TOPIC 1
The world of Geography

1.1 What is Geography?

1.1.1 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.

The world around us is made up of a large range of interesting places, people, cultures and environments. Geography is a way of exploring, analysing and understanding this world of ours: especially its people and places. Studying Geography at school allows you to build up your knowledge and understanding of our planet, at different scales: the local area, our nation, our region and our world. In essence, geographers investigate the characteristics of places and the relationships between people and places.

1.1.2 Geography is ... about our wonderful world
Have you ever visited a place other than the one you live in? If so, you probably would have noticed some of the features and characteristics are similar, and some are different. Geographers aim to understand these characteristics as well as the relationship between people and the different environments around us.

As a geographer, you answer questions ranging from the local to the global, in the past, present and future. Along the way you will develop skills and inquiry methods to answer these questions for yourself.

FIGURE 1 Our planet is made up of a large variety of fascinating places, peoples, cultures and environments.
1.1.3 Geography is … something you do

One of the best parts of studying Geography is the opportunity to visit places outside the classroom. Going on a field trip allows you to collect data and information for yourself and to work collaboratively with other members of your class.

Geographers use what is called an ‘inquiry’ approach. This means that you will investigate geographical questions by collecting, analysing, and interpreting information and data in order to develop your own understanding and draw your own conclusions. This helps you develop proposals for what should happen and what action should be taken in the future.

Studying Geography develops a wide range of skills that you can apply in your everyday life, in your future life and possibly in your career.

1.1.4 Geography is … a way of thinking

Geography is a way of thinking and a way of looking at the world. One of the key tools geographers use is a map. If you look really carefully at them, maps (such as the ones on this page and the next) contain a lot of information. As a student you will often use a variety of different types of maps produced by someone else (e.g. from this textbook, atlases and online). However, as a geographer you will produce your own maps and spatial information, by hand or digitally. Using and interpreting maps are important skills you will develop. It is also important to identify major patterns and trends in maps in order to unlock information they contain.

As a geographer you will use a set of geographical concepts to not only help you think geographically but also to investigate and understand the world.
These concepts are space, place, interconnection, change, environment, sustainability and scale (see pages 6–11).

As a geographer you should also ask yourself: ‘What can I do and contribute as an informed and responsible citizen to make this world a better place?’.

**FIGURE 5** Maps: a key tool for the geographer

(a) Total rainfall (mm)

<table>
<thead>
<tr>
<th>Rainfall Range</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–49</td>
<td>0–49</td>
</tr>
<tr>
<td>50–99</td>
<td>50–99</td>
</tr>
<tr>
<td>100–149</td>
<td>100–149</td>
</tr>
<tr>
<td>150–199</td>
<td>150–199</td>
</tr>
<tr>
<td>Over 299</td>
<td>Over 299</td>
</tr>
</tbody>
</table>

Path of Typhoon Nesat

Source: NASA Earth Observatory

(b) Acute food insecurity phase

- No or minimal food security
- Stressed
- Crisis
- Emergency
- No data available

Source: USAID, FEWS NET 2011

(c) Predicted change in annual run-off due to climate change, 2084

<table>
<thead>
<tr>
<th>Change Range</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease (%)</td>
<td>Increase (%)</td>
</tr>
<tr>
<td>2–4</td>
<td>2–4</td>
</tr>
<tr>
<td>5–9</td>
<td>5–9</td>
</tr>
<tr>
<td>10–19</td>
<td>10–19</td>
</tr>
<tr>
<td>20–39</td>
<td>20–39</td>
</tr>
<tr>
<td>40 or more</td>
<td>40 or more</td>
</tr>
</tbody>
</table>

Source: Geophysical Fluid Dynamics Laboratory, National Oceanic and Atmospheric Administration
FIGURE 6 Topographic maps are very useful for geographers as they provide a large amount of detail about places and environments.
1.2 Geographical concepts

1.2.1 Overview

Geographical concepts help you to make sense of your world. By using these concepts you can both investigate and understand the world you live in, and you can use them to try to imagine a different world. The concepts help you to think geographically. There are seven major concepts: **space**, **place**, **interconnection**, **change**, **environment**, **sustainability** and **scale**.

In this book, you will use the seven concepts to investigate two units: *Water in the world* and *Place and liveability*.

1.2.2 What is space?

_Everything has a location on the space that is the surface of the Earth, and studying the effects of location, the distribution of things across this space, and how the space is organised and managed by people, helps us to understand why the world is like it is._

A place can be described by its absolute location (latitude and longitude) or its relative location (in what direction and how far it is from another place).

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**FIGURE 1** A way to remember these seven concepts is to think of the term SPICESS.

![Image of SPICESS concept]

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**FIGURE 2** Australian annual rainfall variability, 1900–2003

![Map of Australia showing rainfall variability]

**Key**

- Very high (1.5–2.0)
- High (1.25–1.5)
- Moderate to high (1.0–1.25)
- Moderate (0.75–1.0)
- Low to moderate (0.5–0.75)
- Low (0–0.5)

**Source:** MAPgraphics Pty Ltd, Brisbane
The amount of rain that falls in Australia varies from place to place, as this rainfall map shows.

**FIGURE 3** The amount of rain that falls in Australia varies from place to place, as this rainfall map shows.

![Rainfall Map of Australia](image)

**Source:** Bureau of Meteorology, 2003, on the Australian Water Map, Earth Systems Pty Ltd

### 1.2.2 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.

Refer to figures 2 and 3.

1. Use an atlas to give the absolute location (latitude and longitude) of the capital city of the state/territory in which you live.
2. In which direction and how far is your capital city from Alice Springs (relative location)?
3. Describe the spatial distribution of capital cities in Australia.
4. Describe the distribution of rainfall across Australia. Why might one place have more or less rainfall than another?
5. How does rainfall (or lack of rainfall) help explain the distribution of Australia’s major cities? What is the relationship between rainfall and population location?
6. Find where you live on the maps. How is the location of your place influenced by rainfall and rainfall variability?

### 1.2.3 What is place?

The world is made up of places, so to understand our world we need to understand its places by studying their variety, how they influence our lives and how we create and change them.

You often have mental images and perceptions of places — your city, suburb, town or neighbourhood — and these may be very different from someone else’s perceptions of the same places.
FIGURE 4 Mount Tom Price township and mine in Western Australia, with fly in, fly out (FIFO) workers huts in the left foreground.

1.2.3 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.
Refer to figure 4.
1. Where is this place located? (Refer to an atlas.)
2. What is this place like? (What are its natural characteristics? What are its human characteristics?)
3. How have people changed this place?
4. Why do you think that Mount Tom Price township was settled in this location?
5. What services and facilities are provided by this place? How is this different to where you live?
6. How do you think the environment of Mount Tom Price affects the people who live there?
7. How might this place change in the future?
8. How do you think this place affects the lives of the people who live there?

1.2.4 What is interconnection?
People and things are connected to other people and things in their own and other places, and understanding these connections helps us to understand how and why places are changing.

An event in one location can lead to change in a place some distance away.
The sun is the energy that allows evaporation to occur.

Water evaporates from soil and water surfaces to form water vapour or water gas. More evaporation occurs near the equator in the open ocean than other locations.

Water vapour moves into the atmosphere and cools as it rises.

Sometimes this precipitation is taken up by plants and transpires back into the atmosphere as water vapour, a gas.

When water vapour cools, it condenses to form clouds and fog.

Evaporation

Condensation

Precipitation

Run-off

Water that does not get absorbed into the soil, or rise back into the atmosphere as water vapour will run off surfaces collecting in varied locations.

Infiltration

The process by which water on the ground surface enters the soil.

Freezing

As water droplets increase in size and become heavy, they fall to the Earth’s surface as precipitation in liquid form. Most precipitation falls as rain, but it can also form hail, sleet or snow as water in its solid form.

Transpiration

Precipitation

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

1.2.4 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. Notes: Question numbers may vary slightly.

Refer to figure 5.

1. Describe how the following are interconnected in the water cycle:
   a. precipitation and condensation
   b. evaporation and condensation
   c. the sun (solar energy) and evaporation
   d. the sun (solar energy) and transpiration.

2. What would happen to the amount of evaporation if there was a drought and little or no precipitation?

3. What might happen in different parts of the water cycle if rising temperatures cause ice and snow to melt?

4. How would very high rainfall in a short time link environments and people?

5. How are precipitation and vegetation linked?

1.2.5 What is change?

The concept of change is about using time to better understand a place, an environment, a spatial pattern or a geographical problem.

The concept of change involves both time and space — change can take place over a period of time, or over an area. The time period for change can be very short (for example, the impact of a flash flood) or over thousands or millions of years (for example, the development of fossil fuel resources).

Environmental change can occur over short or long periods of time. The use of technology can result in rapid change — think of the explosions at a mining site that reveal mineral seams.

The degree of change occurring can be used to predict, or plan for, actual or preferred futures.

Jacaranda Geography Alive 7 Australian Curriculum Second Edition
FIGURE 6 Port Douglas, 60 km north of Cairns, was a busy port in the 1870s, with a population over 10,000. The mining that had attracted people to this hot, wet area did not last. By the 1960s, the population was only 100. In the 1980s, road and air access to the town improved and tourist numbers to the area grew. The permanent population is now about 1300. During the peak holiday season (May to November), this number increases by four times.

(a) 1971

(b) 2009

1.2.5 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.

Refer to figure 6.

1. How and why has the population of Port Douglas changed over time?
2. Which economies have declined and grown in the Port Douglas area?
3. How has technology (transport links) been important in the development of this place?
4. How do you think the changes have affected the environment, businesses and economy in the area?
5. List five changes you can observe in the two photographs of Port Douglas.
6. Use evidence from the photographs to decide if the natural environment has changed faster than the human environment.
7. What is your preferred future for this place? What changes need to occur for your preferred future to come about?
1.2.6 What is environment?

People live in and depend on the environment, so it has an important influence on our lives.

The environment, defined as the physical and biological world around us, supports and enriches human and other life by providing raw materials and food, absorbing and recycling wastes, and being a source of enjoyment and inspiration to people.

FIGURE 7 Pacific Islanders use traditional methods to fish sustainably.

1.2.6 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.

Refer to figure 7.

1. Do you think the photograph of Pacific Islanders fishing is a natural environment or a human environment? Explain.

2. Does this environment appeal to you? Would you like to visit this place? Why? Why not?

3. Which resource/s do you think people would obtain from this environment?

4. Describe how these people are fishing. Why might this be sustainable?

5. List the impacts on this environment if a factory was built on the edge of the water.

6. How have people changed this environment (for better or worse)? What are the positive and the negative aspects of this?

7. How might technology change this environment to make it less sustainable?

1.2.7 What is sustainability?

Sustainability is about maintaining the capacity of the environment to support our lives and those of other living creatures.

Sustainability is about the interconnection between the human and natural world and who gets which resources and where, in relation to conservation of these resources and prevention of environmental damage.
A clearing is made by cutting and burning vegetation. This is known as ‘slash and burn’.

Crops are planted and grow well.

The clearing is abandoned as farmers move to a new area. As a result the clearing gradually returns to its natural state.

After three to four years the nutrients in the soil have been used up and the crops don’t grow as successfully.

1.2.7 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.

Refer to figure 8.

1. What evidence is there that the environment shown in the image is being conserved?
2. How is this area being maintained so that its resources can be supplied continuously into the future?
3. Is there evidence that the aesthetic (beauty) elements of this environment are being protected?
4. How would the environment be changed if all the area shown was cleared and farmed at the same time? Would this be sustainable?
5. Can you think of any farming methods that are not sustainable? List these.
1.2.8 What is scale?

When we examine geographical questions at different spatial levels we are using the concept of scale to find more complete answers.

Scale can be applied at personal and local levels to regional, national or global levels. Looking at things at a range of scales allows a deeper understanding of geographical issues.

Different factors can be involved in explaining phenomena at different scales. Local events can have global outcomes; for example, removing areas of forest at a local scale can have an impact on climate at a global scale. A policy at a national scale, such as forest protection, can have an impact at a local scale, such as the protection of an endangered species.

**FIGURE 9** Mental map of Jayden’s local place (a) by Jayden and (b) by Annette, Jayden’s mother

![Mental map of Jayden's local place](image)

**FIGURE 10** Railway route and main settlements between Sydney and Perth

![Railway route and main settlements between Sydney and Perth](image)
1.2.8 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.

Refer to figures 9 and 10.

1. If you were to zoom in on the areas on these maps, would you see more or less detail?
2. List the detail and information you can see on the railway map. Compare this to the local neighbourhood maps. Which gives you more information?
3. Refer to the railway map. What might be the relationship between the location of settlements and the location of the railway?
4. The railway map is of a regional scale. Which region of Australia is it showing?
5. Use the scale to measure the longest straight stretch of railway shown on the map. How long is it? Why is it significant?
6. What is the main information each map is trying to show?

1.3 Review

1.3.1 Applying the concepts

Port Moresby is the capital of Papua New Guinea and is located on the country’s south-eastern coast. With a population of approximately 350,000, the city has a mix of high-rise urbanised landscapes and village landscapes. There are both poor and rich people who live in the city. The formal settlement in this image consists of the buildings and roads in the background, which have been planned. The informal settlement consists of houses on stilts, which have been built over the water, in many cases without permits, on state land. Up to half of Port Moresby’s population now lives in these squatter settlements due to a lack of affordable housing.

**FIGURE 11** Port Moresby is a mixture of high-rise urbanised landscapes and village landscapes.

- **Formal settlement**
  - Street layout planned
  - Rubbish collection, power, water and sanitation available
  - Cost of housing and services is very high
  - Public transport
  - Street lighting
  - Public buildings such as museums and gardens
  - Sealed roads

- **Informal settlement**
  - The number of these settlements is growing to meet the needs of increased migration to the city
  - Found materials are sometimes used in housing construction
  - Some houses are built over water to avoid disputes over land
  - Streets unplanned
  - Housing does not always withstand heavy rain and wind
  - Poor access to power, water and sanitation
  - Many households plant food crops
  - Many dirt roads
1.3.1 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.

Refer to figure 11.

1. Where is Port Moresby located? (space)
2. What is your perception (feelings) about this place?
3. How do you think the people living in the informal settlements might feel about their place? How might this compare to those living in the formal settlement?
4. Describe the human and natural characteristics of this environment. (space)
5. How has this environment been changed by people? Is there any evidence of the original natural environment?
6. List the resources that this environment provides for people.
7. How has the informal settlement met the needs of the population? (space)
8. How does climate affect the informal settlement? (space)
9. Describe the interconnections between:
   (a) water and buildings in the informal settlement
   (b) the formal and informal settlements.
10. How would people in the informal environment obtain their water?
11. Should people be allowed to live in the informal settlement? Is this a sustainable use of the local resources?
12. How does the scale of the buildings differ in the two settlements? How does this reflect the services each location has access to?
13. Describe five differences between the two settlements. (scale)
14. What is your preferred future for this place? What changes need to occur for your preferred future to come about?