

Activity

Episode 30
29th October 2013

Spring Fires

Key Learning

Students will investigate the science of bushfires and the impact of bushfires on environments and communities.

The Australian Curriculum

Geography / Geographical Knowledge and Understanding

The impact of bushfires or floods on environments and communities, and how people can respond. Year 5. ([ACHGK030](#))



Geography / Geographical Inquiry and Skills / Collecting, recoding, evaluating and representing

Evaluate sources for their usefulness and represent data in different forms, for example, maps, plans, graphs, tables, sketches and diagrams. Year 5. ([ACHGS035](#))



Geography / Geographical Inquiry and Skills / Interpreting, analysing and concluding

Interpret geographical data and other information, using digital and spatial technologies as appropriate, and identify spatial distributions, patterns and trends, and infer relationships to draw conclusions. Year 5. ([ACHGS037](#))



Science / Science Understanding / Earth and space sciences

Sudden geological changes or extreme weather conditions can affect Earth's surface. Year 6. ([ACSSU096](#))



Science / Science as a Human Endeavour / Nature and development of science

Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena. Year 6. ([ACSHE098](#))



Science / Science Understanding / Biological sciences

The growth and survival of living things are affected by the physical conditions of their environment. Year 6. ([ACSSU094](#))



Discussion Questions

1. What is unusual about the timing of the recent NSW bushfires?
2. What month did the fires in NSW start?
3. What other Australian states have had devastating bushfires in the past? Locate using Google Maps.
4. What are the peak months for bushfire danger in Australia?
5. Why do big bushfires usually occur later in summer? Give some reasons.
6. List the three factors that contribute to early bushfires.
7. Bushfire risk decreases when one of these factors is removed. True or false?
8. Describe how dry winters and early summers affect bushfires.
9. Think of three adjectives to describe the bushfires in NSW.
10. What do you understand more clearly since watching the BtN story about bushfires?

Activities

Engage

After watching the BtN *Spring Fires* story, facilitate a questions and answers discussion to encourage students to engage with the topic and learn more about the science of bushfires and their impact on communities, individuals and the environment.

Throughout this activity students will keep a journal entering what they know, what they have learnt and what they would like to learn. Students may want to organise their diary in the form of a KWLH chart (What do I **know**? What do I **want** to know? What have I **learnt**? **How** will I find out?).

- Ask students what they already know about bushfires and how they might start. Students will name three things they know off the top of their heads. Record student's responses on the whiteboard.
- What causes bushfires? What are the risk factors? Think about fuel, weather and geographical features.
- Discuss how the different seasons might impact on bushfires.
- What Australian bushfire disasters do you know about?
- What is a 'megafire'?

| What do I <u>know</u> ? | What do I <u>want</u> to know? | What have I <u>learnt</u> ? | <u>How</u> will I find out? |
|-------------------------|--------------------------------|-----------------------------|-----------------------------|
| | | | |

Explore

Fire seasons

Students will explore the different fire seasons across Australia.

- What parts of Australia are more prone to bushfires?
- At what time of year do the different Australian states experience their worst fires?
- Where do some of the largest fires occur?
- What types of areas generally have the largest loss of life and economic damage after a bushfire?



Fire seasons across Australia: Bureau of Meteorology

Refer to *GeoScience Australia* and the *Bureau of Meteorology* for more information

<http://www.ga.gov.au/hazards/bushfire/bushfire-basics/where.html>

<http://www.bom.gov.au/climate/envIRON/fires.shtml>

A history of Australia's biggest bushfires

As a class look at some of the biggest bushfire disasters in Australia's history. Students will collect evidence (primary and secondary sources) to support their research.

Do you remember the following fires?

- Tasmanian Bushfires – November 2012 – January 2013 across Tasmania
- Black Saturday Bushfires – February 2009 across Victoria
- Ash Wednesday Bushfires – February 1983 across South Australia & Victoria

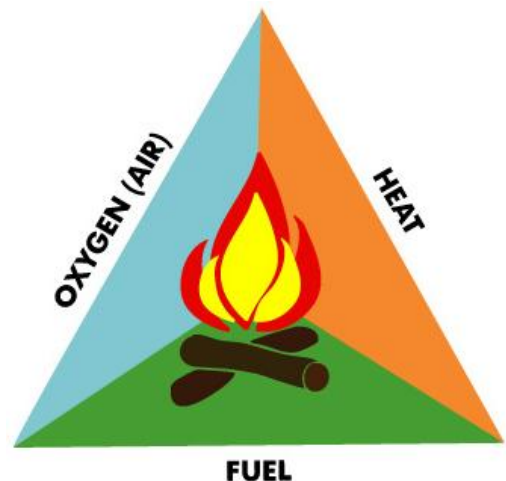
Compare and contrast the above bushfire disasters.

- Locate these areas using *Google Maps*
- What caused these fires?
- Why did they become so large?
- Why were they so devastating?
- Which of these bushfires was most severe? Consider the short-term and long-term effects.
- Describe the impact of these fires on Australian vegetation and the significance of fire damage on communities.

Explain

There are three basic components that a fire needs to start and continue burning: fuel, oxygen and heat.

- Ask students to predict what these three elements might be?
- Students will draw and label the fire triangle and then explain how fuel, oxygen and heat might affect a fire.
- Explain to students that a fire will not burn if one of these components is removed. Ask students what might happen if one of these components was removed?
- As a class brainstorm ways that types of preparation is needed to reduce risk during a bushfire period.



Refer to the following websites for more information.

CSIRO: *The Fire triangle*

<http://www.csiro.au/Outcomes/Safeguarding-Australia/FireTriangle.aspx>

Victorian Curriculum and Assessment Authority: *Fire triangle*

<http://www.bushfireeducation.vic.edu.au/for-educators/learning-about-bushfires/ump-learn-act1.html>

Vocabulary

Make a list of bushfire vocabulary, starting with the following words:

Flammable, fuel, heat, oxygen. prepare, risk, danger

The fire rating system

Order the following fire danger ratings from highest to lowest
Explain the difference between the following fire danger ratings?



Elaborate

Have you dreamed of being a news journalist?

Explain to students that they will be newspaper or online journalists investigating how bushfires affect individuals, communities and the environment. Students will report on the 2013 bushfires in New South Wales.

Students write a feature article for a newspaper or produce their own news report.

BtN would love to hear from you, just visit the Rookie Reporters page on the Behind the News website for training, media assets, expert advice and then submit your report.

Behind the News – Rookie Reporter training
<http://www.abc.net.au/btn/rookielearning.htm>



Evaluate

Students will reflect on their learning.

- I learned that...
- I enjoyed/did not enjoy...
- I want to know more about...
- I was surprised to discover that...

Further activity

Bushfire interactive. Help the characters within this comic book escape a bushfire.
<http://streaming.lawley.wa.edu.au/students/TLF/DVD/los/L1275/index.html>



How does a fire extinguisher work? Try this CSIRO Science by Email experiment.
<http://www.csiro.au/helix/sciencemail/activities/FireExtinguisher.html>



Related Research Links

CBBC Newsround – Australia bushfires: fire fighters merge the fires

<http://www.bbc.co.uk/newsround/24600319>

Geoscience Australia – Bushfire basics

<http://www.ga.gov.au/hazards/bushfire/bushfire-basics.html>

ACT Emergency Services Agency – What is a bushfire?

<http://esa.act.gov.au/community-information/bushfires/what-is-a-bushfire/>

ACT Emergency Services Agency – Bush Fire Survival Plan

<http://esa.act.gov.au/wp-content/uploads/ACT-Bush-Fire-Survival-Plan-2013.pdf>

CSIRO – Bushfires

<http://www.csiro.au/Outcomes/Environment/Bushfires.aspx>

Fire Danger Rating

http://www.rfs.nsw.gov.au/file_system/attachments/Attachment_FireDangerRating.pdf

Department of Fire and Emergency Services – Bushfire Action Week 19-26 October 2013

<https://extranet.dfes.wa.gov.au/bushfireactionweek/default.htm>

ABC Black Saturday – See and hear all the stories

<http://www.abc.net.au/innovation/blacksaturday/#/stories/mosaic>

Behind the News – Upsetting News

<http://www.abc.net.au/btn/resources/story/UpsettingNews.pdf>

ABC Splash – Ecological effects of bushfires

<http://splash.abc.net.au/media/-/m/31023/ecological-effects-of-bushfires>

ABC Splash – Managing Bushfires

<http://splash.abc.net.au/media/-/m/29907/managing-bushfires>

Behind the News – Bushfire Season

<http://www.abc.net.au/btn/story/s2430026.htm>

Behind the News – Bushfire Disaster

<http://www.abc.net.au/btn/story/s2488554.htm>