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Let's get specific about the Pacific!

Highlands and atolls

Australia is part of the Pacific region, but, along with New Zealand, it is quite different to many Pacific island countries, which are made up of thousands of small atolls and islands distributed across the Pacific Ocean. The Pacific was the name given by European explorers to an ocean that covers one-third of the world's surface – about 155,557 million square kilometres. Surrounding the Pacific Ocean is the Pacific Ring of Fire, a zone of earthquake and volcanic activity. The Pacific islands have diverse physical forms, ranging from the large continental Papua New Guinea, to the high volcanic islands and the low flat coral atolls.

Sea and mountains have led to groups of people being isolated for thousands of years, so that there are hundreds of 'mini-nations' with distinctive languages and cultures. The Pacific islands were among the last places to be charted by European explorers, and this was followed by periods of colonisation by Spain, France, Britain, Germany and the United States. Colonising countries were not always respectful of the cultures and societies of the Pacific islander peoples. Today there are 14 independent states and nine territories or protectorates with special connections to other countries. Pacific island countries have faced many challenges in moving to independence, including their small size, lack of economic diversity and remoteness from major trade routes. However, many of these countries have demonstrated an ability to draw on their strength, resilience and regional connections to work together and make progress.

Key words and concepts

atolls, colonialism, continental, exclusive economic zones, Gross National Income, independence, Pacific Ring of Fire, population density, protectorates, resilience, tectonic, territories

Rocky Roe, AusAID



Papua New Guinea Highlands

Hilary Macleod



A fale, house, on the island of Vaitupu, Tuvalu

Peter Davis, AusAID



Coastal village, Solomon Islands

Lorrie Graham, AusAID



Fishing on Kiribati



A welcome ceremony on Solomon Islands



Canoes and boats are an important part of life in Pacific island countries.

Thinking about

1. Fill out the **KHW chart** to describe what you know about Australia's Pacific island neighbours. Share this with a partner and continue to add to this throughout your study of the Pacific islands.
2. Classify the questions you have written under 'W' as 'natural', 'economic', 'political' and 'social', on the **development compass rose**.

Write two to three questions for each point of the compass.

During your study of the Pacific you may record your answers and add further questions to your development compass rose.

3. Examine the map of the Pacific on the inside back cover and photos on these two pages.
 - What can you add to your questions above?
 - How do these images expand your view of the Pacific islanders and their lives?
 - Apart from living in the Pacific region, what might people in the Pacific have in common? What differences might there be?

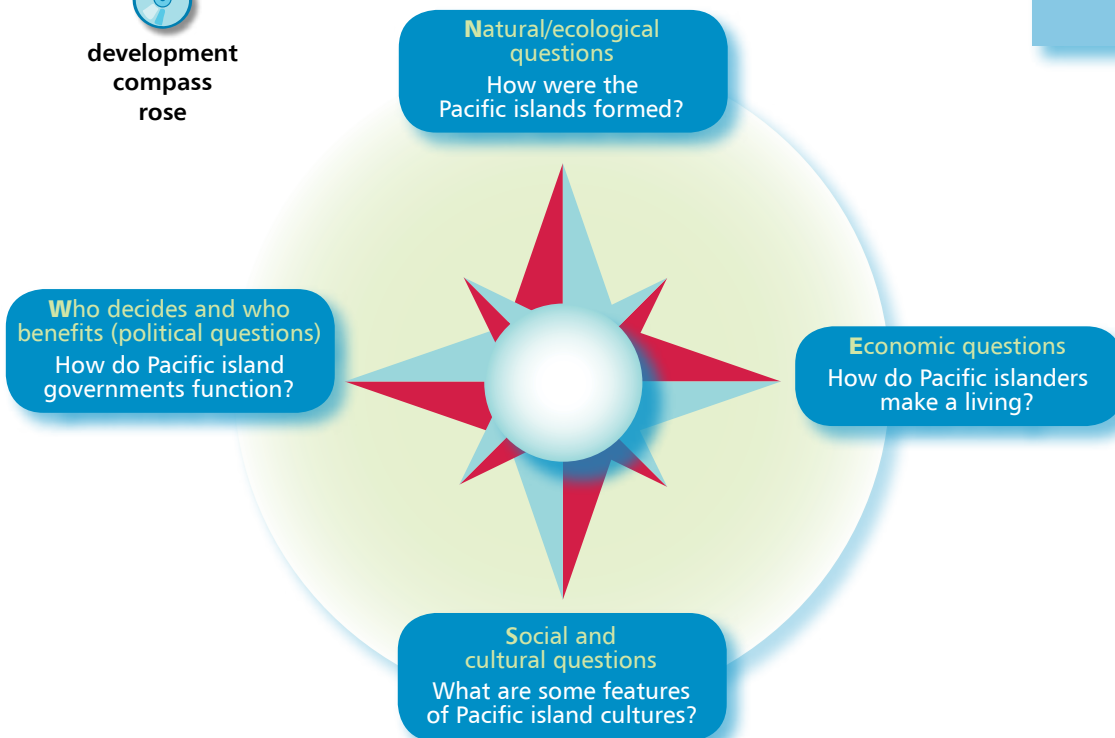


KHW chart













What do I already know?	How do I know it?	What do I want to find out?



development compass rose



Pacific island socioeconomic data

		Capital	Land area (square km)	Exclusive economic zone (square km)*	Population (2008)	Gross National Income per capita (US\$)	Political status	Language(s) spoken
	American Samoa	Pago Pago	199	390,000	66,107	n/a	Unincorporated territory of the USA	Samoan, English, Tongan, other Pacific islander
	Cook Islands	Avarua	240	1,830,000	15,537	13,100	Self-government (in free association with New Zealand)	English, Maori
	Easter Island (Rapa Nui)	Hanga Roa	164	n/a	3,790	n/a	Special territory of Chile	Rapunui
	Federated States of Micronesia	Palikir	702	2,978,000	110,443	2,280	Independent republic (in free association with the USA)	English, 8 indigenous
	Fiji	Suva	18,270	1,290,000	839,324	3,750	Independent parliamentary republic	English, Fijian, Hindustani
	French Polynesia	Papeete	4,167	5,030,000	263,267	n/a	Overseas territory of France	French, Polynesian, Asian languages
	Guam	Hagatna	549	218,000	178,980	n/a	USA territory	English, Chamorro, Philippine languages
	Hawaii	Honolulu	28,311	n/a	1,288,198	n/a	State of the USA	English, Hawaiian
	Kiribati	Tarawa	717	3,550,000	97,231	1,120	Independent republic	I-Kiribati, English
	Republic of Marshall Islands	Majuro	181	2,131,000	53,236	3,240	Republic (in free association with the USA)	Marshallese
	Nauru	Yaren	21	320,000	10,163	2,818	Independent republic	Nauruan, English
	New Caledonia	Noumea	19,060	1,740,000	246,614	n/a	Pays-outrre-mer (overseas country of France)	French, Melanesian-Polynesian languages, 33 indigenous

Pacific island socioeconomic data

		Capital	Land area (square km)	Exclusive economic zone (square km)*	Population (2008)	Gross National Income per capita (US\$)	Political status	Language(s) spoken
	Niue	Alofi	260	390,000	1,549	n/a	Self-government (in free association with New Zealand)	Niuean, English
	Commonwealth of Northern Mariana Islands (CNMI)	Saipan	477	1,823,000	62,969	n/a	Commonwealth (in political union with the USA)	Philippine languages, Chinese, Chamorro, English
	Palau	Melekeok	458	629,000	20,279	8,270	Independent republic	Palauan, Filipino, English, Chinese, Carolinian
	Papua New Guinea	Port Moresby	462,840	3,120,000	6,473,910	850	Independent constitutional monarchy	Tok Pisin, English, Hiri Motu, 860 indigenous languages
	Samoa	Apia	2,860	120,000	179,645	2,700	Independent parliamentary republic	Samoaan, English
	Solomon Islands	Honiara	28,450	1,340,000	517,455	750	Independent constitutional monarchy	Melanesian pidgin, English, 120 indigenous languages
	Tokelau	(none)	10	290,000	1,170	n/a	Non-self governing territory of New Zealand	Tokelauan, English
	Tonga	Nuku'alofa	748	700,000	102,724	2,480	Independent constitutional monarchy	Tongan, English
	Tuvalu	Funafuti	26	900,000	9,729	2,440	Independent parliamentary democracy	Tuvaluan, English, Samoan, Kiribati
	Vanuatu	Port Vila	12,200	680,000	233,026	1,840	Independent parliamentary republic	100 indigenous languages, Bislama, English
	Wallis and Futuna	Mata-Utu	274	300,000	15,472	n/a	Overseas territory of France	Wallisian, Futunian, French

* An exclusive economic zone is a 371 kilometre area of sea around each country, in which the country has exclusive control of fishing, mining and communication.



spreadsheet

Thinking about

This activity uses the map from the inside back cover and flags and the data from the previous table, to help you learn about the Pacific island countries. It could be done as a class activity or individually using the **spreadsheet** on the CD-ROM.

1. To do this as a class, print the names of the 23 countries with their flags (see the previous table) on a white sheet of paper and the capital cities on different coloured paper. Cut out all the names into individual pieces. Randomly distribute one country and one capital city to each class member so they can move around the room to find the capital that matches their country. Each person should end up with a complete matching pair.
2. Each person, or small group, finds their country on the map. Draw a map and/or flag for the country to act as a label for the following activities.
 - a) Hold the map and/or flag so you are recognised as the country and use the data from the table above to stand in order, according to the following:
 - size by land area from biggest to smallest
 - size of area including the economic exclusion zone
 - size of population, from the largest to the smallest.

Which country has the largest population?

Which country has the smallest population?

Why is there a difference between these two orderings by area?

How might Pacific island countries benefit by having control of such large areas of sea?

Using the order of area and population, which country would you expect to be most densely populated? Do the figures confirm this?

- b) Stand in two groups:

- independent countries
- territories.

Look at the designs of the flags and select those that display symbols or colours that might indicate something about the colonial history of the countries. How does this relate to the language they speak?

- c) Stand in order of Gross National Income per capita (the value of all the goods and services produced by the assets that a country and its citizens own, divided by the population to give the average wealth of each person). Are there any patterns that emerge that indicate a relationship between a country's wealth and political status? Suggest reasons to explain the patterns.

Thinking more deeply

In small groups, take one country or territory and using the information from the table on pages 10–11, together with your previous discussions, describe the country. Present your description as a postcard to the rest of the class. Include information about the country's relationship with other Pacific islands, its geography and people.

Pacific island formation

The islands of the Pacific are very diverse because they were formed in three main ways:

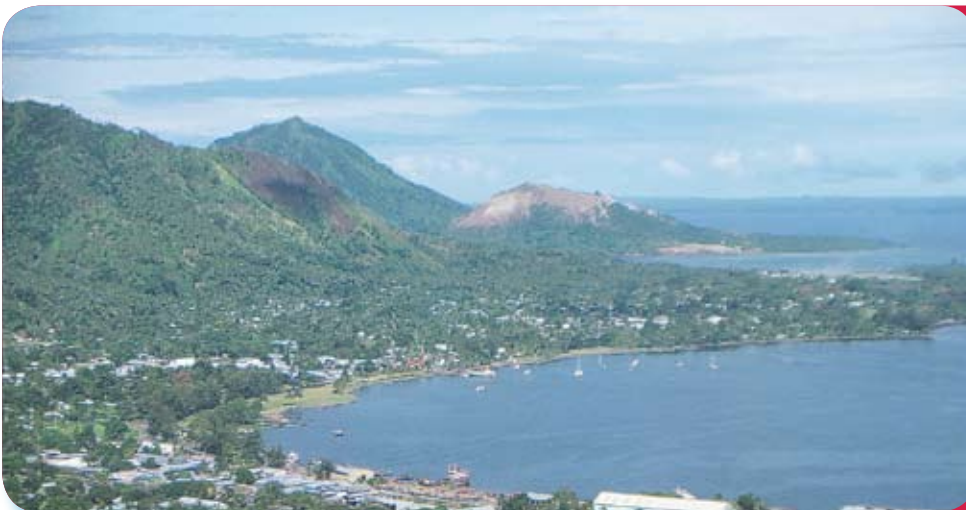
Rocky Roe, AusAID



Continental islands

such as Papua New Guinea and the Solomon Islands are made of the same sort of rock as the nearby continent. These types of islands can have large areas of natural resources such as minerals and forests.

Wally Johnson, Nick Lauer, Shane Nancarrow and Chris McKee, courtesy AGSO



Volcanic islands

such as East New Britain in Papua New Guinea and Fiji are made from volcanic material forced up through weaknesses in the ocean floor. They are generally large and covered with tropical forests.

Peter Hendrie/Lonely Planet Images



Coral atolls

such as those found in Tuvalu and Kiribati are formed by coral growing on the remnants of volcanic islands (see Darwin's theory or scientific version page 14). Due to their low elevations, these types of islands are among the most vulnerable environments on earth to the impacts of climate change.

Tuvalu – How the islands formed

The traditional version

'Tuvalu's islands were created by *Te Pusi*, the eel, and *Te Ali*, the flounder. Carrying home a heavy rock, a friendly competition of strength turned into a fight and *Te Pusi* used his magic powers to turn *Te Ali* flat, like the islands of Tuvalu, and made himself round like the coconut trees. *Te Pusi* threw the black, white and blue rock into the air – and there it stayed. With a magic spell it fell down, but a blue part remained above to form the sky. *Te Pusi* threw it up again, and its black side faced down, forming night. With another spell, the rock fell down on its white side and formed day. *Te Pusi* broke the rest of the rock into eight pieces, forming the eight islands of Tuvalu. With a final spell, he threw the remaining pieces of blue stone and formed the sea.'

The scientific version

'After his Pacific voyages between 1835 and 1836, Charles Darwin proposed that coral atolls were built on slowly sinking volcanoes, while at the same time the crater edge was being built up by new deposits of coral. The subsidence theory explained why coral rock was found at depths far greater than the 40 metres at which coral polyps can survive. His theory was controversial at the time – others believed that reefs grew on underwater platforms raised by volcanic action.

Darwin proposed that a coral atoll be drilled for samples, and Tuvalu achieved scientific fame when the Royal Society of London funded expeditions to Funafuti. In 1898, after three 'boring' expeditions, scientists managed to obtain atoll core samples from 340 metres below the surface. When analysed, they showed traces of shallow water organisms, thus supporting Darwin's hypothesis. Not until 1952, on Enewetok in the Marshall Islands, was it possible to drill to a depth of 1,290 metres (right through the coral structure) and actually reach volcanic rock.'

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Hilary MacLeod

Vili a Tavita (David's bore hole)

Vili a Tavita, David's bore hole, was drilled in 1897 by Sir TW Edgeworth David, a Welsh-born Australian geologist, at Funafuti Atoll in an effort to verify Darwin's theory of the formation of coral atolls.

Thinking about

Use your atlas to find three examples of each type of island formation. Put the formations in order from the oldest to the youngest formation. Explain your reasoning.

Thinking more deeply

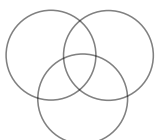
Create a **Venn diagram** that compares and contrasts the three types of island formation.

You could use the following words: mountains, rock, natural resources, mineral resources, sandy beaches, vulnerable to climate change.

1. What elements do they all have in common?
2. What elements make each one distinctive?



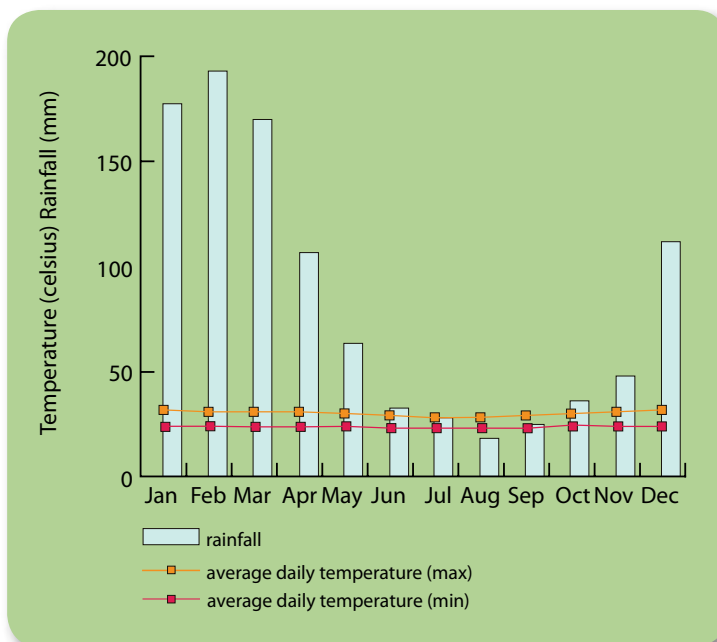
Venn diagram



Climate

Between the Tropics of Cancer and Capricorn, climate is generally hot and humid all year round. Typical daytime temperatures are between 24°C and 31°C with only a few degrees drop at night time. Humidity increases during the tropical summer (November and April). There is variation in climate depending on the size and location of the land and its height above sea level.

Port Moresby, Papua New Guinea
9°S 147°E



Based on information at www.worldclimate.com

Apia, Samoa 13°S 171°E		Average temperature °C	
Month	Average rainfall (mm)	Minimum	Maximum
January	436	24	30
February	359	24	29
March	356	23	30
April	236	24	30
May	173	23	29
June	135	23	29
July	100	23	29
August	111	24	29
September	144	23	29
October	205	24	29
November	259	23	30
December	374	23	29

Thinking about

1. Study the climograph for Papua New Guinea's capital, Port Moresby. Describe the distribution of rainfall experienced over a year stating the wettest and driest months of the year. Is it an even or an uneven distribution? Are there distinct seasons?
2. Describe the pattern of monthly minimum and maximum temperatures for Port Moresby. Which months have the greatest range between the minimum and maximum?

Thinking more deeply

Use the table for Apia, Samoa to create your own climographs. Compare the rainfall and temperatures for Port Moresby and Apia. Which has more rainfall and when? Which has more constant temperatures?

Natural hazards

Natural hazards such as droughts, cyclones, floods, volcanoes, earthquakes and tsunamis affect the Pacific region due to climatic and seismic factors. Climate change and environmental damage is increasing the frequency and intensity of weather-related events, particularly on low-lying islands. Hazards become disasters when they cause loss of life and damage to crops, buildings and infrastructure. Recovery can take many years but improved warning systems and disaster preparedness are helping to limit the impact.

Cyclones

Cyclones are powerful, low pressure weather systems that form over oceans between 20° north and south of the equator, where the water temperatures are at least 26°C. They bring strong winds and coastal flooding and erosion to most Pacific countries. They are most common between November and April. Climate change is increasing the frequency and intensity of storms and sea water damage to coastal areas.

Cyclone Zoe

In 2002, the Pacific island of Tikopia, Solomon Islands, was struck by a cyclone that destroyed at least 70 homes and up to 15 villages were hit. It was about five days before outside help arrived. Miraculously, none of the 3,700 residents died, in part because they followed their traditional practice of sheltering in caves on higher ground until the storm passed.

Stacey Greene, AusAID



Volcanoes

The Pacific Rim is known as the 'Ring of Fire' due to its extensive history of earthquake and volcanic activity. Volcanoes are generally found where tectonic plates are diverging or converging. They result in cracks in the earth's surface, which allows hot, molten rock, ash and gases to escape from below the surface.

Rabaul caldera

Some of the most active volcanoes in the Pacific region are in the area of Rabaul, Papua New Guinea. The town of Rabaul was wiped out in 1994 when two of the volcanoes erupted. Fortunately, effective early warnings meant only two people died.

Wally Johnson, Nick Laue, Shane Nancarrow and
Chris McKee, courtesy AGSO



Tsunamis

Tsunamis are huge waves caused by earthquakes or volcanoes under water. In the Pacific region, tsunamis affect the low-lying coral islands.

Roger Wheatley, AusAID



Solomon Islands tsunami

A major earthquake measuring 8.1 on the Richter scale struck 345 kilometres north-west of the Solomon Islands capital, Honiara on Monday 2 April 2007. It prompted a tsunami, believed to be between two and 10 metres high, killing 52 people and making 7,000 homeless.

Thinking about

1. Create a table showing how the cyclone, volcano and tsunami hazards were caused, how they have affected people and the environment, and the effectiveness of preparations to limit the impact.

Hazard	Cause of hazard: Climatic, geological	Human impact: Number of deaths and injuries	Environmental impact: Damage to infrastructure and recovery	Disaster preparedness: Actions taken to limit impact of hazard
Cyclone				
Tsunami				
Volcano				

2. Which one had the greatest impact? (You will have to consider how you will define 'impact'.)

3. How have people helped to limit the impact of the hazards?

Pacific island people

There are thousands of micro-cultures in the Pacific region. The biggest group in the Pacific are the Samoans, with about 300,000 people speaking the same language and following the same way of life – called the *fa'a Samoa*. However, if they were asked, Samoans would never say they are from the Pacific or live in a Pacific culture – they are Samoan, and come from a specific village, for example *Sava'ia Lefaga*.

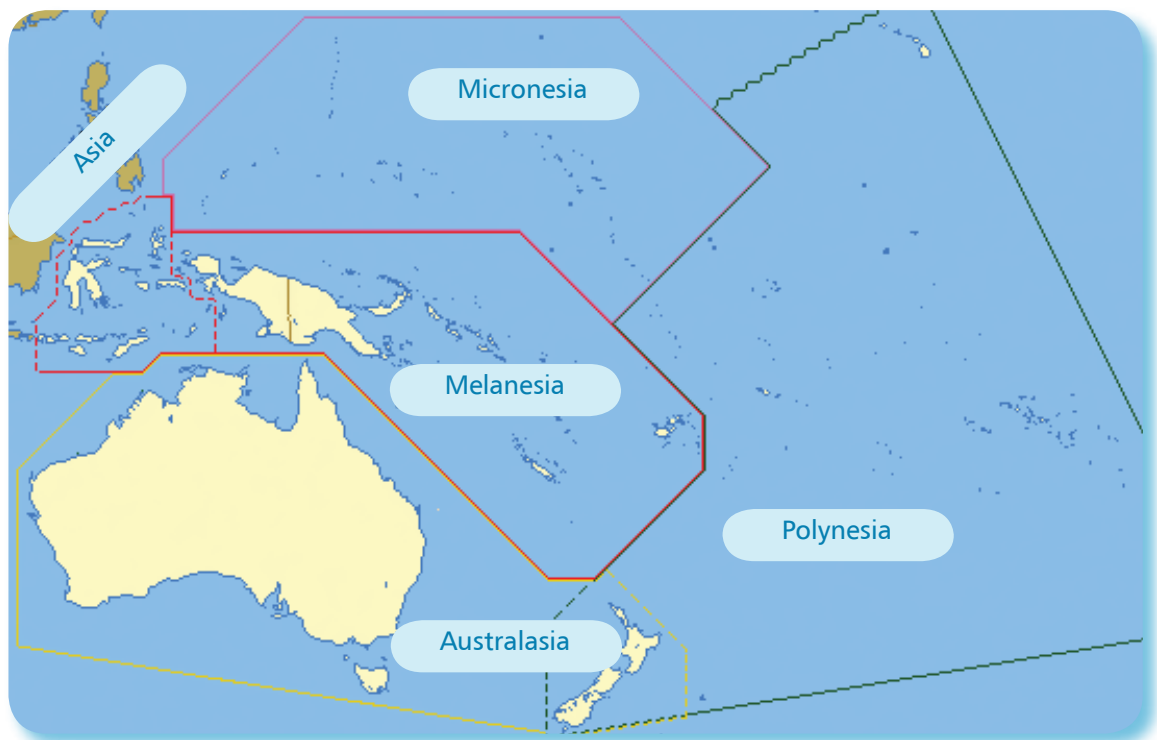
Melanesian, Micronesian and Polynesian regions

Melanesian, **Micronesian** and **Polynesian** are names that were given by Europeans to simplify the complex and diverse populations they discovered during their exploration voyages of the 18th and 19th centuries. These terms are used by Pacific people themselves to describe the people that inhabit these regions, based on generalisations of the geography, languages spoken, ethnicity and cultural practices.

The term **Melanesian** comes from the Greek meaning 'black islands' and is used to describe the large islands south of the equator such as Fiji, New Caledonia, Papua New Guinea, Solomon Islands and Vanuatu.

The term **Micronesian** comes from the Greek meaning 'small islands'. It is used to describe the thousands of small islands mostly north of the equator such as the Commonwealth of the Northern Marianas Islands, the Federated States of Micronesia, Guam, Kiribati, Marshall Islands, Nauru and Palau.

The term **Polynesian** comes from the Greek meaning 'many islands'. It is used to describe the islands that fall within a triangle defined by New Zealand in the south-west, Hawaii in the north and Easter Island (Rapa Nui) in the south-east. Polynesian islands include American Samoa, Cook Islands, French Polynesia, Niue, Pitcairn Island, Samoa, Tokelau, Tonga and Tuvalu.



Regions of the Pacific

Thinking about

1. Examine the map and describe the similarities in geography you find for the Melanesian, Micronesian and Polynesian groups. Note any islands that do not have these features.
2. What are the advantages and disadvantages of countries being grouped together regionally as Melanesia, Polynesia and Micronesia?

Chapter activities

Collecting your thoughts

In small groups, identify one country of the Pacific to investigate. Your research could include some or all of the following activities.

- Describe where the country is in relation to other countries in the Pacific and how you might get there from Australia.
- Describe what it might be like to live there, including issues such as climate, history, population density, average wealth (Gross National Income), population profile and natural and environmental challenges. You could use the development compass rose (page 9) to structure your questions and answers.
- Collect a broad range of images of the country from those on the accompanying CD-ROM and from travel advertisements and brochures, newspapers, magazines and the web. Describe what is included in each of the images. What impressions do these images give you of the Pacific island countries? How do they confirm or contest your first impressions of the Pacific island region? Do these images present the Pacific in a positive or negative way?

Present your findings in class and compare them with the findings of others.

Some more detailed questions about **photo interpretation** are included on the CD-ROM.

Taking action

Collect articles from the media and analyse the impression they convey of Pacific island countries and Pacific islanders in Australia. Create a display which could be added to during your study of Pacific island countries. Discuss whether you think the impressions conveyed represent the diversity of the peoples of Pacific islands.



**photo
interpretation**