

Be Aware, Stay Informed:

Lesson 2: Fire Danger Weather and Ratings

Overview of lesson



Big ideas

Students will learn about fire weather and the Australian Fire Danger Rating System. They will develop the skills and confidence to improve their safety by accessing the information needed to make decisions, take protective action and improve their resilience.

Conceptual knowledge (what do you want the students to know?)

Students will develop an understanding that they have an important role to play in their safety and the safety of others. They will equip themselves with knowledge so that they can make informed choices and improve their resilience.

Students will learn to recognise indicators that lead to dangerous conditions for a bushfire and learn how to respond to keep themselves and others safe.

Learning outcomes (what do you want the students to do?)

- Students will develop a broad knowledge of the weather and of the changing seasons.
- Students will develop an understanding of the term 'Fire Danger Season'.
- Students will be able to identify the kinds of weather conditions that are dangerous for bushfires (hot, dry, windy) .
- Students will be able to explain the purpose of the Australian Fire Danger Rating System (i.e. It is not predictor of how likely it is that a bushfire will start or if a bushfire has started, but how dangerous it could be if it did occur - it will spread quickly and be difficult to put out).
- Students will be able to look up and correctly interpret the Fire Danger Rating for Region 1 on the CFS website and display it on their own Fire Danger Rating scale.



Disaster risk reduction outcomes

During the Fire Danger Season, monitors check the Fire Danger Rating each morning and display the correct rating on the classroom Fire Danger Rating system. Older students can keep a diary to record observations such as the date, temperature, humidity, wind speed and FDR for the day.

Technical background for teachers

- Fire Danger Ratings are forecast by the Bureau of Meteorology each afternoon and provide an early indicator of the potential danger for the next day, should a bushfire start.
- The higher the Fire Danger Rating, the more dangerous the fire conditions.
- The Fire Danger Rating is not a predictor of how likely a bushfire is to occur, but how dangerous it could be if it did occur. It is used as an early indicator to make sure you are ready to act in case a bushfire starts.
- Different parts of SA will have different weather, so they will have different Fire Danger Ratings. SA is split into 15 Fire Ban Districts and each district is given a rating.
- The [Fire Danger Ratings](#) for each district are published daily on the CFS website. Forecasts are shown for the next four days and confirmed the day before.
- CFS '[Your Guide to Bushfire Safety](#)' brochure

NOTE: Children often think that the Australian Fire Danger Rating System tells you if there is a bushfire that has started. It is important that teachers correct this misconception if, and when it arises.



Resources and sources

- [Weather conditions video](#)
- [CFS Regions website](#)
- [CFS Fire Danger Ratings](#)
- [‘Weather on the Go Episode 1: Aussie Weather’ video](#) - ABC Education
- [‘Understanding Fire Weather’ video](#) - Bureau of Meteorology
- [‘Your Guide to Bushfire Safety’ CFS brochure](#) (refer page 5)
- ‘Australian Fire Danger Rating System’ Activity sheet (A4 size min)
- [‘Triple Zero Kids’ Challenge’ Resource Pack](#)
- ‘Where Do You Live’ Activity sheet (junior primary)
- ‘Label the Districts’ Activity sheet

Leading activity



Inquiry (essential) questions

- How do bushfires start (e.g. lightning, campfires, power tools etc.)?
- When do bushfires usually happen - in summer, autumn, winter or spring? Why (e.g. in summer because all the grass is dry and it's hot)?
- What happens if a bushfire starts but it's cold and raining? Why? Would it be difficult to put it out? Why?
- What happens if a bushfire starts but it's hot, dry and windy? Why?
- If a bushfire started on a hot dry windy day, would it spread quickly or slowly? Why? Would it be difficult to put it out? Why?



Guided discussion - Fire Danger Weather

Guide the students through a discussion about the type of weather that increases fire danger. Begin by talking to the students about seasons - Summer, Autumn, Winter and Spring. Ask them what the weather is like in these different seasons. The aim is to get students thinking about the kinds of weather conditions that make it:

- a) easier for bushfires to spread and;
- b) more difficult for the fire brigade to put (i.e. hot, dry, windy conditions).

Then, move on to discuss the types of weather conditions that make it easier for bushfire to spread and more difficult to put out. Use Inquiry questions above to guide the discussion. This could also be aided with the use of photography or videos depicting different weather conditions. This ABC Education video may be used to learn about various weather conditions around Australia [Weather On The Go Ep 1: Aussie Weather.](#)

Bringing it together



Introduce the Fire Danger Rating System (FDR)

Show the students the Australian Fire Danger Rating System (CFS website and Activity sheet) - have they seen this before? Where did they see it? What does it tell us?

Discuss how the different levels relate to the weather conditions discussed earlier. Use this video by the Bureau of Meteorology which is specifically about fire weather - [Understanding Fire Weather](#)

Use page 5 of your CFS [‘Your Guide to Bushfire Safety’](#) brochure.

Have a look at ‘What do Fire Danger Ratings mean’. Use this page to guide discussion with students. Use attached Fire Danger Rating semi-circle (Australian Fire Danger Rating System Activity) below to show students in larger format.

Bringing it together (cont.)



Moderate - cooler, maybe some rain

What would happen if a bushfire started on this day? Would it spread quickly? Why/Why not? Would it be small or big? Would it be difficult to put it out?

High - warm, dry, more wind

What would happen if a bushfire started on this day? If a bushfire started on a High day would it spread quickly? Why/why not? Would it be difficult to put it out?

Extreme - very hot, very dry, very windy

What would happen if a bushfire started on this day? If a bushfire started on an Extreme day would it spread quickly? Why/why not? Would it be difficult to put it out?

Catastrophic - the hottest, driest, windiest weather

What would happen if a bushfire started on this day? If a bushfire started on a Catastrophic day would it spread quickly? Why/why not? Would it be difficult to put it out?

Going further



Fire Danger Ratings Charts

Students can create their own Fire Danger Rating Charts, including the date, season, and weather (temperature, humidity, wind speed).

Word Wall

Students can research major concepts such as the fire danger season, wind speed and direction, slope of the land, drought, humidity, fire fuel, fire speed and embers. Working in small groups or individually they can define, explore and explain how their particular concept relates to bushfires. Collate these word explanations on a wall to demonstrate and reinforce the key terms of this area of study.

Weather and Fire Danger Report or Presentation

Have students split group into four FDR groups (Moderate, High, Extreme, Catastrophic) and use page 5 of CFS [‘Your Guide to Bushfire Safety’](#) brochure

Have students use this resource and others to research what conditions may look like, what would happen if a fire started on this day, what the fire behaviour may be in regards to its spread, what the fire size may be and whether it would be difficult to extinguish. Students to report back their findings to the group as a Weather or Fire Danger Report TV presentation or similar (mini project/poster/PowerPoint etc.).

Where do you live?(Junior Primary)

Provide Activity sheet ‘Where Do I Live?’ and work with students to identify which district they live in. Have them draw themselves living there.

Label the Districts

Provide Activity sheet ‘Label the Districts’ and encourage students to research a map of South Australia and work out the district areas. The CFS website will also assist here.

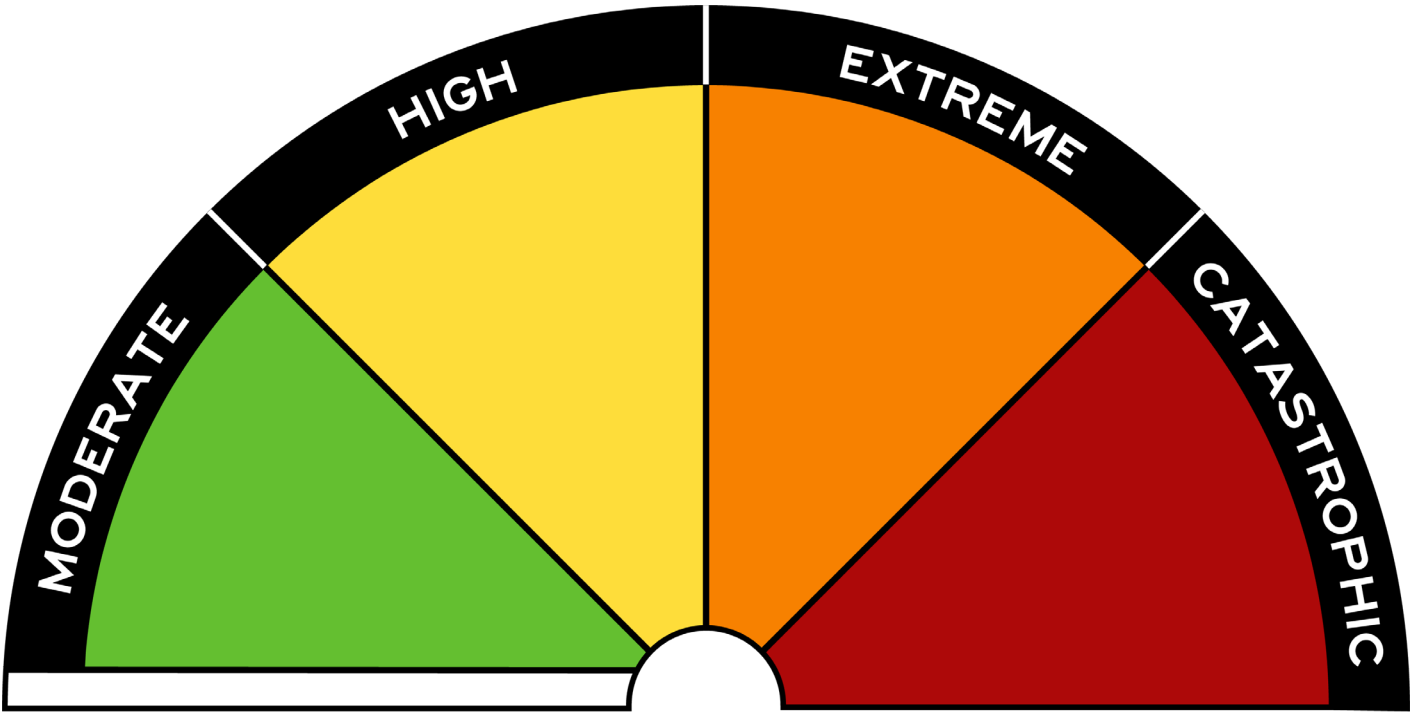
Once completed, review the Fire Danger Rating section of the website (add to favourites) and ask students to have a go at looking up the FDR for their school's district and others in South Australia. While doing this, students can move the arrow on the physical FDR resource for each.

Daily FDR checks

During morning routines, younger students may discuss the daily weather and check the Fire Danger Rating for the day. Move the arrow on the scale if necessary. Discuss what the weather may look like and what affect this may have on fire behaviour.

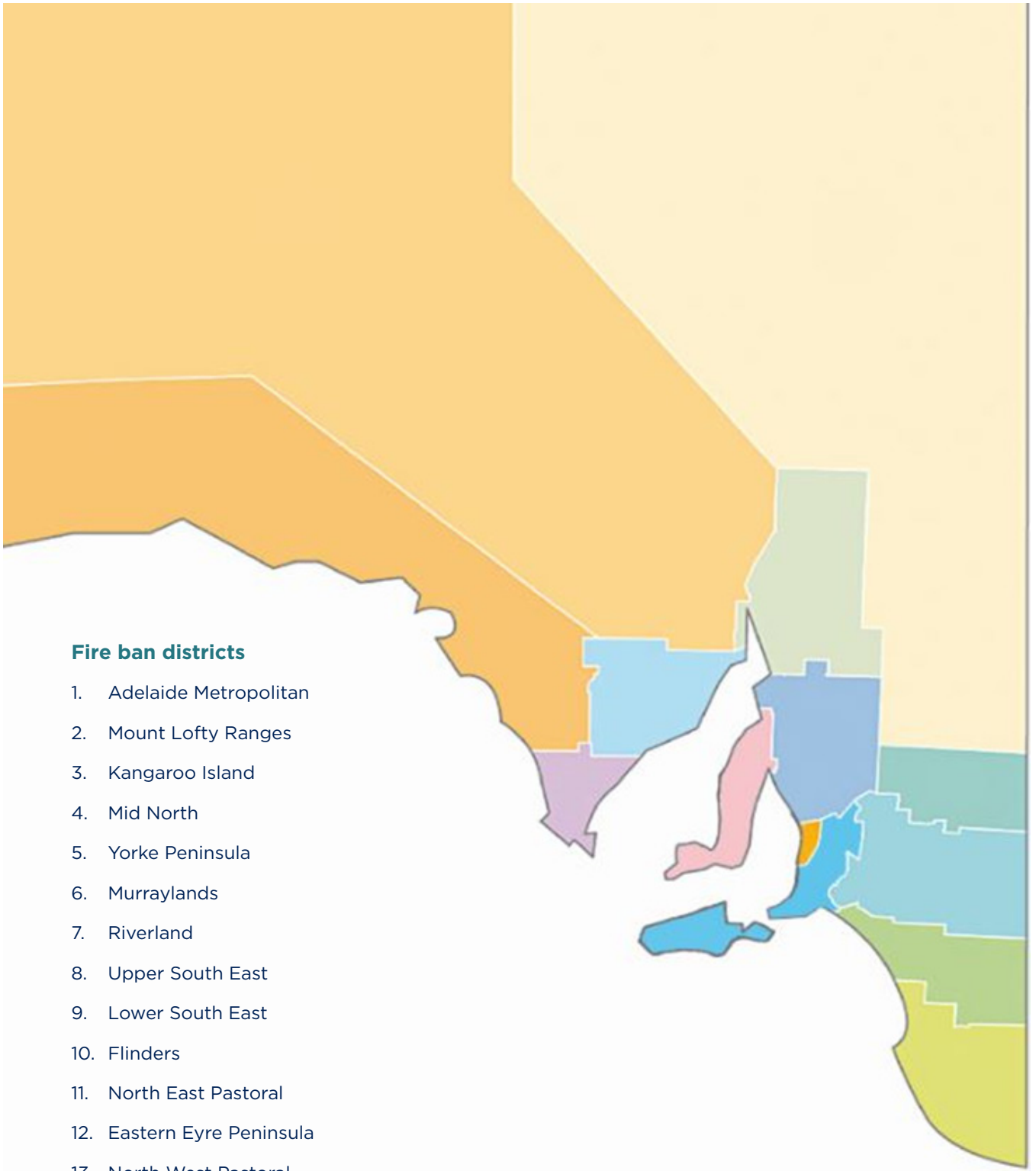
Older students may develop a Fire Danger Rating diary. In this diary, students can record the daily date, temperature, humidity, wind speed and FDR for the day.

Activity: The Australian Fire Danger Rating System



Activity: Label the Districts

Use this map to label each fire ban district with the corresponding number



Fire ban districts

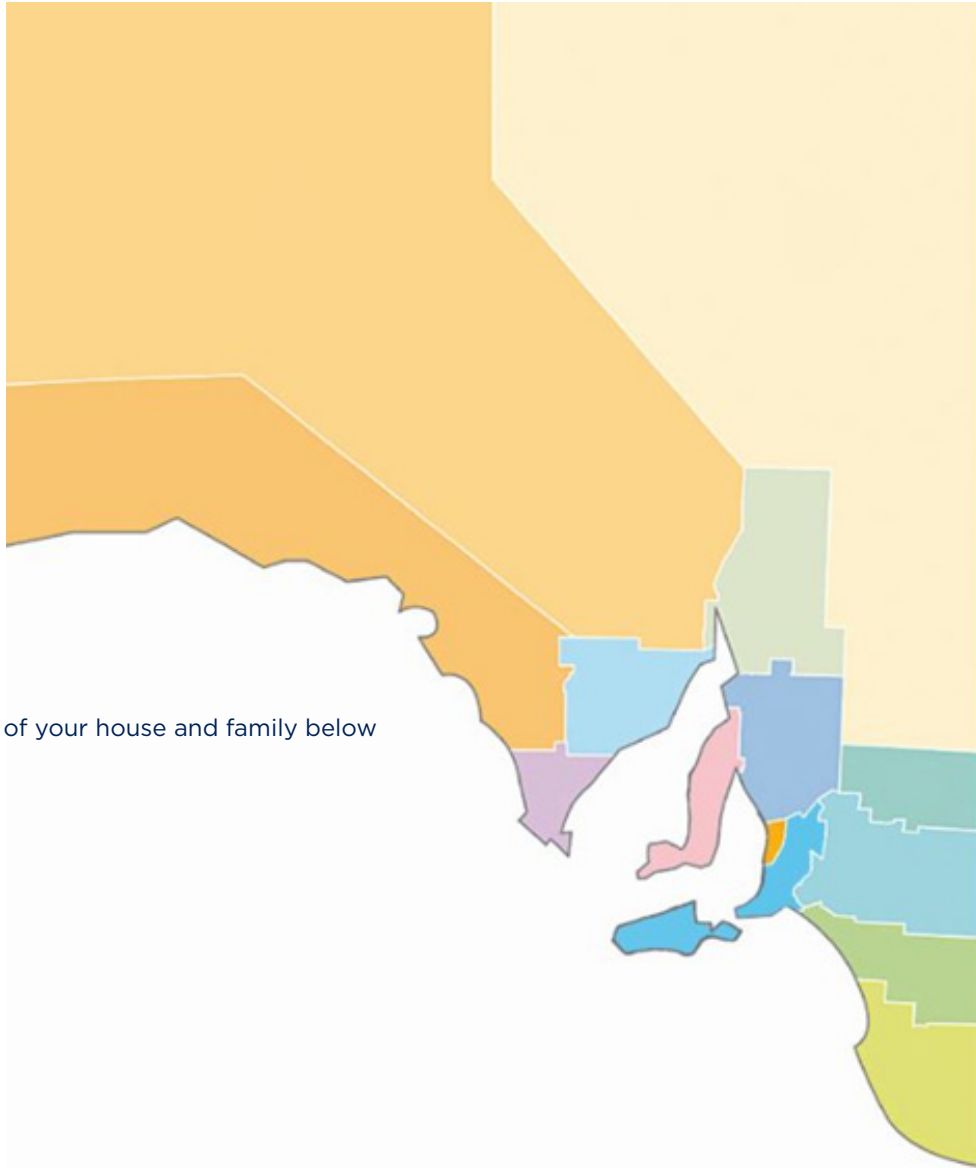
1. Adelaide Metropolitan
2. Mount Lofty Ranges
3. Kangaroo Island
4. Mid North
5. Yorke Peninsula
6. Murraylands
7. Riverland
8. Upper South East
9. Lower South East
10. Flinders
11. North East Pastoral
12. Eastern Eyre Peninsula
13. North West Pastoral
14. Lower Eyre Peninsula
15. West Coast



Activity: Where do you live?

Use this map to work out where you live

I live in the district called _____



Draw a picture of your house and family below

