



## Science and Geography Stage 3 - WNPEEC

### Impact of Fire and Living Things' Response to Fire

#### Key inquiry questions for the day

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

#### PRE-EXCURSION WORK

#### Woodland bushfire introduction



1. Complete the missing words of the fire triangle

2. What things could provide **heat** to start a bushfire?

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

3. What things could provide **fuel** to start a bushfire or keep it going?

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

4. Identify where the fire would get oxygen from

\_\_\_\_\_

5. What climate conditions make it perfect for fire?

- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_

6. Plants have various ways to survive a bushfire. Research or as a class discuss the various adaptations plants have to enable survival during and after a fire.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



7. As a bushfire advances and passes through an area, some animals have certain strategies that enable them to survive a fire.

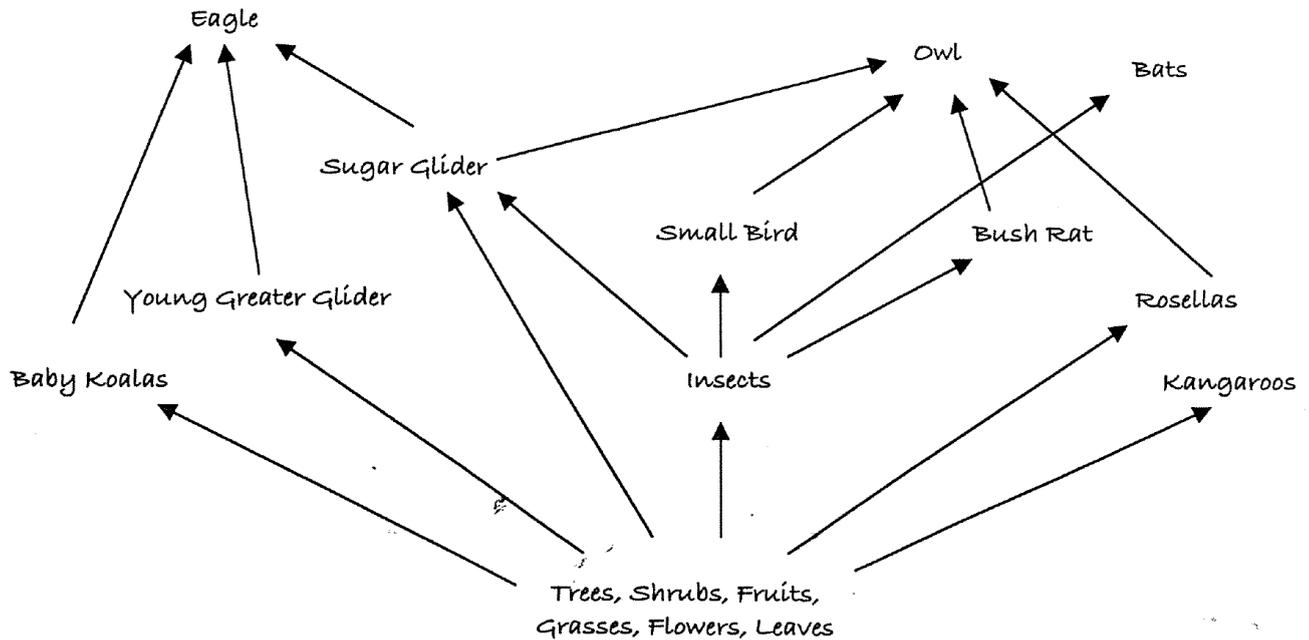
For the animals listed below, describe the strategies they may use to survive a bushfire. Explain how the fire will impact upon their food, water and shelter.

Animal	Survival Strategies	Impact of Fire
Koala		
Goanna		
Native Bee		
Antechinus		
Wedge Tail Eagle		
Woodland Bat		



**Changes following fire - fire and fauna**

The diagram below shows a typical food web found in a woodland ecosystem.



7. An intense bushfire sweeps through the woodland killing some plant species including tall eucalypt trees.  
List the animals you think could escape the bushfire.

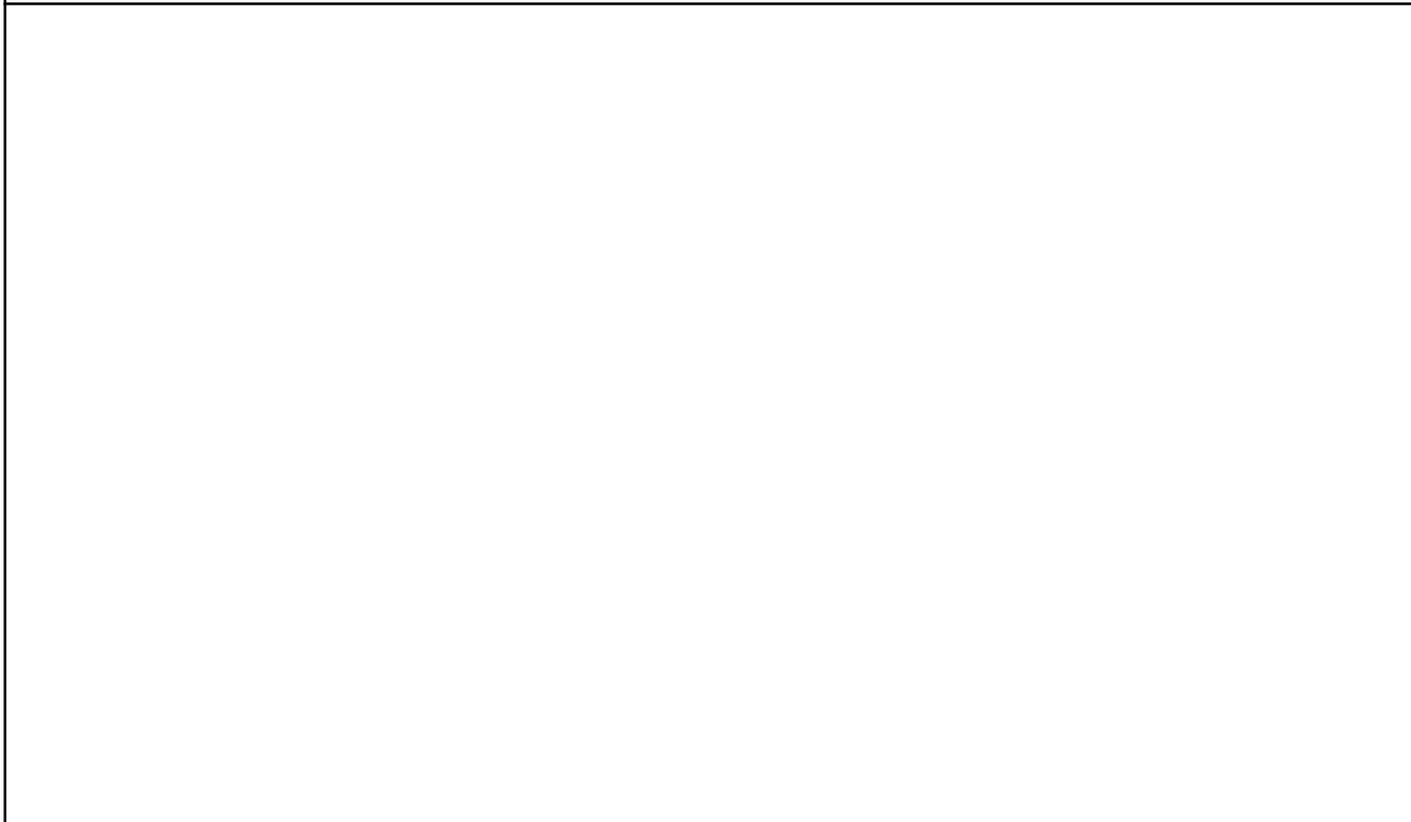
<ul style="list-style-type: none"> <li>• _____</li> <li>• _____</li> <li>• _____</li> </ul>	<ul style="list-style-type: none"> <li>• _____</li> <li>• _____</li> <li>• _____</li> </ul>
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8. A Greater Glider survives the bushfire. Why might it not survive in the short term directly after the fire?

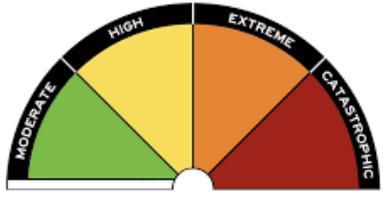
9. After a fire, animals that live on the ground and under shrubs are more visible as they have nowhere to hide. Which animals in the food web would benefit from these new conditions?

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**10.** Draw your home and label what you can do to reduce the impact of bushfires on people and your place.



**11.** What is your area fire rating today?

	 <p>A semi-circular fire rating scale divided into four colored segments. From left to right, the segments are: green (labeled 'MODERATE'), yellow (labeled 'HIGH'), orange (labeled 'EXTREME'), and red (labeled 'CATASTROPHIC'). The labels are written in black capital letters along the top curve of the semi-circle.</p>
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# WNPEEC EXCURSION

## 1. Scientific instruments/tools used to measure fire conditions

Measurements	Instrument/ tool	
Date		
Time		
Temperature (°C)		
Wind speed (km/hr)		
Wind direction (°)		
Humidity (%)		
Fuel load kg/Ha		
Gradient (°)		

## 2. Warrumbungle fire rating investigation

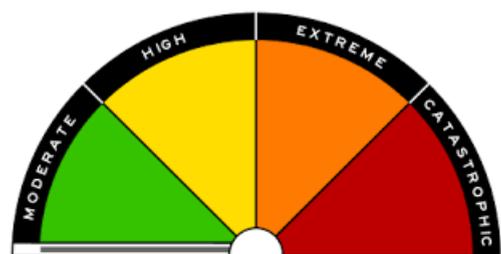
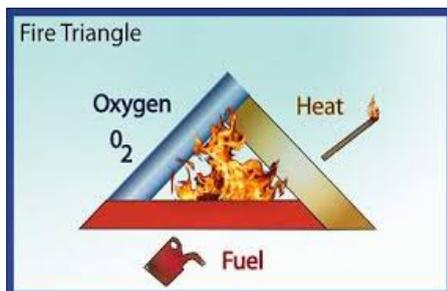
Measurements	Location 1	Location 2
Date		
Time		
Temperature (°C)		
Wind Direction (°)		
Wind Speed (km/hr)		
Humidity (%)		
Fuel Load kg/Ha 1. Gross weight (g/0.25m <sup>2</sup> ) - bag weight = Net weight (g/0.25m <sup>2</sup> ) 2. Net weight X 4 = Net waste (g/m <sup>2</sup> ) 3. Net weight (g/m <sup>2</sup> ) ÷ 1000 = Net waste (kg/m <sup>2</sup> ) 4. Net weight (kg/m <sup>2</sup> ) X 10,000 = net weight (kg/Ha) 5. Net weight (kg/Ha) ÷ 1000 = net weight (t/Ha)		
Gradient (°)		
<b>YOUR FIRE RATING</b>		

3. What location would offer more favourable conditions for a bushfire today?

\_\_\_\_\_

4. Why?

\_\_\_\_\_



## 5. Evidence of regeneration of living things in the Warrumbungle NP after the 2013 fire

(words and drawings)

	Plant regeneration	Animal occupation
<b>Evidence</b>	Epicormic buds and basal buds Lichen on rocks Acacia (wattle) is now thick	Wild pigs eating tree roots Scats - pig, emu, roo, goat View - emu, roos, small birds (Apostle, cockatoo, currawong, brown thornbill), ants Digging - echidna, pigs, rabbit

6. What does your evidence tell you about the regenerative state of the Warrumbungle National Park?

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7. What would else would increase the speed of regeneration?

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

8. Gamilaroi Aboriginal Peoples cared for this area for many thousands of years. How may have they used fire here?

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



9. What could we do to reduce the impact of a bushfire, like the 2013 fire?

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

