F-8 Geography and Science and bushfire education resources







Acknowledgment of Country

We are all joining today's session from across Victoria and I would like to acknowledge the traditional custodians of the many lands across Victoria on which each of you are living, learning and working from today.

For myself and those of us in the metropolitan area, we acknowledge the traditional custodians of the Kulin Nations. The Wurundjeri call this Naarm. We call this Melbourne.

When acknowledging country, we recognise Aboriginal and Torres Strait Islander people's spiritual and cultural connection to country.

We acknowledge the continued care of the lands and waterways over generations and celebrate the continuation of a living culture that has a unique role in this region.

And as we share of our knowledge in teaching and learning, may we pay our respects to Elders past, present and emerging, for they hold the memories, traditions, culture and hopes of all Aboriginal and Torres Strait Islander peoples across the nation, and hope they will walk with us on our journey.







Session overview

Today's session will cover

- The Bushfires Education website and new resources
- Opportunities for Bushfire Education in F-8 Geography and Science
- Next steps







Panellists

Leonie Brown – Geography Curriculum Manager, VCAA Erin Wilson – Science/STEM Curriculum Manager, VCAA Craig Smith – F–10 Unit Manager, VCAA





The VCAA's Bushfire Education website



Developed by the Victorian government in response to the findings of the 2009 Victorian Bushfires Royal Commission, the Bushfire Education website provides teaching and learning resources to support bushfire education in early childhood settings, primary schools and secondary schools. The Bushfire Education website includes teaching and learning activities grouped under the four themes of learning about, preparing for, responding to, and recovering from bushfires. All teaching and learning activities have been aligned to either the relevant Victorian Early Years Learning and Development Framework outcomes or the Victorian F-10 curriculum.







Organised around four themes...



Learning about bushfires explores what is essential to know about fire, what causes bushfires, and how they behave in the Australian environment.



Preparing for bushfires outlines the steps individuals, families and the community can take to prepare for the bushfire season and minimise risk.



Responding to bushfires explores the nature of the danger bushfires pose, and the recommended strategies for staying safe when bushfires threaten.



Recovering from bushfires includes the experiences of those who have been directly affected by bushfires, and how individuals and communities recover after a bushfire event.





... and four levels of schooling



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Factors influencing your decisions around the Bushfires resource

Location

Time

Resources

Students' background

Community

Teacher background







Dealing with potential distress

Teachers should

- carefully consider the themes and sessions that are most appropriate for their students, communities and context
- adapt to best suit their particular environment and the needs of their students
- involve their school's wellbeing team, and provide early notification to parents/carers.





Theme 1: Learning about bushfires







Theme 1: Learning about bushfires

Secondary

Learning about bushfires

Preparing for bushfires

Responding to bushfires

Recovering from bushfires

Learning about bushfires

This section introduces the theme of 'Learning about bushfres' in the context of safety messages, and is designed to support the learning needs of students in Years 7 to 10.1 it is aligned to Victorian Curriculum levels 7-8, and explores the history of bushfires, bushfires as a fact of life in Victoria, the science of how fires burn, why bushfires are dangerous, and when they are most likely to happen.

Throughout this section, care needs to be taken to clarify any misconceptions students may have about bushfires. For example, some students may be familiar with plans for safe exits and a safe meeting place in the event of a house fire or a fire drill at school – when the danger is inside. Be sure they understand that in a bushfire the danger comes from outside, so people will have different safety plans depending on their circumstances.

Living with bushfires

Learning intention:

In this session students learn that bushfires are a fact of life in Victoria. Students revisit the 'Black Saturday 2009' bushfire as an introduction to learning about bushfires.





- Critical and Creative Thinking
 English
- History
- Science

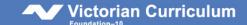
Please Note: All educators need to be aware that there is potential for discomfort or distress among some students when talking, viewing and reading about bushfires.

Teachers need to preview, adapt and manage the teaching and learning activities and resources with respect to the particular needs and backgrounds of their students.

Further information where







Learning about bushfires		
Lower Primary (F-3)	Mid-Upper Primary (4-6)	Secondary (7-10)
ntroducing the Fire Triangle	The fire triangle and exploring what a fire needs to burn	The Fire Triangle
Science, Foundation to Level 2	Science, Levels 5 and 6	Science, Levels 7 and 8
People use science in their daily lives (VCSSU041) Respond to and pose questions, and make predictions about familiar objects and events (VCSIS050) The impact of radiant heat Science, Foundation to Level 2 People use science in their daily lives (VCSSU041) Respond to and pose questions, and make predictions about familiar objects and events (VCSIS050) Participate in guided investigations, including making observations using the senses, to explore and answer questions (VCSIS051) Represent and communicate observations and ideas about changes in objects and events in a variety of ways (VCSIS055)	Changes to materials can be reversible, including melting, freezing, evaporating, or irreversible, including burning and rusting (VCSSU077) With guidance, pose questions to clarify practical problems or inform a scientific investigation, and predict what the findings of an investigation might be based on previous experiences or general rules (VCSIS082) Construct and use a range of representations, including tables and graphs, to record, represent and describe observations, patterns or relationships in data (VCSIS085)	Energy appears in different forms including movement (kinetic energy), heat, light, chemical energy and potential energy; devices can change energy from one form to another (VCSSU104) Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) Use scientific knowledge and findings from investigations to identify relationships, evaluate claims and draw conclusions (VCSIS111) Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations (VCSIS113) Heat transfer Science, Levels 7 and 8 Energy appears in different forms including movement (kinetic energy), heat, light, chemical energy appears in different forms including movement (kinetic energy), heat, light, chemical energy appears in different forms including movement (kinetic energy), heat, light, chemical energy appears in different forms including movement (kinetic energy), heat, light, chemical energy appears in different forms including movement (kinetic energy), heat, light, chemical energy appears in different forms including movement (kinetic energy), heat, light, chemical energy appears in different forms including movement (kinetic energy), heat, light, chemical energy appears in different forms including energy from one form to another (VCSSU104) Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge (VCSIS107) Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (VCSIS108) Use scientific knowledge and findings from investigations to identifying impacts and limitations of conclus







Theme 2: Preparing for bushfires







Theme 2: Preparing for bushfires

Secondary

Learning about bushfires

Preparing for bushfires

Responding to bushfires

Recovering from bushfires

Preparing for bushfires

This section explores the theme of 'Preparing for bushfires', and is designed to support the learning needs of students in Years 7 to 10. It is aligned to Victorian Curriculum levels 7-8.

Students learn about the risk of bushfires and how to reduce them, in order for them to begin to understand the risks of bushfire in their own area. They explore how bushfire survival plans are developed and their importance in preparing to respond to a bushfire.

Know the risks

Learning intention:

This session explores what the risks are of bushfires, who is affected and by knowing the risks, how everyone can be prepared to face them.

Download Know the risks.



- Critical and Creative Thinking
- English
- Geography

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resources with respect to the







Preparing for bushfires

Lesson: Bushfire survival plans

Overview

Curriculum levels: 7 and 8

Time: 50 minutes (approximately) × 2

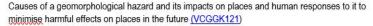
Links to the Victorian Curriculum F-10:

Geography, Levels 7 and 8

Geographical Concepts and Skills

Collect and record relevant geographical data and information from useful primary and secondary sources, using ethical protocols (VCGGC102)

Geographical Knowledge



Health and Physical Education, Levels 7 and 8

Personal, Social and Community Health

Plan and use strategies and resources to enhance the health, safety and wellbeing of their communities (VCHPEP130)

Learning intention:

Students learn that residents in high fire-risk areas across Victoria should develop a bushfire survival plan as an essential part of preparing for the bushfire season.

Suggested resources:

- Interactive whiteboard
- · Online resources such as the linked resources listed below









Activities

Starting

Begin with a general discussion about what a bushfire survival plan is and who should have one. In this context, pose the question, "Who is responsible for our safety on days of high bushfire risk?"

Exploring

Using an interactive whiteboard, show students the Context of the <u>Bushfire Safety Policy Framework</u>, which is on page 5. (Alternatively, this may be printed out.)

Explain to students that this policy was revised in light of further experiences of bushfires, most recently in 2018.

In relation to bushfire safety, what does the document say about the responsibilities of the following:

- the government
- · individuals who live in bushfire-prone areas
- all Victorians?

Explain that a bushfire survival plan is designed to help individuals take responsibility for their own safety and to decide on their contingency options.

Using an interactive whiteboard or large computer display, read the 'Am I at Risk?' section of the CFA's Fire Ready Kit to emphasise that all sorts of houses in all sorts of environments are vulnerable to bushfires.

Discuss the concept of a bushfire survival plan in more detail. Point out that the CFA's <u>Fire Ready Kit</u> identifies phases of planning for people who live in bushfire-prone areas. These planning phases include:

- actions leading up to bushfire season
- actions during bushfire season
- actions on fire-risk days
- actions to put in place as a backup if things don't go to plan.

Ask students why the CFA has supplied a planning kit rather than a definite set of instructions. Refer students to the situations described in the 'Am I at Risk?' section of the Fire Ready Kit to emphasise that bushfire survival plans need to be specific to particular locations and specific circumstances. Plans need to take the following into account:

- local vegetation and topography
- local fire weather potential
- local types of fire events
- · family circumstances and priorities
- peculiarities of home design, construction and location.







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- · local vegetation and topography
- local fire weather potential
- local types of fire events
- family circumstances and priorities
- peculiarities of home design, construction and location.







Bushfire survival plans should be prepared in consultation with the whole family. Point out that a major decision to be made in any survival plan is whether people will stay to defend their property or leave early.



Bringing it together

Students imagine that the house they currently live in is in a high fire-risk area. They should develop a bushfire survival plan based on the 10 key decisions to make with your family (see page 14 of the <u>Fire Ready Kit</u>). Use the template 'Leaving Early: Bushfire Survival Planning Template'.

Extending

Have students develop their own emergency kit. Encourage them to be specific. Refer to the Fire Ready Kit.



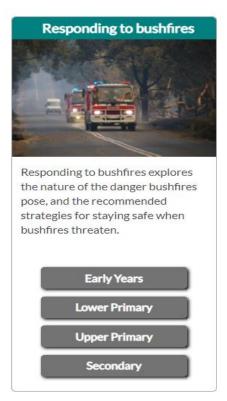
Episode 3 "Ready together" Responding to Fire and Floods







Theme 3: Responding to bushfires









Responding to bushfires

Lesson: Safe behaviours

Overview

Curriculum levels: 7 and 8

Time: 50 minutes (approximately)

Links to the Victorian Curriculum F-10:

Health and Physical Education, Levels 7 and 8

Personal, Social and Community Health

Investigate and select strategies to promote health, safety and wellbeing (VCHPEP126)

Plan and use strategies and resources to enhance

the health, safety and wellbeing of their communities (VCHPEP130)



Learning intention:

By understanding the key risks and the science of bushfires, there are many things people can do to make themselves safer in a bushfire/high fire-risk situation. Radiant heat is a killer. Establishing distance, taking appropriate shelter, wearing suitable clothing and drinking fluids can help protect the body from the harmful effects of radiant heat.







Activities

Starting

Pose the question, 'What can we do to protect ourselves from the effects of radiant heat from a bushfire?'

Recap the main points of the 'Heat transfer' session. These points include:

- Radiant heat travels in straight lines.
- The further away from the heat source, the less radiant heat there is.
- Certain solid materials block radiant heat.
- Radiant heat can pass through glass.

Discuss students' responses to the initial question and then point out that radiant heat from a bushfire can be 50,000 times as intense as that from a campfire or a radiator heater.

To further emphasise the intensity of radiant heat from a bushfire, show a relevant video, such as the home video and commentary of a householder in the St Andrews area who survived the 2009 bushfires, '2009 Victorian Firestorm with Tornado' (note: video contains low-level explicit language).

Prior to viewing the video, ask students what they expect to see in the home video of a person witnessing an intense bushfire. After viewing, discuss the video, focusing on the various ways the householder attempted to protect himself from radiant heat and why those methods may or may not be useful. For example:

- sheltering behind a wall
- wearing suitable clothing such as pants and long-sleeved shirts made of natural fibres
- moving further away from the bushfire.







Exploring

Distance

Have students research the concept of 'Neighbourhood Safer Place – Bushfire Place of Last Resort' from the CFA website.

Discuss the distance set for these 'safe places': if it is an outside area, it must be at least 310 metres from a bushfire hazard; if it is a structure, it must be at least 140 metres from a bushfire hazard. Ask students to explain:

- · why distance from a fire hazard is important
- why the distances are different
- why the CFA information stresses the limitations of Neighbourhood Safer Places.

Shelter

Pose the question, 'If it is not possible to establish enough distance from the radiant heat, what is the next safest option?' Discuss possible scenarios where people may be caught out by the effects of fire and need to seek shelter.

Review the advice from the 'On Fire Risk Days: Leaving Early' and 'Defending Your Property' sections CFA's <u>Fire Ready</u>
<u>Kit</u> and have students complete the following activities:

- List any well-prepared houses or buildings in your area that could be a safer place to shelter if you are caught out during a bushfire.
- Think about where you plan to shelter if it is unsafe to leave your property. This is an extremely dangerous situation, and you must seek shelter from radiant heat in the most well-prepared building on your property.

Have students use their knowledge and understanding of radiant heat to explore what materials and characteristics these shelters would need to have.







Dehydration

Have students investigate or research how the body maintains a constant temperature in hot weather or when we undertake demanding physical activity.

Discuss reasons why the body produces sweat and its role in maintaining body temperature. Pose the question, 'How do we support the body in maintaining this process?' Have students suggest what effect radiant heat would have on this body function when people are fighting a bushfire, staying to defend their home or travelling during a bushfire. Pose the question, 'What happens to the body when it does not have enough fluids to deal with heat?' During this discussion students will most likely use the terms 'dehydration' or 'heatstroke'.

Pose the questions, 'What are the first signs of dehydration or heatstroke? What can be done to prevent this threat to personal safety?'

To find out more about dehydration, its effects and why it is an issue, give students approximately 10–15 minutes to conduct an internet search using key words such as:

- dehydration
- heatstroke
- fluid loss
- kidneys and dehydration
- urinary system.

Ask students the following questions:

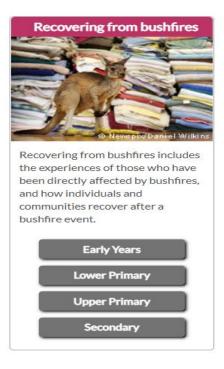
- Think of a time you felt really thirsty. What were you doing? What were the conditions? How did you feel?
- If you have not had enough fluids, what changes do you notice in the colour and amount of urine passed? Why
 might this happen?
- What role is played by the other organs in your body that are linked to systems that control fluid balance?
- Why is dehydration an issue?
- What are the key messages about dehydration?







Theme 4: Recovering from bushfires







Recovering from bushfires			
Lower Primary (F-3)	Mid-Upper Primary (4-6)	Secondary (7-10)	
Communities working together for recovery Geography, Foundation to Level 2 Identify and describe the features of places at a local scale and how they change, recognising that people describe the features of places differently (VCGGC057) Identify how people are connected to different places (VCGGC059) Reasons why some places are special and some places are important to people and how they can be looked after (VCGGK069)	Living with bushfires Geography, Levels 5 and 6 Identify and describe locations and describe and explain spatial distributions and patterns (VCGGC086) Impacts of bushfires or floods on environments and communities, and how people can respond (VCGGK095)	The Blacksmiths Tree – remembering Black Saturday Geography, Levels 7 and 8 Identify, analyse and explain interconnections within places and between places and identify and explain changes resulting from these interconnections (VCGGC101) Influence of social connectedness and community identity on the liveability of places (VCGGK114) Sharing stories – 10 years on Geography, Levels 7 and 8 Identify, analyse and explain interconnections within places and between places and identify and explain changes resulting from these interconnections (VCGGC101) Factors that influence the decisions people make about where to live and their perceptions of the liveability of places (VCGGK111) Influence of social connectedness and community identity on the liveability of places (VCGGK114) Causes of a geomorphological hazard and its impacts on places and human responses to it to minimise harmful effects on places in the future (VCGGK121)	







Resources

Resources

REFINE YOUR RESULTS

Levels

- ☐ Early Years
- ☐ Lower Primary
- ☐ Upper Primary
 ☐ Secondary
- ☐ AII

Topics

- ✓ Learning about bushfires
- Preparing for bushfires
- Responding to bushfires
- $\ \ \square \ \ \mathsf{Recovering} \ \mathsf{from} \ \mathsf{bushfires}$
- ☐ AII

Resources to support bushfire education

A wide range of resources have been selected to support teaching and learning activities on this site. These include

- the Image Gallery, with over 140 images, sorted by the four themes of learning about, preparing for, responding to, and recovering from bushfires
- links to other resources from the Victorian, Commonwealth, and other States and Territory bushfire prevention agencies, as well as Australian and international bushfire resources
- links to videos and interactives, including session-specific factsheets and tasksheets. All material is organised in alphabetical order ie A-Z.

Use the filters to quickly find resources that are relevant to your teaching and learning needs.

Potential for discomfort or distress

All educators need to be aware that there is potential for discomfort or distress among some learners when talking, viewing and reading about bushfires. The 2009 Victorian bushfires especially were traumatic events for many in the Victorian community, and early childhood practitioners and teachers need to preview, adapt and manage the teaching and learning activities and resources with respect to the particular needs and backgrounds of their learners.

Further information and support can be found on the Department of Education and Training website Health and Well Being Services.







Q & A







Next steps

2021

VCAA will be hosting a series of webinars on the Bushfire Education resources and the F-10 Curriculum.

Details will be available from late November on the VCAA Professional Learning webpage and via the VCAA Bulletin and the F-10 Subscriber Update.





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