

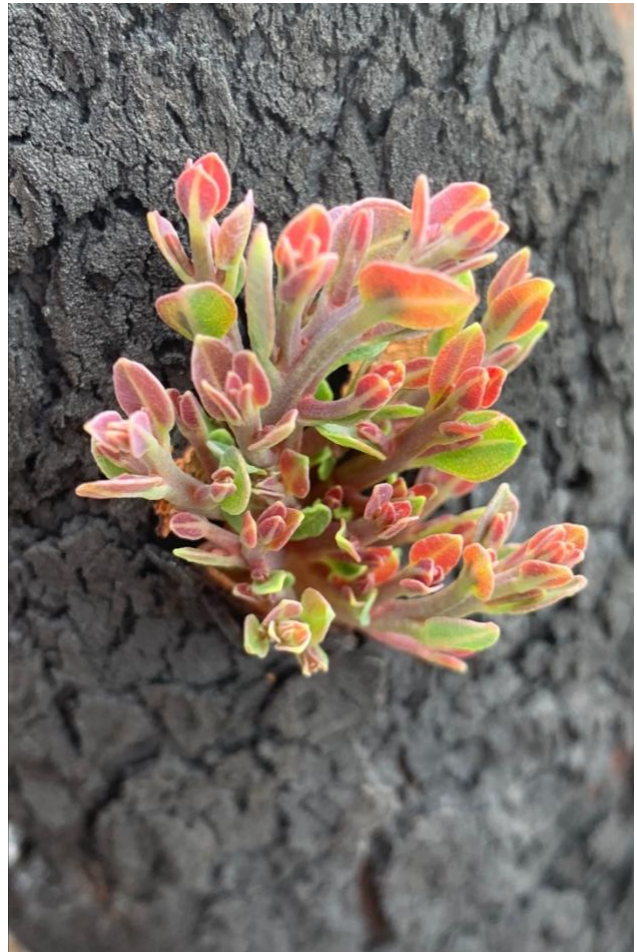
Adaptations to Bushfire

Learning Intentions

- Students understand the role of vegetation layers and leaf litter moisture in assessing bushfire risk
- Students classify and identify some local native plants
- Students recognise some of the adaptations plants have evolved to live with fire

Success Criteria

- Listed with each activity



Key inquiry questions

- How do physical conditions affect the survival of living things?
- How do the structural and behavioural features of living things support survival?
- How can the impact of bushfires on people and places be reduced?

Outcomes

Science and Technology K–6

ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things

GE3-1 describes the diverse features and characteristics of places and environments

GE3-3 Compares and contrasts influences on the management of places and environments

Health and safety issues

As you are working in the field you need to be aware that:

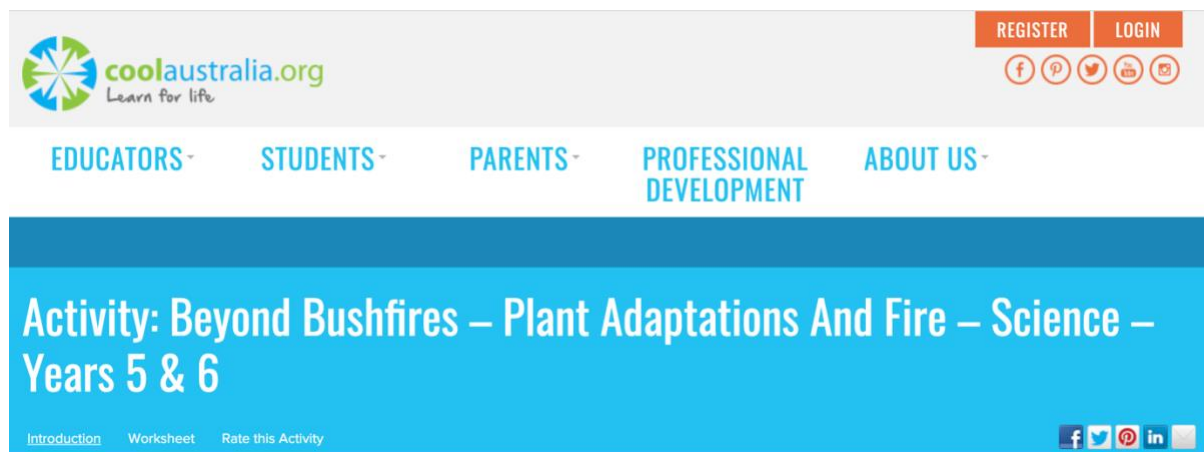
- Ground material can be slippery
- Vines and undergrowth can trip
- Some animals can deliver painful or venomous bites
 - On slopes, rocks can be easily dislodged

Pre-Excursion Lesson – Cool Australia

Note for teachers: Cool Australia is a non-profit organisation which supports teachers by providing quality, curriculum aligned teaching and learning resources. Click on the link below to access the resources. It will require a free sign up to Cool Australia.

Beyond Bushfires – Plant Adaptations and Fire – Science – Years 5 & 6

<https://www.coolaustralia.org/activity/beyond-bushfires-plant-adaptations-and-fire-science-years-5-6/>



The screenshot shows the Cool Australia website interface. At the top left is the logo for coolaustralia.org with the tagline 'Learn for life'. To the right are 'REGISTER' and 'LOGIN' buttons, and social media icons for Facebook, Pinterest, Twitter, YouTube, and Instagram. Below this is a navigation menu with links for 'EDUCATORS', 'STUDENTS', 'PARENTS', 'PROFESSIONAL DEVELOPMENT', and 'ABOUT US'. The main content area has a blue header with the title 'Activity: Beyond Bushfires – Plant Adaptations And Fire – Science – Years 5 & 6'. Below the title are links for 'Introduction', 'Worksheet', and 'Rate this Activity', and social media sharing icons for Facebook, Twitter, Pinterest, LinkedIn, and Print.

Activity Introduction

Quick summary: Students explore some of the ways that Australian plants are adapted to bushfires. They begin by reviewing their prior knowledge of how plants respond to fire, before exploring and defining the term 'adaptation'. They then think about some of the Australian plants they are aware of and the features these plants have, before exploring some of the ways Australian plants have evolved to live with fire. Students then head outside to observe some of the particular features or traits of plants, recording their observations through rough sketches. These rough sketches can then be used as the basis for more formal scientific drawings.

THE CONVERSATION In partnership with [The Conversation](#), the [Beyond the Bushfires](#) series brings the words of scientists who are actively involved in research and science communication into classrooms throughout Australia. Students will explore evidence-based research embedded in the context of real-world practice.

Additional thanks to the Ian Potter Foundation, John T Reid Charitable Trusts and The Myer Foundation, for generously supporting the development of these lessons

Learning intentions:

- Students understand what the term 'adaptation' means



Vegetation & Bushfire Risk

Learning Intention

- To understand the role of vegetation layers and leaf litter moisture in assessing bushfire risk

Success Criteria

- I can use sticks, small rocks, leaves and drawing in dirt to create a nature map on the ground.
- My map has a stick border and shows the layers I can see in the vegetation (bush). These might include ground cover, shrub layer, and canopy.
- My teacher has taken a photo of my map.
- I watched the burn test.
- I have used my results from the nature map and burn test to colour where I think the bushfire risk is for my location.

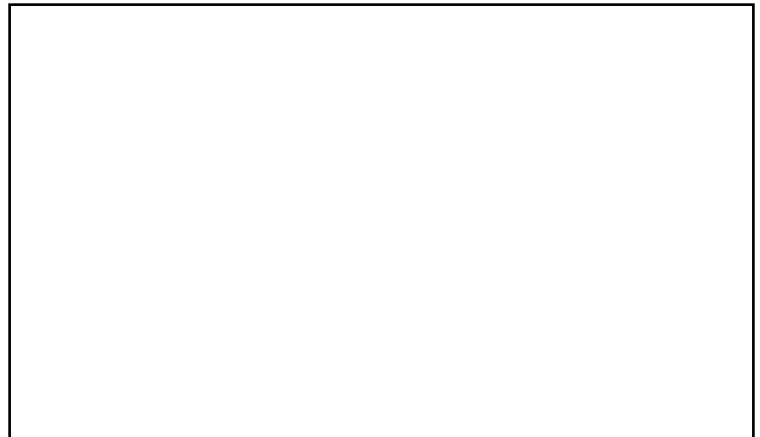


Task

Create a nature map with sticks, leaves and other plant material to show the **layers** and **density** of two different sites. Ask your teacher to take a photo of both nature maps and insert them later into your worksheet.

Site A – Ridgetop

Nature Map: (insert photo back at school)



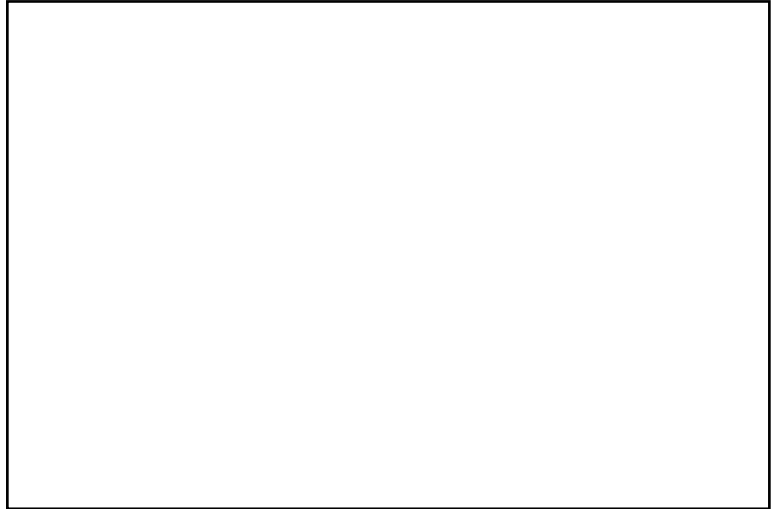
Use your **nature map** (look at the shrub layer) and the results of the **burn test** (moisture content) to evaluate the bushfire risk at Site A.

Circle the box below that corresponds to your results.

Moisture Content	Shrub Layer Density		
	<30%	30-70%	>70%
Wet	LOW-MODERATE	HIGH	VERY HIGH
Moist	HIGH	VERY HIGH	SEVERE
Dry	VERY HIGH	SEVERE	EXTREME

Site B – Gully

Nature Map: (insert photo back at school)



Use your **nature map** (look at the shrub layer) and the results of the **burn test** (moisture content) to evaluate the bushfire risk at Site A. *Circle the box below that corresponds to your results.*

Moisture Content	Shrub Layer Density		
	<30%	30-70%	>70%
Wet	LOW-MODERATE	HIGH	VERY HIGH
Moist	HIGH	VERY HIGH	SEVERE
Dry	VERY HIGH	SEVERE	EXTREME

Activity Summary: Vegetation and Bushfires

How does bushfire risk change with location? Would the Ridge or the Gully be a safer place to live?

Identifying Local Native Plants

Using a Dichotomous Key, you will be asked to identify some of the plants you see at Brewongle EEC.

Do you see any you recognise?

Learning Intention: Students classify and identify some local native plants

Success Criteria:

- I can identify parts and features of plants using scientific language
- I can share and successfully work in a small group
- I can use a dichotomous key to classify and identify some plants

Adaptations to Bushfire

Using the information you learnt in your pre-visit activities, as well as the information in the table provided, you will be creating a Freeform document. Your document should include:

- A title – the name of your chosen plant
- Clear photos of at least 2 parts of the plant which help it withstand or survive after a fire (adaptations)
- Text boxes explaining what each adaptation is and how it helps the plant withstand or survive after fire

Learning Intention: Students recognise some of the adaptations plants have evolved to live with fire

Success Criteria:

- I read the information in the 'Adaptations to bushfire' table
- I chose a plant near me which has 2 or more of the bushfire adaptations discussed or listed in the table
- I can use Freeform on the iPad to take photos of parts of the plant (its adaptations to bushfire) and write about how they help the plant survive
- I can share and successfully work in a small group