



Teacher Resource

# Bushfire Science

## Focus Questions

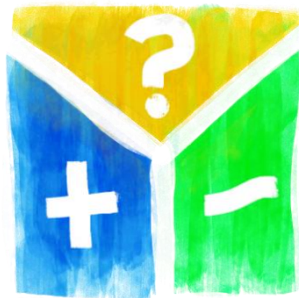
Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

1. What are the three ingredients of a bushfire?
2. How do bushfires start? Give one example.
3. How does the slope of the land affect bushfires?
4. Strong winds increase the intensity of a bushfire. True or false?
5. What questions do you have about the story?

## Activity: Note taking

Students will practise their note-taking skills while watching the BTN Bushfire Science story. After watching the story, ask students to reflect on and organise the information into three categories. What information in the story was...?

- Positive
- Negative or
- Interesting



## Activity: Class Discussion

Discuss the BTN story as a class. Ask students what they know about bushfires. Use the following questions as a guide:

- Fire relies on which three elements?
- How do bushfires start? (human and natural causes)
- What factors affect the spread of bushfires? (fuel load, weather conditions, terrain, wind)
- What questions do you have about the story?



### EPISODE 30

31<sup>st</sup> October 2023

#### KEY LEARNING

Students will learn about the science of bushfires and Indigenous fire management.

#### CURRICULUM

##### HASS – Year 5

The impact of bushfires or floods on environments and communities, and how people can respond.

##### HASS – Years 5 and 6

Work in groups to generate responses to issues and challenges.

##### Science – Year 5 & 6

Scientific knowledge is used to solve problems and inform personal and community decisions.

##### Science – Year 6

Scientific knowledge is used to solve problems and inform personal and community decisions.

## Activity: Glossary

Students will brainstorm a list of key words that relate to the BTN Bushfire Science story. Here are some words to get them started.

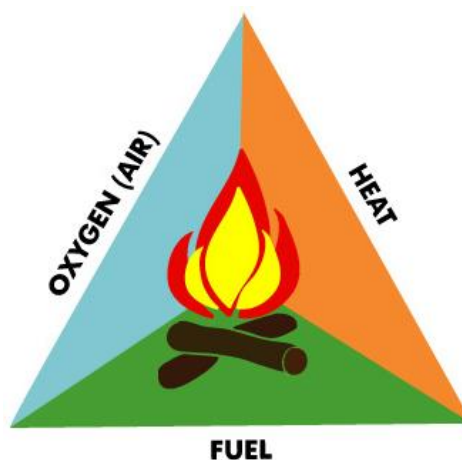
FUEL	TERRAIN	IGNITION
COOL BURN	OXYGEN	FIRE TRIANGLE

## Activity: The Fire Triangle

Students will investigate the three things a fire needs to burn:

- Fuel
- Air
- Heat

Ask students to predict what these three elements might be. Watch this short [CFA Fire Triangle](#) video then ask students to draw and label the fire triangle and explain how fuel, oxygen and heat might affect a fire. Explain to students that if you removed any side of the fire triangle, the fire would go out.



Working in pairs, ask student to discuss:

- Explain the role of fuel in the fire triangle. What are some examples of fuels that can be involved in fires? What would happen if fuel was removed?
- How does heat contribute to the fire triangle? Why is it crucial to ignition? What would happen if heat was removed?
- Why is oxygen necessary for fires to burn? How does it interact with the other elements of the fire triangle? What would happen if oxygen was removed?

## Activity: Research

Discuss the information raised in the BTN Bushfire Science story. What questions were raised in the discussion and what are the gaps in students' knowledge? The following KWLH organiser provides students with a framework to explore their knowledge on this topic.

What do I <b><u>k</u></b> now?	What do I <b><u>w</u></b> ant to know?	What have I <b><u>l</u></b> earnt?	<b><u>H</u></b> ow will I find out?

Students will develop their own question/s to research or choose one or more of the questions below.

- Investigate the factors that create bushfire risk.
- How can people prepare for the bushfire season?
- How does terrain (topography) affect the way a fire behaves? Fill in the missing word: For every 10° slope, the fire will \_\_\_\_\_ its speed.
- What is radiant heat and how is it dangerous in a bushfire? What steps can be taken to reduce the risks of radiant heat?
- What is the fire danger rating system? How is the fire danger rating determined? Why is it important to have a fire danger rating?
- What is a bushfire survival plan?

## Activity: Cultural Burning

Students will learn more about First Nations fire practices. As a class, watch the [Big Weather: Benefits of Indigenous fire practices video](#). Students can then respond to the following questions:

- What is a controlled burn?
- How are they used to reduce the risk of bushfire?
- What is cultural burning? Where in Australia are cultural burning practices common?
- What are the three main parts of Aboriginal burning?
- Fire management is part of how Aboriginal people look after country. What does this mean?
- How does cultural burning differ from modern firefighting techniques?
- How can we learn from First Nations Peoples about looking after Country?



To learn more about cultural burning, go to the [Firesticks website](#). This [Traditional burning video](#) explores bushfire management practices in more detail.

### Further investigation

Invite a First Nations speaker or expert on cultural burning to share their experiences and knowledge with students.

## Useful Websites

- [Curious Kids: how do bushfires start?](#) – The Conversation
- [Bushfire Survival Plan](#) - BTN
- [Fire Season Warning](#) – BTN
- [Burn off Season](#) - BTN
- [Big Weather: Benefits of Indigenous fire practices](#) – ABC Education
- [How Fire Behaves](#) - CFA