CHAPTER 1
ESSENTIAL SKILLS

- What is Geography?
- Applying spatial concepts
- Organising geographical data
- Interpreting the instructional wording used in Geography

Skills and Units 1 and 2
Competency in using geographic skills is an essential component in achieving the outcomes of Units 1 and 2. This chapter covers many of these skills which are referred to throughout this book.
ESSENTIAL SKILLS

What is Geography?

Geography is the study of patterns created by the interaction between natural and human features on or near to the earth’s surface. Geography provides the skills to describe, analyse and explain spatial relationships and informs your usage of these skills to interpret the patterns created. The observational and research skills of geographers allow analysis of the world we inhabit.

Geographic data comes in a variety of forms: as maps, satellite images, photographs, videos, graphs and tables of statistics, text and diagrams. When presented with a piece of geographic data, look for clues to help you to observe and understand the knowledge it contains. To become a geographic detective use an inquiry process or series of questions such as:

What can you observe?
Is it predominantly a natural or human feature?
Identify the features of the geographic data.
Where might it be located?
Where is it in relation to other things?
What is its scale or size?
How is it being used?
What may have shaped it?
Does it appear to be changing?
How might it look in the future?

Geography makes use of data from a wide range of sources. Primary data can be information that you have collected as fieldwork. Secondary data is collected and often processed by someone else.

Primary data is obtained personally by going to a location to make observations and collect information. This primary data may be recorded as maps, sketches, photographs, GPS logs, numbers of people, cars or density of vegetation, recording movement patterns and responses to interviews. Primary data collection is limited by distance from and access to the research location and the time available for multiple visits to the fieldwork site. It is possible to collect primary data at a local park, beach, farm or shopping strip, where you can easily gain access to observe and record geographic data.

The use of secondary data, collected from sources such as the Internet, maps, textbooks, reports and video footage, allows access to information that may otherwise have been difficult to see first hand. Secondary data collection allows the sourcing of global or regional statistics, information collected over a number of years or data collected at a larger scale than personal collection methods would allow. A study of the impact of ecotourism on tropical rainforests would take many years to research by personal fieldwork, but would be possible to achieve using secondary sources.

Activities

1. Use Figures 1.1, 1.2, 1.3, 1.4 and 1.5 to identify one geographic feature found in each of these examples of geographic data.
2. Select one feature to observe in greater detail. Use the questions of a geographic detective to guide your observations of this piece of geographic data.
3. Identify one example of further secondary data, which would help you to better understand the geography for each of figures 1.1, 1.2, 1.3, 1.4 and 1.5.

Applying spatial concepts

Describing the geography of natural and human environments and the processes that produce them, can best be achieved by applying and using a range of spatial concepts. The most commonly used spatial concepts are location, scale, distance, distribution, region, movement, spatial association, spatial interaction and spatial change over time. Many of these spatial concepts will be familiar to you already.

As a VCE geographer you need to show your understanding of these concepts which should form part of your geographical vocabulary. The spatial concepts are closely related to each other and often support each other. Throughout this book the spatial concepts are printed in italic to help you to recognise the appropriate usage of these terms.
Location
Natural and human features are located, found or placed on the earth's surface. Each place has an absolute location and a relative location. An absolute location is the accurate pinpointing of a specific place. Using coordinates, an accurate measurement for an absolute location can be calculated. For example, the house you live in has a number in a particular street and suburb. Maps are used to identify a place by calculating its absolute location, for example, when you use a street directory with grid squares, a topographic map with grid references (six-figure) or an atlas with its parallels of latitude and meridians of longitude. If you are given the following information about the location of a city, latitude 37°50’5” and longitude 145°3’E, using an atlas or online search tool, you could quickly identify these as the coordinates for the specific location of Melbourne, Victoria.

The relative location of a place is measured by the distance and direction from one place to another. For example in figure 1.8, Echuca, in Victoria (a region), can be identified as being located a distance of 70 kilometres north-west of Sheperton, a distance of 30 kilometres north of Rochester and on the southern bank of the Goulburn River (a landmark). The use of place names, landmarks and regions helps to specify the relative location of one place by comparison with the location of another.

Scale
Scale is the size of something in relation to something else. On a map, scale is used to represent the comparative size of the actual region of the earth's surface with the reduced size used to fit the same region onto a map page. You would be unlikely to find a piece of paper large enough to draw an actual sized map of your school. The skills of a cartographer allow a region of the earth's surface to be drawn to a size or scale, which fits a page or into an atlas. Map scales are expressed in words, by a line as a linear scale or by a fraction or ratio. The scale in this sense allows you to express distance in kilometres and area in square metres. Examples to show various ways of expressing scale can be seen in figure 1.7.

A large-scale map represents or depicts a small region of the earth's surface in some detail. If a map illustrates a larger region but contains less detail it is called a small-scale map. In figure 1.8 the enlarged map of the island of Timor would be described as being a larger-scaled map when compared to the regional map, which would be considered to be a smaller-scaled map. Geographers also use scale to describe the size of a region being studied. A resource or phenomenon may be studied at a range of scales. A local scale is a small region, for example a shopping centre or a farm. A regional scale covers a larger area, for example Gippsland or Melbourne's metropolitan area. A national scale relates to an entire country. An international scale allows for a study to extend over the borders of two or more nations.

Distance
Distance is the space between different locations on the earth's surface. If you travel along or pace the distance using a measuring tape, pendulum or odometer you can measure the distance between places. Distance on a map can be calculated by reference to its scale: it can be also measured digitally by use of online, mapping measurement tools or GPS data. This absolute or linear distance is usually expressed in metres or kilometres. Figure 1.9 illustrates the road distances between the major cities and towns in Arizona, USA. This map relies on annotations to illustrate accurate distances rather than the interpretation of a scale.

Distance can also be expressed in time, for example the time that it takes to travel from one place to another, or the cost or convenience of this trip. Figure 1.10 indicates the time that it takes to cover the road distance between Melbourne and Sale. This form of expressing distance is known as relative distance. In peak hour traffic it may take 30 minutes to cover a distance of 5 kilometres, whereas the same distance may only take 10 minutes when the traffic is much lighter.

Distribution
The arrangement of objects or features on the earth's surface is known as distribution. At a local scale, houses located along a road are described as being distributed in a linear pattern. At a regional scale dense forest may be randomly distributed throughout an area, although it may be spatially associated with steep mountain slopes. Figure 1.11 (page 6) shows diagrammatically that the pattern the location of objects make on the ground can be described as being clustered, dispersed, linear, radial or random in nature. Figure 1.6 (page 3) shows that Shepparton is one of a number of small and medium sized settlements, which are evenly dispersed or evenly distributed within the region south of the Goulburn River.
Activities

1. Using figure 1.9 calculate the distance between
   - Phoenix and Flagstaff
   - Phoenix and Yuma via Casa Grande
   - Phoenix and Sedona.
   Explain why the last of these calculations may be less accurate than the previous two?

   Use figure 1.12 to answer questions 2 to 6 below.

2. Describe the location of Castlemaine in terms of its absolute location and relative location.

3. a. What is the distance and direction by road from Eplinestone to Castlemaine?
   b. How long would it take to travel by road from Eplinestone to Castlemaine, if the average speed you are able to travel is 90 kilometres per hour over this distance?

4. Locate and name a road along which there is a linear distribution of houses.

5. Describe the distribution pattern of the rail system from Castlemaine.

6. Water supply to the area for agricultural purposes is provided at a variety of scales. Describe the distribution of the water resources.

7. Use your atlas to identify maps which illustrate examples of clustered, dispersed, linear, radial or random distribution patterns. Write a sentence for each to describe the nature of each distribution pattern that you have identified.

Region

A region is an area of the earth's surface that contains one or more common characteristics that distinguish it from other areas. Regions are classifications most commonly made by people to define or separate one area from another area. In some instances there are clearly definable regions of the natural environment, such as the drainage basin of the Murray-Darling Basin, where the direction of water flow determines the boundary of the region.

There are regions within regions depending on the scale of the study being undertaken. In primary school you learnt the eight key political regions of Australia, when you had to name and map the States and Territories of Australia. The States are further divided into regions of local government, which are even smaller political jurisdictions. Victoria's Indigenous language groups can be mapped as distinct regions as shown in figure 1.13. Regions may be classified as having similar physical characteristics such as climatic zones, vegetation or topography. Regions might have social similarities such as language, population density, wealth or religion or political similarities such as a large proportion of voters in an electorate supporting a particular political party.