UNIT 2 CHANGING NATIONS

TOPIC 8
Urbanisation

8.1 Overview
Numerous videos and interactivities are embedded just where you need them, at the point of learning, in your learnON title at www.jacplus.com.au. They will help you to learn the content and concepts covered in this topic.

8.1.1 Introduction
There are many advantages to living in large cities — for example, the economic benefit brought about by sharing the costs of providing fresh water, electricity or other energy sources and public transport between many people. There may be social benefits, because the cities provide a wider choice of sporting, recreational and cultural events. However, there are also disadvantages of living in a large city environment.
8.2 Where do most Australians live?
8.2.1 Why do Australians live where they do?

Australians live on the smallest continent and in the sixth largest country on Earth. With a population of 23 million and an area of 7,690,000 square kilometres, our population density is 2.9 people per square kilometre. We may think of ourselves as an outback-loving, farming nation, but we mostly live near the coast.

Most Australians currently live within a narrow coastal strip which extends from Brisbane in the north to Adelaide in the south. Over 80 per cent of Australians live in towns that have more than 1000 residents and are located within 50 kilometres of the coast. Australians love the beach, but is it just a coastal location that can explain this uneven population distribution pattern?

Figure 2 shows the distribution of rainfall within Australia. Comparing figures 1 and 2, it is apparent that there is a strong interconnection between the availability of more than 800

INQUIRY SEQUENCE

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>Overview</td>
</tr>
<tr>
<td>8.2</td>
<td>Where do most Australians live?</td>
</tr>
<tr>
<td>8.3</td>
<td>Where have Australians lived in the past?</td>
</tr>
<tr>
<td>8.4</td>
<td>What is urbanisation?</td>
</tr>
<tr>
<td>8.5</td>
<td>Is Australia an urbanised country?</td>
</tr>
<tr>
<td>8.6</td>
<td>SkillBuilder: Understanding thematic maps</td>
</tr>
<tr>
<td>8.7</td>
<td>How urban are the United States and Australia?</td>
</tr>
<tr>
<td>8.8</td>
<td>SkillBuilder: Creating and reading pictographs</td>
</tr>
<tr>
<td>8.9</td>
<td>SkillBuilder: Comparing population profiles</td>
</tr>
<tr>
<td>8.10</td>
<td>How has international migration affected Australia?</td>
</tr>
<tr>
<td>8.11</td>
<td>Why are people on the move in Australia?</td>
</tr>
<tr>
<td>8.12</td>
<td>Why are people on the move in China?</td>
</tr>
<tr>
<td>8.13</td>
<td>Review</td>
</tr>
</tbody>
</table>

Starter questions

1. What are some examples of recreational, social or cultural activities that are found only in larger cities?
2. Apart from congestion of people and traffic issues, what are some disadvantages of living in a large city rather than a smaller town?
3. As a class, brainstorm some of the advantages and disadvantages of large cities, such as New York, Tokyo, São Paolo and Shanghai.
4. Would you rather live in a large city or a small country town? Explain your answer.
mm of rainfall per year and population densities of more than 10 and more than 100 people per square kilometre in the east, south-east and south-west of Australia. It would be easy to say that Australians live in places where rainfall is higher, but if you look at these maps carefully there are major exceptions to this spatial pattern. What is the relationship between population density and total rainfall in the north of Australia? Is the population density high in the regions of high rainfall in Queensland and the Northern Territory?

Coastal locations and rainfall are not the only reasons Australians live where they do. The availability of mineral resources, irrigation schemes to enhance farm production, and remote and stunning tourist destinations are geographical factors that draw people to live in a particular place.

8.2.2 How do population densities in Australia compare with those in other places?

Figure 1 shows both the population distribution and density for Australia in the present day. To better understand this data, we need to compare Australia’s population density with that of other places in the world. This map shows that small areas around the major state capital cities have population densities of over 100 people per square kilometre of land. Look at table 1 and you can see that the average population density for Australia is well below the global average, and is easily the lowest of any of the permanently inhabited continents.
The population density of Australia is similar to that of Canada (3 people per square kilometre), but much lower than that of New Zealand (15 people per square kilometre), the United States (29 people per square kilometre) or China (134 people per square kilometre). Consider the geographical factors that Australia might share with Canada but not New Zealand, the United States or China that could explain the significant difference between their population densities.

### TABLE 1 The average population density for each continent

<table>
<thead>
<tr>
<th>Continent</th>
<th>Average population density (people per km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>95</td>
</tr>
<tr>
<td>Europe</td>
<td>73</td>
</tr>
<tr>
<td>Africa</td>
<td>34</td>
</tr>
<tr>
<td>North America</td>
<td>22</td>
</tr>
<tr>
<td>South America</td>
<td>22</td>
</tr>
<tr>
<td>Australia</td>
<td>3</td>
</tr>
<tr>
<td>Antarctica</td>
<td>0.00007</td>
</tr>
</tbody>
</table>

### 8.2 Activities

To answer questions online and to receive **immediate feedback** and **sample responses** for every question, go to your learnON title at www.jacplus.com.au. **Note:** Question numbers may vary slightly.

**Remember**

1. Which regions of Australia have the highest population density?
2. What is the difference between population density and population distribution?

**Explain**

3. What geographical factors other than rainfall may lead to the uneven distribution of population in Australia?
4. Use the statistics in Table 1 to produce a world map that illustrates the contrasts between the average population densities for each continent. **Hint:** A pictograph may best highlight the differences.
5. Refer to figures 1 and 2 to produce an overlay map that identifies the **interconnection** between the distribution of population and the distribution of rainfall within Australia.
   (a) Describe areas where there are strong similarities between these two features, i.e. high population distribution and high rainfall, or low population distribution and low rainfall.
   (b) Describe **places** that have a high population distribution but low rainfall or vice versa.

**Discover**

6. Use your atlas to identify and list:
   (a) geographical land forms or climatic features that are common to Australia and Canada. **Hint:** Look for large regions that have an extreme climate. Explain why.
   (b) reasons New Zealand, the United States or China may have a higher population density than Australia. Explain.
7. Use various theme maps of Australia in your atlas to identify at least four possible **place or environmental** explanations for the pattern of distribution and density of Australia’s population. Discuss your findings with the class.

**Predict**

8. Write a paragraph to explain the possible **change** in the distribution of Australia’s predominantly urban population over the next 50 years if one of the following situations occurs.
   (a) the coastal urban areas become adversely affected by loss of land due to rising sea levels.
   (b) a 20-year-long drought occurs in south-eastern Australia.

**Think**

9. Use information from **figure 2** to explain why, in the future, there may be significant movement of people from the southern states of Australia to **places** in the tropical north. Your answer must refer to specific information from the map.
8.3 Where have Australians lived in the past?

8.3.1 Before European occupation

Prior to European arrival to Australia, where did the Indigenous peoples live?

Until 1788, Indigenous Australian peoples inhabited all parts of Australia (see figure 1). The most densely populated areas, with 1–10 square kilometres of land per person, were the south-east, south-west and far north coastal zones, the north of Tasmania and along the major rivers of the Riverina region (south-western New South Wales).

The population density of Aboriginal and Torres Strait Islander peoples was highest in places close to coastal and river environments. These places had the best availability of food and other resources. In a location such as Port Jackson, New South Wales, food was abundant, meaning that the inhabitants needed to spend only about four hours each day hunting or gathering enough for their survival. In places where rainfall was unreliable, such as central Australia, the local peoples found it harder to survive. They often needed more than half a day to hunt and gather enough to satisfy their basic needs. When food resources ran low or with changing seasons, communities moved on to another part of their country. Being nomadic, they could manage their environment by not over-using the resources available at any one site.

8.3.2 Where do the Aboriginal and Torres Strait Islander peoples live today?

It is believed that in 1788 there were between 350 000 and 700 000 Aboriginal and Torres Strait Islander peoples, although within 50 years this population had been greatly reduced by disease and British colonists. There are currently more than 520 000 Aboriginal and Torres Strait Islander peoples, making up about 2.5 per cent of Australia’s population.

![Figure 1: Where Aboriginal and Torres Strait Islander peoples lived in 1788](image-url)
The Australian environment has changed significantly since 1788. Much land has been cleared, shaped and blasted for cities, farms and mines. Other than the management of vegetation by fire, prior to European colonisation the landscape of Australia had not been greatly altered by its human inhabitants. By the twenty-first century, little of Australia’s environment has not been changed significantly by human occupation.

The patterns shown in figures 1 and 2, showing the distribution of Aboriginal and Torres Strait Islander populations in 1788 and 2006, are generally very similar. Since before 1788, most of Australia’s peoples have tended to live in the same relatively small region of this country.

**FIGURE 2** Where Aboriginal and Torres Strait Islander peoples live today

![Map showing the distribution of Aboriginal and Torres Strait Islander peoples in 2006.](image)

**FIGURE 3** Many Aboriginal and Torres Strait Islander families enjoy living in remote parts of the country.

![Image of Aboriginal children in a remote area.](image)

**FIGURE 4** Regional distribution of Aboriginal and Torres Strait Islander peoples and the non-Aboriginal and Torres Strait Islander population of Australia

- **Aboriginal and Torres Strait Islander population**
  - Remote: 25%
  - Major cities or regional centres: 75%

- **Non-Aboriginal and Torres Strait Islander population**
  - Remote: 2%
  - Major cities and regional centres: 98%
8.3 Activities

To answer questions online and to receive immediate feedback and sample responses for every question, go to your learnON title at www.jacplus.com.au. Note: Question numbers may vary slightly.

Remember
1. How many Aboriginal and Torres Strait Islander peoples:
   (a) lived in Australia in 1788
   (b) live in Australia today?

Explain
2. (a) Identify the climatic zones in figure 5 that best match the population density areas in figure 1.
   (b) For each of the states shown in figure 1, write a sentence to describe the climate for the region.
      For example, ‘This region has a mostly mild to subtropical climate with rainfall all year round.’

Discover
3. Refer to figure 4. Living so far away from major cities means that 25 per cent of Aboriginal communities have limited access to many of the services and opportunities that cities offer their residents. In a small group, brainstorm the lifestyle and service difficulties that may be associated with living so remotely.

Think
4. Collect some statistics that identify the health, wealth and educational inequalities which exist between Aboriginal and Torres Strait Islander peoples and non-Aboriginal and Torres Strait Islanders. For example, Aboriginal males have a life expectancy 17 years less than that of non-Aboriginal males born in the same year. Use the ABS weblink in the Resources tab to start your research. Write a paragraph or produce a series of graphs to comment on the inequalities you have discovered.
8.4 What is urbanisation?

8.4.1 Urbanisation

As the world’s population increases, urban areas continue to grow. In some regions, people are moving from rural to urban areas at very high rates.

Urbanisation is the growth and expansion of urban areas and involves the movement of people to towns and cities. The earliest cities emerged about 5000 years ago in Mesopotamia (part of present-day Iran, Iraq and Syria). Originally these cities depended on agriculture. In 1800, 98 per cent of the global population lived in rural areas and most were still dependent upon farming and livestock production — only 2 per cent of people lived in urban areas.

However, as cities grew and trade developed, urban areas became centres for merchants, traders, government officials and craftspeople. By 2008, the number of people living in urban areas had increased to 50.1 per cent, and in 2016 the figure had risen again to 54.5 per cent (see also figure 2). The rate of growth has varied in different regions (see figure 1).

![Figure 1: The growth in urban populations over time](image-url)
8.4.2 Uneven urbanisation

Urbanisation has not occurred evenly across the world. Some countries are predominantly rural, such as Cambodia and Papua New Guinea (populations 79 per cent and 87 per cent rural respectively), whereas others are almost completely urban, such as Belgium and Kuwait (98 per cent urban for both). In fact, some countries have 100 per cent urbanisation, including Bermuda, Cayman Islands, Hong Kong, Macau, Monaco and Singapore. South America is becoming one of the most urbanised regions in the world and currently has a population of around 385 million people. It is estimated that, by 2050, 91.4 per cent of its population will be residing in urban areas.

Coastal urbanisation

People have lived on coastlines for thousands of years. Often at the mouth of rivers, coastal settlements became centres of trade and commerce and quickly grew into cities. Today, about half the world’s population lives along or within 200 kilometres of a coastline (see figure 4). This means about 3.2 billion people live on only 10 per cent of the Earth’s land area.
Countries that have over 80 per cent of their population living within 100 kilometres of a coastline include the United Kingdom, Senegal, Portugal, Belgium, the Netherlands, Sweden, Norway, Tunisia, Greece, Oman, the United Arab Emirates, Kuwait, Qatar, Sri Lanka, Japan, Singapore, Indonesia, Malaysia, the Philippines, Australia and New Zealand.

**FIGURE 4** Cape Town in South Africa is a city located on the coast.

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**8.4 Activities**

To answer questions online and to receive immediate feedback and sample responses for every question, go to your learnON title at www.jacplus.com.au. Note: Question numbers may vary slightly.

**Remember**
1. Define urbanisation in your own words.

**Explain**
2. How has urbanisation changed from 1950 to the present? How is this different around the world? What is expected to happen in the future?
3. Explain how figure 1 shows that urbanisation has varied in different regions of the world. Which two regions have the greatest rural population?
4. Use the Urbanisation Gapminder weblink in the Resources tab to watch an animation on urbanisation.
   (a) What does the graph show?
   (b) What do the colours represent?
   (c) In 1963, name two countries that were at the bottom of the graph and two at the top.
   (d) Why does Singapore appear where it does on the graph? What is an ‘urban nation’?
   (e) Why do the ‘bubbles’ increase in size over time?
   (f) Which regions were highly urbanised in 2004?
   (g) What do the positions of the bubbles show about urbanisation in Africa, South Asia and China?

**Discover**
5. Refer to a world population density map in your atlas or online. Compare this map with the two regions that have the highest rural population. What pattern do you see?
6. Look at figure 2, which shows the population in urban areas. Identify and name the three countries with the highest and the three with the lowest percentage of people living in urban areas. Write a description of the general pattern shown in the map. Include patterns within different continents in your description.

**Predict**
7. Look at a physical map in an atlas to locate the countries with more than 80 per cent of their population located on the coast. Study the location of each country and create a table to record possible reasons for this pattern.

**Think**
8. Rural areas are where most food is produced. What are two possible outcomes for food production if urbanisation continues?
9. Draw a sketch of the photograph of Cape Town in figure 4. Annotate the sketch, identifying the possible advantages and disadvantages to the natural environment when cities and towns are located on the coast.
Is Australia an urbanised country?

8.5.1 Australians in urban areas

With a population of 24 million people and a very large landmass, Australia has an average population density of only 3.1 people per square kilometre. Yet 84 per cent of people live within 50 kilometres of the coast, and most of these people — in 2014, 89 per cent of Australians — live in urban areas.

Australia is one of the most urbanised and coast-dwelling populations in the world and the level of urbanisation is increasing (see figure 1). From Federation (1901) until 1976, the number of Australians living in capital cities increased gradually from a little over one-third (36 per cent) to almost two-thirds (65 per cent). From 1977 to the present, the population in capital cities has grown to 66 per cent. It is estimated that by 2053 this will have grown to 72 per cent (with an estimated 89 per cent in the four largest capital cities).

All Australia’s capital cities have grown over time, as have many regional urban areas such as the Gold Coast and Moreton Bay regions. This growth is expected to continue in the future (see table 1).

<table>
<thead>
<tr>
<th>City</th>
<th>2016 population</th>
<th>Projected 2031</th>
<th>Projected 2061</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney</td>
<td>4,986,714</td>
<td>6,206,843</td>
<td>8,493,740</td>
</tr>
<tr>
<td>Melbourne</td>
<td>4,605,993</td>
<td>5,984,219</td>
<td>8,580,556</td>
</tr>
<tr>
<td>Brisbane</td>
<td>2,397,068</td>
<td>3,190,129</td>
<td>4,787,996</td>
</tr>
<tr>
<td>Adelaide</td>
<td>1,340,503</td>
<td>1,566,929</td>
<td>1,920,727</td>
</tr>
<tr>
<td>Canberra</td>
<td>405,827</td>
<td>520,412</td>
<td>740,903</td>
</tr>
<tr>
<td>Hobart</td>
<td>222,533</td>
<td>247,320</td>
<td>270,655</td>
</tr>
<tr>
<td>Darwin</td>
<td>140,943</td>
<td>170,153</td>
<td>225,873</td>
</tr>
<tr>
<td>Total</td>
<td>16,280,775</td>
<td>21,134,555</td>
<td>30,471,856</td>
</tr>
</tbody>
</table>

Source: Australian Bureau of Statistics

FIGURE 1 A map of Australia's population distribution in 2011 shows that it is highly urbanised and coastal.

TABLE 1 Australian capital city populations 2016 and projected 2031 and 2061
8.5.2 What are the consequences of a highly urbanised Australia?

More land is needed when cities expand and this results in the greatest change — from agricultural to urban land. This has been called urban sprawl. Sydney’s Greater Metropolitan Region now extends from Port Stephens in the north to Kiama in the south. Some townships in the Blue Mountains are now also considered part of Sydney despite being located 50–120 kilometres west of Sydney’s CBD (see figure 2). Melbourne, Perth and Brisbane have also spread into distant, previously agricultural areas.

Historically, urban areas were settled where the land was flat, the water and soil were good and the climate was temperate — in other words, where good farmland is located. When cities spread, the sprawl takes over arable land (land able to be farmed for crops). Urban sprawl has long-term effects, as it is very difficult to bring the soil back to its former state once the predominant land use has been for buildings.

Many of Australia’s cities have been called ‘car cities’ due to the reliance on cars and road networks for transport. These have an impact on commuting times to and from workplaces (see figure 3).

8.5.3 Ecological footprint

The amount of productive land needed on average by each person (in the world or in a country, city or suburb, for example) for food, water, transport, housing and waste management is known as an ecological footprint. It is measured in hectares per person per year. The average global ecological footprint is 2.84; Australia has an average ecological footprint of 9.3 (see table 2). The country with the highest ecological footprint is Luxembourg with 15.8.

![Figure 2 Urban sprawl (shown in purple) in Sydney](image)

![Figure 3 Average weekly commuting times in selected Australian cities](image)

<table>
<thead>
<tr>
<th>City</th>
<th>Ecological footprint value (hectares/person/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perth</td>
<td>7.66</td>
</tr>
<tr>
<td>Canberra</td>
<td>7.09</td>
</tr>
<tr>
<td>Darwin</td>
<td>7.06</td>
</tr>
<tr>
<td>Brisbane</td>
<td>6.87</td>
</tr>
<tr>
<td>Sydney</td>
<td>6.82</td>
</tr>
<tr>
<td>Adelaide</td>
<td>6.72</td>
</tr>
<tr>
<td>Melbourne</td>
<td>6.33</td>
</tr>
<tr>
<td>Hobart</td>
<td>5.50</td>
</tr>
</tbody>
</table>
8.5 Activities
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Remember
1. What percentage of Australians live in urban areas? Of these, what percentage live in urban areas close to the coast?
2. List the disadvantages of urban sprawl.

Explain
3. Refer to figure 1 and describe the population distribution of Australia.
4. Refer to table 1. Draw a bar graph to show the predicted change in the populations of Australia’s capital cities. What does your graph reveal?
5. Describe the spread of Sydney shown in figure 2. Use an atlas to explain why growth has not occurred as much to the north and south as it has to the west.
6. Describe the average commuting times shown in figure 3. What reasons can you give for the differences between cities?

Discover
7. Conduct research to find which country in the world has the highest average population density. Find one country with a lower average population density than Australia.

Predict
8. Use your atlas or online research to find an urban growth map for the capital city in your state or territory. Describe the change that has taken place over time. Using this map and a physical map of your state or territory, predict where future growth might occur. Justify your responses.

Think
9. (a) What is an ecological footprint?
   (b) Refer to table 2. How does the ecological footprint data compare for Australian cities?
   (c) How do these figures compare with the average global ecological footprint?
   (d) Use the UAE ecological footprint weblink in the Resources tab to watch a video. How does the ecological footprint in the United Arab Emirates compare to that of Australian cities? What would happen if all cities had such a high footprint?
   (e) Create your own advertisement or animation using a video editing program to encourage people in your capital city to reduce their ecological footprint.
10. Study table 2 and your graph again. Consider the issues and problems that increasing city populations will create. Discuss this as a class and construct a consequence chart to summarise all the ideas. What might be some solutions to these issues and problems? Add this to your chart.

Explore more with this weblink: UAE ecological footprint

Deepen your understanding of this topic with related case studies and questions.

Urbanisation in Australia
8.6 SkillBuilder: Understanding thematic maps

WHAT IS A THEMATIC MAP?

A thematic map is a map drawn to show one aspect; that is, one theme. For example, a map may show the location of vegetation types, hazards, or weather. Parts of the theme are given different colours or, if only one idea is conveyed, symbols may show location.

Go online to access:

• a clear step-by-step explanation to help you master the skill
• a model of what you are aiming for
• a checklist of key aspects of the skill
• a series of questions to help you apply the skill and to check your understanding.

FIGURE 1 Thematic map of the major landform regions of Australia.

Watch this eLesson: Watch this video to learn how to understand thematic maps.
Searchlight ID: eles-1658

Try out this interactivity: Use this interactivity to learn how to understand thematic maps.
Searchlight ID: int-3154
8.7 How urban are the United States and Australia?

8.7.1 Urbanisation in the United States and Australia

Both the United States and Australia are very large countries that are highly urbanised. In fact, both are among the world’s most urbanised nations.

The United States and Australia have some similarities and some differences in terms of how urbanised they are, as revealed in table 1 and figure 1.

<table>
<thead>
<tr>
<th></th>
<th>United States</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>320 000 000 (2015 census)</td>
<td>23 800 000 (2015)</td>
</tr>
<tr>
<td>Population distribution</td>
<td>Over 81% live in urban areas, and 19.5% in rural areas.</td>
<td>Over 89% live in urban areas, less than 11% in rural areas.</td>
</tr>
<tr>
<td>People living in large cities</td>
<td>The United States has 10 cities that have a population of more than 1 million people.</td>
<td>Australia has 5 cities that have a population of more than 1 million people.</td>
</tr>
<tr>
<td></td>
<td>Approximately 1 of every 10 people in the United States live in either the New York or Los Angeles metropolitan areas.</td>
<td>Approximately 4 of every 10 people in Australia live in either Melbourne or Sydney.</td>
</tr>
</tbody>
</table>

**TABLE 1** A comparison of urbanisation in the United States and Australia

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**FIGURE 1** Population of the top 10 urban settlements in (a) the United States (2015) and (b) Australia (2014)

(a) USA
- New York, New York State
- Los Angeles, California
- Chicago, Illinois
- Houston, Texas
- Philadelphia, Pennsylvania
- Phoenix, Arizona
- San Antonio, Texas
- San Diego, California
- Dallas, Texas
- San Jose, California

(b) Australia
- Sydney, New South Wales
- Melbourne, Victoria
- Brisbane, Queensland
- Perth, Western Australia
- Adelaide, South Australia
- Gold Coast/Tweed Heads, Qld/NSW
- Newcastle, New South Wales
- Canberra, Australian Capital Territory
- Wollongong, New South Wales
- Sunshine Coast, Queensland
8.7.2 Causes of urbanisation

The causes of urbanisation are similar for both Australia and the United States. In each case, since the country was founded:

• fewer people were needed to work in rural areas as technology reduced the demand for labour on farms
• more jobs and opportunities were available in factories, which were located in urban areas
• the development of railways allowed goods produced in one city to be transported to rural and urban areas
• cities could grow and develop thanks to new technologies (steel-framed skyscrapers) and utilities (for example, electricity and water supply).

8.7.3 Consequences of urbanisation = conurbations

Conurbations

Sometimes there are so many cities in a particular region that they seem to merge almost into one city as they expand. A conurbation is made up of cities that have grown and merged to form one continuous urban area. Both the United States and, to a lesser extent, Australia have conurbations.

United States

Eleven conurbations have been identified in the United States (see figure 2). The major conurbation is in the north-east region. It is often called BosNYWash because it covers the area from Boston in the north, through New York, to Washington in the south. This region is home to over 50 million people and accounts for 20 per cent of the gross domestic product (GDP) of the United States.

Australia

Australia, on the other hand, has only two main conurbations (see figure 3). One is in south-east Queensland; the other, the Newcastle–Wollongong conurbation, stretches for over 250 kilometres and is home to almost six million people.
8.7.4 Other consequences of urbanisation

Homelessness

It has been estimated that there are more than 560,000 homeless people (living on the streets or in temporary shelters) in the United States and more than 105,000 homeless people in Australia. One reason for this is that urban housing projects do not provide affordable housing for the poor.

In the United States the highest number of homeless per capita reside in New York (130), Atlanta (131), Boston (132), Washington (133) and Honolulu (134).

Health issues

High population densities in urban areas make it easier for diseases to be transmitted, especially in poor neighborhoods. The urban poor suffer health issues caused by reduced access to sanitation and hygiene facilities and health care.

Pollution

Air pollution from cars, industry and heating affects people who live in cities. A study in the United States showed that more than 3800 people die prematurely in the Los Angeles Basin and San Joaquin Valley region of southern California because of air pollution. Generally, Australia has a fairly high level of air quality. Cars and industry are the main factors influencing air quality in urban areas.

**FIGURE 3** Australia’s population centres and conurbations

![Map of Australia showing population centres and conurbations](image_url)

*Source: Australian Bureau of Statistics*
8.7 Activities

To answer questions online and to receive immediate feedback and sample responses for every question, go to your learnON title at www.jacplus.com.au. Note: Question numbers may vary slightly.

Remember
1. How does the population of the United States compare to that of Australia? How many times larger (approximately) is one than the other?
2. Refer to figures 2 and 3. Describe the distribution of the population in the United States and in Australia.
3. What is a conurbation?

Explain
4. Refer to table 1.
   (a) Compare the scale of urbanisation in the United States and in Australia.
   (b) Compare the numbers of people living in large cities in the United States and in Australia.
5. Refer to figure 1.
   (a) Compare the size of the 10 largest cities in the United States and in Australia.
   (b) What might explain the differences you noticed?
6. Explain, in your own words, the causes of urbanisation in the United States and Australia.

Think
7. Why do you think both Australia and the United States have conurbations?
8. Why might there be more conurbations in the United States than in Australia?

Discover
9. Conduct research to find out about other consequences of urbanisation in the United States and Australia, such as those affecting traffic, provision of adequate public transport, water supply and energy, waste management issues, urban sprawl and loss of farmland.

8.8 SkillBuilder: Creating and reading pictographs

WHAT IS A PICTOGRAPH?

A pictograph is a graph drawn using pictures to represent numbers, instead of bars or dots which are traditionally used on graphs. A pictograph is a simple way of representing data and conveying information quickly and efficiently in a different format.

Go online to access:
• a clear step-by-step explanation to help you master the skill
• a model of what you are aiming for
• a checklist of key aspects of the skill
• a series of questions to help you apply the skill and to check your understanding.

<table>
<thead>
<tr>
<th>FIGURE 1</th>
<th>Top five countries by population, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Population</td>
</tr>
<tr>
<td>China</td>
<td>1 324 700 000</td>
</tr>
<tr>
<td>USA</td>
<td>1 149 300 000</td>
</tr>
<tr>
<td>India</td>
<td>304 500 000</td>
</tr>
<tr>
<td>Brazil</td>
<td>239 900 000</td>
</tr>
<tr>
<td>Indonesia</td>
<td>195 100 000</td>
</tr>
</tbody>
</table>
8.9 SkillBuilder: Comparing population profiles

WHAT IS A POPULATION PROFILE?

A population profile, sometimes called a population pyramid, is a bar graph that provides information about the age and gender of a population. The shape of the population profile tells us about a particular population. Comparing population profiles of different places helps us try to understand how and why they may be similar or different.

**FIGURE 1** Population profiles of Indonesia and Vanuatu, 2010

(a) Indonesia, 2010

Watch this eLesson: Watch this video to learn how to create and read pictographs.
Searchlight ID: eles-1659

Try out this interactivity: Use this interactivity to learn how to create and read pictographs.
Searchlight ID: int-3155
Go online to access:
- a clear step-by-step explanation to help you master the skill
- a model of what you are aiming for
- a checklist of key aspects of the skill
- a series of questions to help you apply the skill and to check your understanding.

**RESOURCES — ONLINE ONLY**

**Explore more with this weblink**: Watch this video to learn how to compare population profiles.
Searchlight ID: int-1704

**Try out this interactivity**: Use this interactivity to learn how to compare population profiles.
Searchlight ID: int-3284
8.10 How has international migration affected Australia?

8.10.1 Why have people migrated to Australia?

Australia is a land of migrants. In a way we are all migrants — at some stage in the past, our ancestors came to this country to live. Today, half of our population of just over 23 million people either was born overseas or has at least one parent who was born overseas.

Since the earliest times, people have moved from one part of the world to another in search of places to live. Migrants have come to Australia for many reasons (see figure 1).

FIGURE 1 Reasons for immigration to Australia.

- High standard of living
- Political stability
- Good human rights record
- Good education and health facilities
- Social services
- Democracy
- Green environment
- Employment/jobs
- Clean environment
- Family reunions
- Good education and health facilities

FIGURE 2 Origin of Australia’s migrants, 1949–1959

Source: Spatial Vision
8.10.2 Where have our migrants come from?

At first, migrants to Australia came exclusively from Europe (see figure 2), however, since 1975, the country has attracted more immigrants from Asia (see figure 3 and table 2). Despite this, the most common ancestries today are still English, Australian, Irish, Scottish and Italian (see table 1).

Where have our migrants settled?

When they arrive, migrants tend to live in capital cities because of the greater availability of jobs and to be near family members, friends and people from the same country (see table 2). In 2011, 82 per cent of the overseas-born population in Australia lived in capital cities, compared with 66 per cent of all people in the country. About one-third of the population in our large cities was born overseas.

Overseas-born migrants who arrived in the past 20 years are more likely to live in a capital city than those who arrived before 1992 (85 per cent compared to 79 per cent).

Migrants from certain countries tend to be attracted to certain Australian states or territories more than others (see table 3). For example:

- more than half of all overseas-born people in Western Australia, South Australia and Tasmania were born in the United Kingdom and Ireland. Western Australia is the state with the highest proportion of its population having been born overseas, and is home to around one in five of all British-born migrants in Australia.
- Queensland has the greatest proportion of migrants born in Papua New Guinea and New Zealand.

**TABLE 1 Ancestry of Australians, 2011**

<table>
<thead>
<tr>
<th>Ancestry (top responses)</th>
<th>Number of Australians</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>7 238 533</td>
<td>25.9</td>
</tr>
<tr>
<td>Australian</td>
<td>7 098 486</td>
<td>25.4</td>
</tr>
<tr>
<td>Irish</td>
<td>2 087 758</td>
<td>7.5</td>
</tr>
<tr>
<td>Scottish</td>
<td>1 792 622</td>
<td>6.4</td>
</tr>
<tr>
<td>Italian</td>
<td>916 121</td>
<td>3.3</td>
</tr>
</tbody>
</table>

*Source: © Australian Bureau of Statistics, licensed under a Creative Commons Attribution 2.5 Australia licence*
• nearly half of all Australian migrants born in Greece live in Victoria. People from Sri Lanka, Turkey and Greece also tend to live in Victoria. Victoria is home to the second-largest number of overseas-born people.
• New South Wales, Victoria and Western Australia account for about 80 per cent of Asian migrants.
• combined, Victoria and New South Wales are home to almost 80 per cent of migrants from Vietnam.

Not only have immigrants tended to settle in larger cities, they have settled in particular suburbs and regions within the capital cities. Many migrants have settled in inner Sydney, for example, and especially in western Sydney suburbs (see figure 4).

8.10.3 Effects of international migration
Social effects
Migration has helped increase Australia’s population. The increase in population from only seven million at the
end of World War II to more than triple that now is caused by both the arrival of migrants and increased birth rates since then (see figure 5).

Migrants to Australia have contributed to our society, culture and prosperity. Many communities hold festivals and cultural events where we can all share and enjoy the foods, languages, music, customs, art and dance.

Australian society is made up of people from many different backgrounds and origins. We have come from more than 200 countries to live here. Therefore, we are a very multicultural society — one which
needs to respect and support each other’s differences, and the rights of everyone to have their own culture, language and religion.

**Economic effects**
An increased population also means a greater demand for goods and services, which stimulates the economy. Migrants need food, housing, education and health services, and their taxes and spending allows businesses to expand. Apart from labour and capital (money), migrants also bring many skills to Australia (see figure 6).

Migrants generate more in taxes than they consume in benefits and government goods and services. As a result, migrants as a whole contribute more financially than they take from society.

**Environmental effects**
In the past, people argued that immigrants put pressures on Australia’s environment and resources by increasing our population and the need for water, energy and other requirements. Today, however, many people believe that Australia’s environmental problems are not caused by migration and population increase, but by inadequate planning and management.

**8.10.4 The future**
Since 1995, the Australian government has been working to encourage new migrants to settle in regional and rural Australia. The Regional Sponsored Migration Scheme (RSMS) allows employers in areas of Australia that are regional, remote or have low population growth to sponsor employees to work with them in those regions (see figure 7). This takes the pressure off large cities and also provides regional employers with skilled workers. As we have seen, it has always been the case that most immigrants settle first in our cities, especially the state capitals. However, more migrants are now choosing to settle initially in regional areas. Around one in six new permanent arrivals are settling in regional Australia. There are many regional locations that want to attract migrants.

![Figure 7](image-url)
8.11 Why are people on the move in Australia?

8.11.1 What makes Australians move?

In the United States, it is common for young people to leave home and travel to a university in another state or on the opposite side of the country. This is less common in Australia.

People move for many reasons. The average Australian will live in 11 houses during their lifetime — this means that many people will live in more. You may move to live in a larger house, or a smaller house as your family size or income changes. On retirement you may want to live near the mountains or the sea.

Forty per cent of Australians have changed the place where they live in the past five years (see table 1). Some have moved only within their suburb, but 6 per cent, or 1.2 million people, have moved from a different country.

The major movements of Australians since 1788 are shown in figure 1. The Great Australian Divide separates Australia into two regions, known as the Heartland and the Frontier. The Heartland is home to about 19 million people who live in a modern, urbanised, industrial state. The Frontier is a sparsely populated region of only about three million people who live in a place that is remote but rich in resources.

Sea change or tree change

The population movement caused by ‘sea change’ or ‘tree change’ — a move from an urban environment to a rural location — is a national issue affecting coastal and forested mountain communities in every
state in Australia. The movement involves people who are searching for a more peaceful or meaningful existence, who want to know their neighbours and have plenty of time to relax. Local communities in high-growth coastal and mountain areas often cannot afford the services and increased infrastructure, such as roads, water and sewerage, that a larger population requires. Geelong, Wollongong, Cairns and the Gold Coast are all popular places for sea changers to settle.

Not every sea changer loves their new life, and many return to the city. Factors such as distance from family, friends, cultural activities and various professional or health services may pull people back to their previous city residences.
8.11.2 Fly-in, fly-out workers

Employment opportunities have grown within the mining industry in places such as the Pilbara. However, local towns do not have the infrastructure, such as water, power and other services, to support a large population increase. Rental payments for homes can be as high as $3000 per week; many places do not have mobile phone reception, and even internet access can be costly and slow. One way to attract workers to these regions is to have a fly-in, fly-out (FIFO) workforce. FIFO workers are not actually ‘settlers’, as they choose not to live where they work. Some mine workers from the Pilbara live in Perth or even Bali, and commute to their workplace on a weekly, fortnightly or longer-term basis. The permanent residents of these remote towns are uneasy with the effects of the FIFO workforce because they change the nature of the town but choose not to make it their home. By not living locally, their wages leave the region and are not invested in local businesses and services.

8.11.3 Seasonal agricultural workers

Many jobs in rural areas are seasonal — for example, the picking and pruning of grapes and fruit trees requires a large workforce for only a few months each year. Many children born in rural areas leave their homes and move to the city for education, employment or a more exciting lifestyle than the one they knew in the country. This means that there are not enough agricultural workers to cover the seasonal activities.

Backpackers plus people from Asia and the Pacific Islands on short-term work visas often provide the seasonal workforce in these regions. Country towns such as Robinvale in northern Victoria now have Asian grocery stores, an Asian bakery and a shop selling Tongan canned goods, providing the seasonal workforce with a taste of home. Robinvale has more than 20 nationalities as either residents or seasonal workers.

8.11 Activities

To answer questions online and to receive immediate feedback and sample responses for every question, go to your learnON title at www.jacplus.com.au. Note: Question numbers may vary slightly.

Remember
1. What does FIFO mean?
2. What is the difference between a tree changer and a sea changer?

Explain
3. Refer to figure 1. Explain the difference between Australia’s Heartland and its Frontier.
4. Look carefully at figure 1 and explain how the gap between Australia’s east and west is predicted to alter over the next 40 years.

Discover
5. List the positive and negative factors of making a tree change or sea change as a:
   (a) family with young children
   (b) retired couple.
6. Convert table 1 into a pie graph, either using Excel software or by hand using a protractor. Describe the patterns that you can identify in your graph.

Predict
7. Do you think that the patterns you described in question 6 will still be evident in five years’ time? Explain your answer.

Think
8. A more recent population migration is towards high-rise apartment living in the centre of major cities. How might this trend impact on these new residents and the sustainability of the environment their migration is creating? Use examples to justify your stance.
8.12 Why are people on the move in China?

8.12.1 Reasons for rural–urban migration

China has been experiencing a changing population distribution. The country’s urban population became larger than that of rural areas for the first time in its history in 2012, as rural people moved to towns and cities to seek better living standards. China has become the world’s largest urban nation.

Chinese labourers from the provinces have been moving to coastal cities in search of job opportunities, following reforms in 1978 which opened up China to foreign investment. Until then, rural–urban migration was strictly forbidden in China. Since then, more than 150 million peasants have migrated from the inner provinces to cities, mainly on the east coast. About half of rural migrants moved across provinces. This is the largest migration wave in human history (see figure 1).

Pull factors

Migrants from rural areas are attracted to urban regions largely for economic reasons — a higher income is achievable in a city (see figure 3). The average income of rural residents is about one-fifth that of urban residents on the east coast of China. Social factors are also important, with more opportunities for career development being available in cities; many people also desire a more modern urban lifestyle, with the benefits brought about by access to improved infrastructure and technology.

FIGURE 1 People from Chinese inland provinces with lower wages and Human Development Index (HDI) values have moved to cities and provinces with higher HDIs and incomes.

HDI

- 0.600–0.699
- 0.700–0.749
- 0.750–0.799
- 0.800–0.849
- 0.850+

Number of migrants 1995–2000

- >2 500 000
- 1 000 000–2 500 000
- <1 000 000

Source: Spatial Vision

Source: Spatial Vision
Push factors

Increasing agricultural productivity since the late 1970s has resulted in fewer labourers being needed on farms and thus a huge surplus of rural workers. These people have been forced to move to more urban areas in order to find employment. Agricultural production has meanwhile become less profitable, so workers have again been driven to cities to try to improve their economic situations (see figure 2).

FIGURE 2 A dramatic rural–urban migration shift has been occurring in China. In 2010, over half of China’s population lived in rural areas, but by 2014 it was 46 per cent.

Political factors are also influential. China’s central planners have encouraged local leaders in poor regions to encourage people to move to the cities. Their slogan was ‘the migration of one person frees the entire household from poverty’.

FIGURE 3 In 2015, Shanghai’s population was estimated to be 23.74 million.
8.12.2 Consequences of rural–urban migration

- China’s urban population rose from around 170 million people in 1978 to 540 million in 2004, and then to nearly 800 million in 2015.
- In 1949, 89 per cent of people lived in rural areas; by 1979 this figure had dropped to 81 per cent. In 2014 this figure was 46 per cent.
- It is expected that, within 20 years, only 25 per cent of China’s population will be living in rural areas, while the number of city-dwellers will rise to well over 1 billion people.
- Some people predict that by 2025, China will have 15 super-cities with an average population of 25 million people each.
- It is thought that the number of people living in China’s countryside could shrink from 500 million to 400 million people.
- Labourers from rural regions working in cities have to leave their families for months at a time or more.
- Tens of millions of people are classified as rural dwellers, even though they spend most or all of their time working in the cities. These people are denied access to social services, including subsidised housing, income support and education for their children.
- A shift to an increased urban population results in reduced population pressures on the land.
- Up to 40 per cent of rural income comes from urban workers sending money to their families at home.

8.12 Activities

To answer questions online and to receive immediate feedback and sample responses for every question, go to your learnON title at www.jacplus.com.au. Note: Question numbers may vary slightly.

Remember
1. How has the percentage of people living in China’s rural areas changed since 1949? What is this number expected to be in the future?
2. Describe the main changes that have occurred within China’s urban population since 1978.

Explain
3. Explain in your own words the main reasons for the dramatic change in China’s population distribution.
4. Classify each of the various consequences of this change as positive or negative.

Discover
5. Use the China’s urban growth weblink in the Resources tab to respond to the following:
   (a) Describe population changes in the various cities in China.
   (b) ‘The largest population growth has occurred in cities on China’s coastline.’ How true is this statement? Explain your answer using figures from the website.

Think
6. Creatively (in graphic or diagrammatic form) present some of the dramatic statistics in this subtopic to inform others of the scale of the changes happening to the distribution of China’s population.

learnON RESOURCES — ONLINE ONLY

- Try out this interactivity: Urban/rural China: Use this interactivity to learn more about China's rapid urbanisation.
  Searchlight ID: int-3117
- Explore more with this weblink: China’s urban growth
  Searchlight ID: int-3116
8.13 Review

8.13.1 Review
The Review section contains a range of different questions and activities to help you revise and recall what you have learned, especially prior to a topic test.

8.13.2 Reflect
The Reflect section provides you with an opportunity to apply and extend your learning. Access this subtopic at www.jacplus.com.au