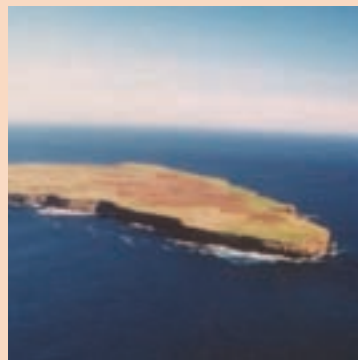




Gunditjmara Country

Theo Watson Read
Together with the
Gunditjmara Community



Gunditjmara Country

Contents

Acknowledgements	4
Introduction	10
Part I The People	
Gunditjmara country	14
• Teacher notes	14
• Gunditjmara country – Pre-contact	15
• The clan	15
• Population decline	15
• Gunditjmara (and official equivalent) place names	16
• Student exercises	18
Archeology among the Gunditjmara	20
• Teacher notes	20
• Archeology among the Gunditjmara	21
• Cultural sites in Gunditjmara Country	22
• Uncle Theo Saunders	23
• Student exercises	24
Gunditjmara Houses	26
• Teacher notes	26
• Gunditjmara houses: The wuurn & karm karm	27
• Student exercises	29
• Practical activity	30
A Gunditjmara gathering place	32
• Teacher notes	32
• A Gunditjmara gathering place – A place of special cultural significance	33
• Student exercises	35
The Gnarraban	37
• Eel pots used by the Gunditjmara	37
• Weaving the Gnarraban – A practical activity	38
• Student exercises	41
Flint: A sedimentary rock with a difference	42
• Teacher notes	42
• Flint: A sedimentary rock with a difference	43
• How flaking is carried out	45
• Student exercises	46
• Practical activity	47
The Lake Condah mission	48
• Teacher notes	48
• The Lake Condah mission	49
• Old Great Aunt Lyall	51
• The Gunditjmara language today	52
• St Mary's church – Lake Condah mission	53
• Student exercises	54
The koala in Gunditjmara country	56
• Teacher notes	56
• The koala in Gunditjmara country	57
• Managing koala populations with high birth rates	58
• Predators of the koala – Past and present	58
• Conservation of the koala in Victoria today – Some difficulties	59
• Student exercises	60

Part 2 The Land

How the landscape came about	66
• Teacher notes	66
• How the Gunditjmarra landscape came about	67
• A traditional Gunditjmarra explanation	67
• Student exercises	70
Landsat image	71
• Teacher notes	71
• Landsat image: Gunditjmarra country, Western District Victoria	72
• Key to Landsat image	73
• Landsat 5: A remote sensing satellite	74
• The Gunditjmarra climate	75
• Geological time line	76
• Student exercises	77
Sleeping volcanoes	79
• Teacher notes	79
• The sleeping volcanoes in Gunditjmarra country	80
• The major Gunditjmarra landforms developed by volcanoes	80
• What did the Old People have to say about the past?	81
• Student exercises	82
Mount Napier volcano	83
• Teacher notes	83
• The Tappoc (Mount Napier) volcano	84
• Types of lava	85
• Lava tubes	85
• Primary lava features: The Tyrendarra basalt lava flow	86
• Secondary volcanic features	87
• Student exercises	88
Topographic maps	90
• The topographic profile	91
• Student exercises	92
Budj Bim (Mount Eccles)	93
• Teacher notes	93
• Budj Bim ('High Head'): It's cultural significance	94
• Budj Bim (Mount Eccles): A geological explanation for its formation	95
• Stage 1: Pressure cooker and layers of lava	95
• Stage 2: Fountains of fire	96
• Student exercises	97
• Scoria cupcakes – A practical activity	98
Why are Gunditjmarra volcanoes so small?	100
• Teacher notes	100
• Why are Gunditjmarra volcanoes so small?	101
• Student exercises	103
• The red eye dog: A legend in an area of cultural significance	104
• An Earth science look at the Dunmoor location	105
• Student exercises	105
Geothermal energy in Gunditjmarra country	106
• Teacher notes	106
• Geothermal energy in Gunditjmarra country	107
• Where does this geothermal energy come from?	107
• Basins and confined aquifers	108
• Environmental considerations for geothermal energy	109
• Commercial applications	109
• The Portland public heated pool – A geothermal facility	110
• Practical activities	111
• Student exercises	115

Part 3 Whose Land?

Kerup, Koon Doom, Taerak (Lake Condah)	122
• Teacher notes	122
• Kerup, Koon Doom, Taerak (Lake Condah)	123
• Crossword puzzle	125
• Student exercises	126
A fish-trap system at Koon Doom	127
• Teacher notes	127
• A fish-trap system at Koon Doom	128
• The stone water race – Traditional Gunditjmara engineering	130
• Student exercises	132
Archeology goes high tech	134
• Teacher notes	134
• Archeology goes high tech	135
• Student exercises	137
Reflooding Lake Condah: A controversial issue	138
• Teacher notes	138
• The drainage of Condah swamp and Lake Condah: The history behind it	139
• Opinions on the issue: Transcripts from interviews	141
• Student exercises	147

Appendix

Absolute dating, relative dating	149
• Teacher notes	149
• Absolute dating	150
• Carbon dating	150
• Relative dating: Age relationships among rocks	151
• Student exercises	152
Subject areas covered	154

Old Great Aunt Lyall

Old Great Aunt Lyall lived all her life at the Condah mission. She told her family stories about corroborees and the traditional times. This is all part of the oral history of the Aboriginal people. She recalled that, sadly, at least one story about the volcano exploding was not passed on because, at the Mission, the old ways were forced to stop. Rations would be cut if traditional skills and stories were found being taught. Great Aunt Lyall:

'You see it's like this - when we were kids - the old people - we never asked them any questions because we weren't game - they'd biff you and send you out to play - tell you nothing. You mustn't be a sticky nose - that's what they they'd reckon we would be. One thing I'll say about them - we had to go to church - we'd get kicked in the backside for not going. One thing I'll say about that old Mission - it was the cleanest living place.'



Traditional Gunditjmarra Men from the 1880s

Great Aunt Lyall tells about the rations the old people received:

'We got groceries - flour, sugar, tea, porridge and rice and things like that - sago, jam, butter, currants and raisins and things like that to make our puddings. The government was paying for it and they got their own meat. So they got their rations and they got their own meat. The old people had rations.'

Great Aunt Lyall talks about life on the mission:

'If you never had a horse and cart to get your wood home, you'd go and cut it and carry it home in a bag. On your back - I've done it plenty of times. Walk into Heywood - twelve miles (18 km), and walk home again with tucker on your back. A lot of kids wouldn't believe that. Nobody thinks I'm telling the truth. A lot of people just wouldn't believe that. There was a stove in the kitchen - what do you call those old ovens - clay ovens. We cooked with a camp oven. I used to knock a damper up in the camp oven and I soon managed to light the fire - light the stove up. Wait till the things get hot. They were good things to cook a stew in when you've got a big family. Big rabbit stews we'd have, and kangaroo, that's for sure. Mostly rabbits we used to catch - we'd go set traps for them, I used to. If I wanted a rabbit I'd set traps for them down the creek. Every veggie we had in the garden, you'd put in, and our kids never said, 'I don't like this and I don't like that'. They would eat what was put on the table, that was their's to eat and they ate it. And kids today say 'I don't like this and I don't like that'. Today kids don't get enough green vegetables - costs you a small fortune to buy a cabbage or cauliflower these days. You'd make apple pies and gooseberry pies, all depends on what was there, and the old orchard down the mission - we'd eat the fruit off the trees. Apples off the trees and make apple pies.'

Student exercises

Pressure cooker and layers of lava

1. What speed might the Mount Eccles lava have reached on sloping ground?
2. Calculate the speed of the lava flow, in kilometres per hour?
3. Would you be able to outrun the lava flow? The average human adult can run at 30 km/hr, a horse at 50 km/hr, a kangaroo at 40 km/hr.



This scoria quarry is in a culturally sensitive area, on the east side of Mount Eccles. The scoria layers provide important information for understanding the 'fire fountaining' process.



Scoria heaps are a common sight at most garden supply yards. Are they connected with the destruction of Australia's cultural heritage?

Commerce versus conservation

Quarrying of basalt, tuff and scoria resources has removed or greatly altered some eruption points. Without the quarries, however, our understanding of volcanic processes would not be so advanced. Little Mount Eccles, a scoria cone, existed 500 metres south of Mount Eccles. It has been completely removed.

Commerce versus conservation: Extension exercise

Discussion exercise

Entire deposits of scoria or tuff have been removed, by quarrying, from some of the smaller eruption points. Other volcanic features have been severely and permanently scarred. Examples are:

1. Little Mount Eccles, a smaller scoria or cinder cone, has been completely removed. Cinder cones of this type are extremely rare in Australia, and occur only in a few places world wide.
2. Budj Bim (Mount Eccles) is very culturally significant to the Gunditjmarra people. Preservation of this local cultural environment is essential to the full cultural interaction with their Gunditjmarra country.

Discuss the key issues that relate to the quarrying. You could consider cultural and natural heritage, and economic/commercial issues. Perhaps focus on these points:

- A. Would these quarries be permitted today and why were they permitted in the first place?
- B. Is it possible to compromise and allow quarries to operate, on a small scale, in a sensitive area?

Practical activity

Chemicals from sea and ground water

You are going to find out what is the main chemical in evaporated sea or ground water. Both sea and ground water have dissolved mineral salts in them. Ground water collects in rock layers under the Earth's surface.

CAUTION: This flame colour test is a very sensitive one. It is best if you do not touch the flame test wire with your skin, or science room bench surfaces. Use plastic gloves, and hold the wire upright in a test tube rack.

Apparatus:

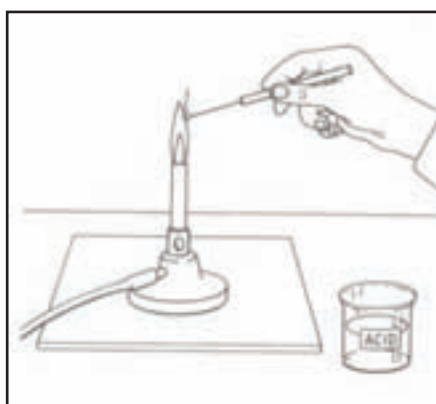
- flame test wire
- test tube rack
- beaker of HCl acid
- evaporating dish
- beaker of sea or ground water
- 4 labelled powders containing calcium, magnesium, potassium and sodium salts.
- heatproof mat
- bunsen burner
- tripod stand
- gauze mat

1. Copy out table

flame colour	Powders containing:				Substance left after vaporating sea water or ground water
	calcium	magnesium	potassium	sodium	

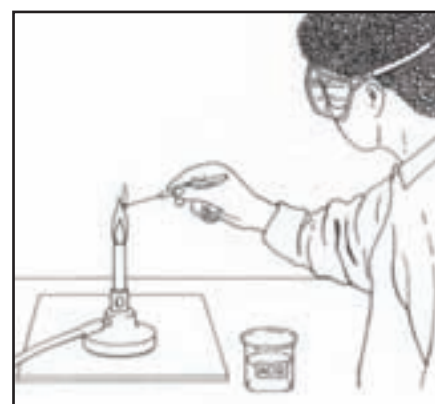
A.

Clean the test wire by dipping the end in the acid. Heat the wire in a strong bunsen flame.



B.

Repeat A until the wire does not colour the flame.



Reflooding Lake Condah: A controversial issue

Teacher notes

This section examines a controversial topic in the community – the reflooding of Lake Condah. Interview transcripts and newspaper cuttings are provided to give students a feel for the issues. The responses are not always what you would expect and students should be able to draw the conclusion that issues like this one are very complex with no simple solution in sight. The actual debate has been waging for more than thirty years. This real life issue is one that students ought to easily become involved with, especially where the recent natural history of the lake and the large range of interest groups are considered.

A. Suggestions for developing the material

1. Read the newspaper articles and pick out some of the key points raised for and against the reflooding of the lake.
2. Who are some of the key interest groups?
3. When was the lake finally partially reflooded?
4. Comment on the period of time involved with these community conflict issues.

B. The interviews

1. What are the main points to be considered as outlined in the Interview Transcripts – list these as ‘for’ and ‘against’.
2. Do people share similar views and opinions? Who are they and what are their common views and reasons.
3. Suggest reasons why: two people did not want their comments recorded on tape; six people did not want to comment.
4. Within a group of four or five, discuss your own views on the reflooding of Lake Condah and write these down.
5. Where do you stand on this issue? Write down your own solution to what is seen as a difficult case in the community.
6. Is there a similar local issue ?

C. Organise a debate

- Three students represent three of the people’s views for, and three represent the views against the reflooding issue.
- The debaters are to present each transcript in their speech. Use other material, e.g. newspaper articles, research articles etc. to help rebutt the opposition’s case.
- Have a question time at the end of the debate, with the rest of the class asking questions of the panel. The other members of the class will need to jot down points during the debate.
- Three students could be appointed as the official media recording group. Their task is to video record the debate as well as interviewing each of the debating teams.