Case Study: Australia

LI: To understand urbanisation issues and management strategies in Australia
Warm Up

Match the place names to the map:

- Darwin
- Tasmania
- Hobart
- Perth
- Melbourne
- Queensland
- Adelaide
- Western Australia
- Canberra
- Northern Territory
- Brisbane
- South Australia
- Sydney
- New South Wales
- Victoria
- Australian Capital Territory
Urbanisation

In 1910, fewer than 40% of Australians lived in the six state capitals. Today, the state capitals account for 64% of the urban population. More than 86% of the population live in urban centres, including 54% of the population living in major capital cities.

Source: TradingEconomics.com
# Climate Regions of Australia

<table>
<thead>
<tr>
<th>Region</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equatorial Regions</td>
<td>These regions experience extremes in temperature. They are located close to the Earth's equator.</td>
</tr>
<tr>
<td>Tropical Regions</td>
<td>Tropical areas experience humid wet and dry seasons, with temperatures remaining similar throughout the year.</td>
</tr>
<tr>
<td>Subtropical Regions</td>
<td>Subtropical areas experience long, hot, dry summers and wet winters, with short transition seasons (spring and autumn).</td>
</tr>
<tr>
<td>Desert Regions</td>
<td>These regions experience little to no rainfall. They are not often populated due to harsh weather conditions.</td>
</tr>
<tr>
<td>Grassland Regions</td>
<td>Grassland regions experience hot summers and cold winters, with rainfall mostly occurring in late spring to early summer.</td>
</tr>
<tr>
<td>Temperate Regions</td>
<td>Temperate regions experience the four seasons as European countries would. Temperatures are cooler in comparison.</td>
</tr>
</tbody>
</table>
A choropleth map shows shaded areas in proportion to a value or measurement on a map. An example choropleth map is shown to the right, demonstrating the climate regions of Australia.

Which climate zone covers the biggest area?

Which climate zone do we live in (Ipswich)?

Identify push and pull factors for each zone.
Compare this map with one on the previous slide – which climate zone does most of the population live in?
Features of a Map

**B**ORDER – Where the edges of a map are.

**O**rientation – Indicates direction of north.

**L**egend – Shows what the symbols mean.

**E**title – Describes the map.

**S**cale – Actual distance comparison to map.

**O**riginal – Who made the map.
Mapping Activity

Use the data below to create a choropleth map on the paper provided.

<table>
<thead>
<tr>
<th>Australian State</th>
<th>Number of Users</th>
<th>% of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales</td>
<td>4,500,000</td>
<td>31.57%</td>
</tr>
<tr>
<td>Victoria</td>
<td>3,700,000</td>
<td>25.95%</td>
</tr>
<tr>
<td>Queensland</td>
<td>3,000,000</td>
<td>21.04%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>1,500,000</td>
<td>10.52%</td>
</tr>
<tr>
<td>South Australia</td>
<td>1,000,000</td>
<td>7.01%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>240,000</td>
<td>1.68%</td>
</tr>
<tr>
<td>Australian Capital Territory</td>
<td>230,000</td>
<td>1.61%</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>86,000</td>
<td>0.60%</td>
</tr>
</tbody>
</table>

Source: Quip, January 2016
Mapping Activity

After comparing your map with those around you, answer the following:

Identify the state that Facebook might make the most money from.

Describe the types of maps that are easiest to read (colour, legend, words).

Explain the benefit of measuring numbers vs. percentage of population for this data.

Brainstorm data sets that would be useful to present on a choropleth map.

Predict the characteristics of the state that has the least Facebook users.
A common characteristic of Australian capital cities is urban sprawl which is the movement and spread of a city as its population grows. Australia’s two largest cities, Sydney and Melbourne, sprawl over an area four times larger than European cities with a similar population. These Australian cities consume more than double the amount of fuel for transport and generate three times the amount of greenhouse gases. The continued growth of these cities threatens the quality of the water from the surrounding catchments, the quality of the air and the cleanliness of the oceans.

Brainstorm some ways that urban sprawl could be avoided or reduced?
Canberra is the most thoroughly planned Australian city. After Federation in 1901, it was decided to build a capital city midway between Sydney and Melbourne. Canberra is dominated by government-related function and major national institutions. A competition was held to design the city, and American architect Walter Burley Griffin was successful with a plan for concentric ‘zones’.

How does Canberra’s city plan help to prepare for and avoid urban sprawl?
Population pyramids

Working age of a population is defined by country’s laws – this group is capable of sustaining the population’s dependent groups.

The population is expressed in millions, thousands, or percentage of population.

Differences in age or gender divisions can reveal a lot about a country, particularly if one group is disproportionate.

Large numbers high up the pyramid indicate high life expectancy.

Elderly (60+) are a dependent group of the population.

Bulges in the pyramid indicate higher fertility than normal or mass migration.

Young (<14) are also a dependent group of the population.

Large numbers of children indicate high birth rates.
Expansive population pyramids are used to describe populations that are young and growing. They are often characterised by their typical ‘pyramid’ shape, which has a broad base and narrow top. Expansive population pyramids show a larger percentage of the population in the younger age cohorts. These types of populations are typically representative of developing nations, whose populations often have high fertility rates and lower than average life expectancies.

Explain the issues that may be associated with this population type.

Brainstorm reasons for a population having a low life expectancy.
Constrictive population pyramids are used to describe populations that are elderly and shrinking. They typically look like a beehive, with the graph tapering in at the bottom. They often have smaller percentages of people in the younger age cohorts and are typically characteristic of countries with higher levels of social and economic development, where access to quality education and health care is available to a large portion of the population.

Explain the issues that may be associated with this population type.

Brainstorm reasons for this population pattern – low dependents.
Stationary, or near stationary, population pyramids are used to describe populations that are not growing. They are characterised by their rectangular shape, displaying somewhat equal percentages across age cohorts that taper off toward the top. These pyramids are often characteristic of developed nations, where birth rates are low and overall quality of life is high.

Explain the issues that may be associated with this population type.

Brainstorm reasons for a population having low birth rates.
Graphing Activity

Use the data below to create a population pyramid for New York (2010).

<table>
<thead>
<tr>
<th>Male</th>
<th>Age</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,185,241</td>
<td>0-9</td>
<td>1,134,536</td>
</tr>
<tr>
<td>1,318,791</td>
<td>10-19</td>
<td>1,258,943</td>
</tr>
<tr>
<td>1,392,205</td>
<td>20-29</td>
<td>1,398,907</td>
</tr>
<tr>
<td>1,243,534</td>
<td>30-39</td>
<td>1,289,750</td>
</tr>
<tr>
<td>1,372,856</td>
<td>40-49</td>
<td>1,444,180</td>
</tr>
<tr>
<td>1,279,626</td>
<td>50-59</td>
<td>1,377,710</td>
</tr>
<tr>
<td>852,614</td>
<td>60-69</td>
<td>986,857</td>
</tr>
<tr>
<td>458,665</td>
<td>70-79</td>
<td>603,533</td>
</tr>
<tr>
<td>273,615</td>
<td>80+</td>
<td>508,919</td>
</tr>
</tbody>
</table>
Graphing Activity

Use your population pyramid for New York to answer the questions:

Identify the type of population pyramid New York has, using evidence.

Identify the dependent groups of New York's population.

Identify which age category has the largest percentage of the population.

Describe the characteristics of this population, given its population pyramid type.

Predict the type of issues New York may face, given its population distribution.