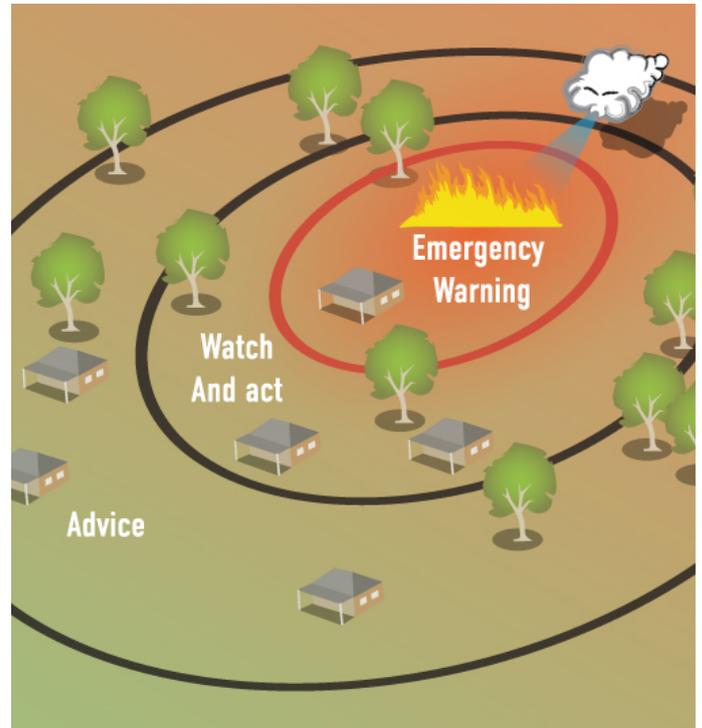
What are the ratings?

This table below helps to explain each rating. You could print it out and display it somewhere so you can easily refer to it.

Fire Danger Rating	What should I do?
Catastrophic (Code Red)	When a day has a 'catastrophic' fire danger rating, you need to ACT NOW.
Extreme	When a day has an 'extreme' fire danger rating, you need to GET READY TO ACT.
Severe	When a day has a 'severe' fire danger rating you need to GET READY TO ACT.
Very High	When a day has a 'very high' fire danger rating you need to BE AWARE of what is happening around you.
High	When a day has a 'low-moderate or high' fire danger rating you need to BE PREPARED.
Low-moderate	

Once a bushfire has started there are three types of warning message that you might hear, particularly on the radio, but remember you should not wait for a warning before you act.

- **Advice message**
A fire has started. There is no immediate danger, or the danger has eased. This is general information to keep you up to date with developments.
- **Watch and Act message**
A fire is approaching you or conditions are changing. This is the time that you and your family need to start taking action to protect yourselves.
- **Emergency Warning message**
You will hear an emergency warning signal (a siren sound) at the beginning of an emergency warning message. This message means you are in danger and need to act immediately because the fire will affect you.



For more information about Fire Danger Ratings and what to do in the event of a bushfire visit the website of your state or territory fire agency.

What about 'Fire Danger Season'?

As well as Fire Danger Ratings, there can be a 'Fire Danger Season', 'Bushfire Season' or 'Bushfire Danger Season' (the name and times of year depend on where you live). This is the time of year when people should be more alert as it is more likely that dangerous fires could start. During this time there are some rules about things you can and cannot do.

There are also 'Total Fire Ban' days which are days that fires can be even more dangerous. On days of 'Total Fire Ban' there are rules and restrictions that stop people from doing things that might start a bushfire. This includes using some types of BBQs, using welding equipment, lighting a campfire, or using anything that could create a spark. For more information, to find out if today is a 'Total Fire Ban' day or for other fire restrictions visit the website of your state or territory fire agency.

You could also watch the video 'Total Fire Ban' <http://vimeo.com/31055533> which has more information about 'Total Fire Bans'.

Bushfire Preparation

Having a plan and being prepared are the keys to keeping yourself and your family safe. If your home is well prepared, it can be easier for firefighters (or others) to defend, is less likely to be destroyed, and helps reduce the risk to your neighbours' homes. If you and your family are well prepared, you may be calmer knowing what you have to do.

What can we do to prepare our home?

There are lots of things that can be done to prepare a house before a bushfire occurs. Some of these things will need to be done by an adult, but there are lots of things you can help with too.

- Clear vegetation and rubbish away from your home.
- Mow the lawn.
- Keep trees close to your home 'tidy'.
- Remove dead branches, leaves and undergrowth. Watch the video 'Raking up Twigs and Leaves' <http://vimeo.com/31059638>
- Remove bark, heavy mulch, wood piles and any other flammable materials close to your home and sheds. Watch the video 'Off to the Tip' <http://vimeo.com/31114269>
- Plant plants and trees with low oil and high water and salt content.
- Cover any gaps and drainpipes where embers might enter or catch alight. Watch the video 'What's a Spot Fire?' <http://vimeo.com/31114061>
- Clear the area around a fire pit or BBQ before lighting a fire. Accidents happen and a bushfire can start from the simplest accident. Watch the video 'Accidents Happen' <http://vimeo.com/31061958>
- Clear gutters of leaves and debris.
- Have long hoses and ladders on hand.
- Ensure there is clear access to your property and home.



The website of your state or territory fire agency will have more suggestions about what you can do to prepare your home.

What about me and my family?

It is not just your home that needs to be prepared for a bushfire, you and your family should be prepared too. A bushfire survival plan is a really important step to keep you safe. Here are some tips on how to prepare one:

- Work together as a family to prepare the plan so everyone knows what to do.
- Answer questions such as ‘Will we leave early?’, ‘Who will close all the windows and doors?’, ‘What will you take?’, and ‘What will you do with the pets?’
- Make sure you have plans for different circumstances. For example, you may need a weekday plan, a weekend plan, a night-time plan, a school holiday plan etc.
- Decide which special items you want to take with you if you need to leave your home early, pack and store them so you can grab them easily. Watch the video ‘Preparing for an Emergency’ <http://vimeo.com/31114183>
- Decide what should be included in the family emergency kit. This is different from the special items (above), it is essential items you may need in an emergency. Work together to prepare this kit.
- Make sure that you and your family know the bushfire emergency plan at your school. Watch the video ‘Know the School Plan’ <http://vimeo.com/31114485>



Bushfires – How to be Safe

It is very important to know what to do to help keep your home, your family and yourself safe during a bushfire. Bushfires are very unpredictable, so a backup plan should always be made.

Before summer starts you need to discuss with your family what to do if a bushfire threatens, and learn the three steps, ‘Prepare, Act, Survive’.

- **Prepare** – know your bushfire risk, have a bushfire survival plan and prepare your property and family.
- **Act** – on the Fire Danger Ratings and alerts in your area. Stay informed and put your preparations and plans into action - do not wait and see.
- **Survive** – by monitoring conditions if a fire starts. Know the bushfire warning alert levels and what you will do if there is a fire in the area. Remember, the most important thing is the safety of you and your family.

Safety Tips:

- Watch for the signs of a fire danger day (e.g. if it is hot, dry and windy). Start preparing before a fire even starts.
- Watch for signs of fire (especially smoke and flames), have your bushfire survival plan and emergency kit ready, and call Triple Zero '000' to report a fire.
- Be able to recite your full name, address and emergency contact numbers e.g. triple zero '000', relatives or friends names and addresses and any allergies or medical conditions you have.

Radiant Heat

Radiant heat is the heat you feel from a fire and it is the biggest danger in bushfire events. Here are some ways you can protect yourself from radiant heat:

- Distance is the best protection from radiant heat. Make sure you get as far away from the fire as possible.
- Make sure all your skin is covered.
 - Do not wear thongs, t-shirts or shorts. Instead wear a long-sleeved, collared shirt, pants made from cotton or another natural fibre, sturdy boots with woollen socks, tough leather garden gloves, a wide-brimmed hat, a face mask or towel to cover your mouth and nose (to protect you from smoke) and goggles or other eye protection.
 - Cover up as soon as you are alerted to a fire in your area.
- Move inside a solid structure (like a house) or find a solid object (such as a brick wall) to hide behind.



Emergency Kit

An emergency kit should be prepared before the bushfire season with all the essentials needed to keep you safe should a bushfire occur. The kit should include things you:

- need to help keep everyone safe on the day of a bushfire
- want to take with you to safety
- will need for up to four days following a fire.

It is important to plan for no electricity, no water and limited food when preparing your emergency kit. For a list of items that you should include visit the website of your state or territory fire agency.



For more information

Visit your state or territory fire agency website for more information about bushfires and bushfire preparation.

- ACT Rural Fire Service
<https://esa.act.gov.au/actrfs/>
- Northern Territory Fire and Rescue Service
www.pfes.nt.gov.au/Fire-and-Rescue.aspx
- NSW Rural Fire Service
www.rfs.nsw.gov.au/
- Queensland Fire and Emergency Services (QFES)
www.qfes.qld.gov.au/
- South Australian Country Fire Service
www.cfs.sa.gov.au/
- Tasmania Fire Service
www.fire.tas.gov.au/
- Victorian Country Fire Authority
www.cfa.vic.gov.au/
- WA Department of Fire and Emergency Services (DFES)
www.dfes.wa.gov.au/