GEOGRAPHY TEACHERS' ASSOCIATION OF VICTORIA INC.

GEOGRAPHY
IT'S ESSENTIAL

Its place in the Victorian curriculum (2007–)

Acronyms used in this booklet

AGTA	Australian Geography Teachers' Association
ANZLIC	the Spatial Information Council (a joint initiative of the Australian Government, the New Zealand Government and the governments of Australia's states and territories)
APEC	Asia–Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
GIS	Geographic Information System
GPS	Global Position System
GTAV	Geography Teachers' Association of Victoria Inc.
ICT	Information and Communication Technologies
VCAL	Victorian Certificate of Applied Learning
VCE	Victorian Certificate of Education
VELS	Victorian Essential Learning Standards
VET	Vocational Education and Training
VICTER	Victorian Tertiary Entry Ranking

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Its place in the Victorian curriculum (2007–)

Geography: essential learning
Its place in the Victorian curriculum (2007-)

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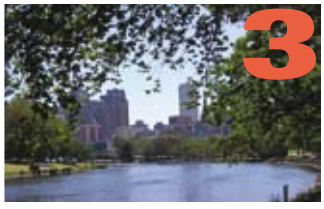

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Purpose and use of this booklet

This booklet aims to:

- increase awareness and understanding of the characteristics and value of Geography
- support both primary and secondary educators in clarifying the essential components of teaching Geography
- draw together all the current resources that have been written about Geography methodology and skill development, providing links to these.

It has been written for:

- educators of Geography across all school teaching levels
- educators who are implementing and maintaining the Geography curriculum in their school
- educators responsible for helping students make career and subject decisions
- curriculum co-ordinators who need to be reminded of the value of Geography.

Sections of this document can be selected for use on a variety of occasions such as those in the following Table 1 (The shaded cells indicate where a section is most applicable). **Additional support materials and updates to the document can be found on the GTAV website www.gtav.asn.au**

Table 1: Using this document to promote Geography

Section reference	Pedagogy	Teaching teams and faculties	Student subject selection	Parent information	Curriculum committee	School council	Community groups, including publishers
1.1	■	■		■	■	■	■
1.2	■	■		■	■	■	■
1.3	■	■		■	■	■	■
2.1	■	■			■		
2.2	■	■			■	■	
2.3	■	■			■	■	
2.4	■	■			■	■	
3.1	■	■			■		
3.2	■	■			■		
4.1	■	■	■	■	■		
4.2	■	■			■		
4.3	■	■	■	■	■	■	■
5	■	■	■	■	■	■	■

WWW When you access this document on the GTAV website and click on this symbol, the appropriate files will automatically open.

1 What is Geography?

1.1 Defining Geography

Geography is the study of the interaction between people and environments. It develops knowledge and understanding of the distribution of human and natural phenomena. Spatial perspectives underpinning the discipline provide a means for describing and interpreting patterns and processes affecting Earth and its people, and providing students with an understanding, identification and sense of place. For geographers, place is an identifiable part of the Earth's surface with spatial boundaries.

A spatial perspective provides a unique conceptual structure for the investigation of phenomena. Using spatial concepts geographers define and elaborate their understanding of phenomena.

By investigating spatial dimensions of topics and issues, students analyse the impact of the interaction between people and environments, and consider appropriate responses.

Geographers use an inquiry-based approach to learning drawing on research, practical activities and fieldwork.

Through geographic inquiry students are provided with opportunities to collect information and consider a range of viewpoints about people–environment relationships, then synthesise this information to construct their own understanding. Geography assists students to make sense of an increasingly complex world and develop tolerance to differences in our global society. Spatial understandings of the world enable students of Geography to build the skills for implementing appropriate local, national, regional and global action in a complex and interdependant world.

1.2 Geography is essential

Children arrive at school with a keen interest in people and places.

They develop an awareness of their surroundings through a range of experiences including home, play, watching TV, shopping, reading and travel. The perceptions, knowledge, understandings, skills, values and attitudes about society and the environment that children bring to their first class continue to develop throughout their years of schooling as their experiences change. These become a child's mental map of the world. Children use their individual mental maps to move from place to place, provide directions for others and organise their activities. A mental map is one of the broad range of images that comprise their personal geography. Geography assists children to expand and refine their personal geographies and their role in society as they explore and reflect upon people-environment relationships and understand how and why these vary over time and space.

Geography extends children's awareness of the wider world beyond the local area.

It allows them to make sense of the patterns they observe and understand the spatial association, interaction and interdependence that may occur between phenomena. It introduces geographic media

such as maps, photographs, texts, satellite images and computer technology that can be used to investigate and question assumptions about the world. It develops an understanding of the approaches a geographer employs to explore and understand space and place, such as observation and measurement in the field, and collection, analysis and evaluation of research data.

The following text is adapted from *Australians need Geography*, pp. 3–5.

Geography builds a sense of national identity and of Australia's place in the world.

To understand Australia we need to understand its geography – a vast area with relatively few people, the diversity of landscapes and climates, its natural resources, the movement of peoples to and within Australia, the distance from Europe and North America and closeness to Asia. We define ourselves through our cities, the bush, the outback and the beach. All these qualities make Australia what it is today by influencing the location of population centres, the widespread nature of infrastructure, the viability of primary industries, trading patterns, the importance of the tourist industry, and Australians' connection with the land.

Geography helps us make decisions about the big issues affecting the quality of life and landscapes.

It is impossible to read a newspaper without finding reports on current issues that are studied in Geography – climate change, water and land management, ageing populations, the globalised economy. In studying issues through the eyes of Geography, students apply the knowledge, skills and values they have developed to understand the processes behind the issues and evaluate possible solutions.

Geography links the natural and social sciences. Its holistic approach to the study of people and their environments contrasts with the more selective study of elements that occurs in other subjects. This link between the physical and the human is a major strength in a subject that aims to make sense of the world. It can provide a sound basis for decision-making in a range of social and environmental areas. Australia needs citizens who understand contemporary issues, with the skills and knowledge to manage them.

Geography provides the understandings that lead to a more informed appreciation of Australia and the world's natural and social environments, and the need to manage resources for the wellbeing of our own and other species. Such resources encompass mineral products, the soil and water that are essential to agriculture, and 'environmental services' such as waste decomposition.

Geography nurtures a natural curiosity in, and appreciation of, the world's people and places.

Most students have an innate interest in the world. (Consider the popularity of documentaries on the National Geographic and Discovery channels.) Geography nurtures this interest, engaging students by dealing with the real world of the twenty-first century:

- from their local neighbourhood (such as development on a floodplain)
- to the national (such as drought and its effects on agriculture)
- to the regional (such as the annual APEC meeting)
- to the global (such as potential pandemics).

The appreciation of environments in Australia and elsewhere contributes to students' valuing and caring for places.

Geography creates spatially literate students.

Geography develops spatial literacy (the ability to understand and make effective use of spatial information) that has breadth, depth and scope. Students gain an in-depth understanding of essential geographic – and spatial – concepts such as location, distribution, scale, spatial association, spatial interaction and spatial interdependence.

Spatial technologies, such as geographic information systems (GIS), are being increasingly used in Geography classrooms. ANZLIC – the intergovernmental Spatial Information Council – has recognised that Australia's economic growth, and social and environmental interests are underpinned by spatially referenced information. ANZLIC and industry bodies are concerned at the growing shortage of people with spatial skills in Australia. This will limit the growth of the spatial technology industry as well as the ability to meet changing and growing demands in areas such as land markets, environmental management, disaster management, national security, community services and transportation.

Geography develops competencies essential in the workplace and leads to careers in areas such as spatial sciences, resource management and urban planning.

Geography gives students a solid grounding in specific areas of content and skills that are essential to a growing number of jobs, such as people–environment relationships, spatial perspectives, and places and regions and the links between them. Geography develops key competencies valued in the workplace. Geography students:

- collect, analyse and organise information
- communicate ideas and information
- plan and organise activities
- use mathematical ideas and techniques
- solve problems
- apply their understandings of cultures.

Geography also builds competence in working with information and communication technologies (ICT) and working in teams.

Geography utilises the rigour and depth of an academic discipline.

Geography as a discipline-based field of study is distinguished by its concepts and by its methods of inquiry, and the questions guiding its research. Discipline-based study greatly enhances students' capacity to explain, rather than simply describe. The skills of description and explanation are the essential bases for effective analysis, evaluation and action. Students need a structured grounding in skills and knowledge if inquiry learning is to be effective. Students value rigour and challenge in learning.

Geography develops a wide range of skills, such as literacy, numeracy, oracy, graphicacy, ICT and decision-making.

An important feature of Geography is the emphasis placed on learning a wide range of transferable skills. Geography presents varied and stimulating opportunities to develop literacy and numeracy skills through qualitative and quantitative studies.

Students undertake purposeful reading and writing tasks (literacy) in a variety of forms ranging from reports to poetry. Constructive spoken communication (oracy) is encouraged in activities such as role-plays, presentations and fieldwork interviews.

Numeric skills are developed in contexts that can be both extrinsically and intrinsically motivating since they are concerned with real-life situations. For example, students might collect numeric data in activities such as stream monitoring and traffic surveys. They then process the data, and produce graphs and tables to present their findings. In using maps, students work with scale, distance and area.

Geography provides many opportunities to master ICT, which can be used in all phases of a geographic inquiry. Students might use GPS (global positioning system) in the field to identify a location, collect up-to-date information from the web, make observations using Google Earth or a webcam, or record information in a spreadsheet. Students can use GIS to help analyse and synthesise data. Students could present their findings by creating a website or exchanging information with a distant sister school electronically.

As well as spatial literacy, Geography builds the skills of graphicacy through work with visual images such as maps, satellite images, photographs and diagrams. Geography also develops skills in data manipulation – transforming data from one form to another. For example, numeric data can be changed to text and map formats, tabular data to graphs, and matrix and graphic data to written text.

Geography also makes a major contribution to students' acquisition of skills used in research, analysis, synthesis, decision-making and communication.

Geography caters for a variety of learning styles.

Geography, taught by teachers trained in the subject, motivates students having a range of different strengths and abilities. For instance, most students positively enjoy the fieldwork that is an essential part of geographic education.

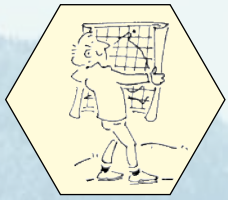
Geography lends itself to a variety of learning styles that give students wide opportunities for self-fulfilment, for example:

- verbal–linguistic – listen to expository teaching, interview for a survey, write essays
- visual–spatial – interpret aerial photos, create climate graphs, produce field sketches
- logical–mathematical – classify and categorise information, analyse data, solve problems
- bodily–kinesthetic – undertake practical fieldwork, build models
- interpersonal – work in groups, empathise with other perspectives on an issue
- intrapersonal – reflect on personal learning.

1.3 The spatial concepts

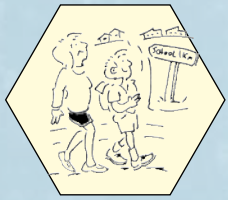
Spatial concepts provide a framework that geographers use to interpret and represent information about the world. They are organising concepts used to describe and explain the patterns of geographic phenomena – both natural and human – and the processes that produce them.

In both the Victorian Essential Learning Standards (VELS) and the Victorian Certificate of Education (VCE) the application of spatial concepts guide for the study of Geography.



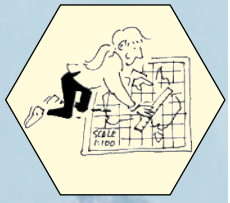
Location

This refers to where natural and built phenomena are found on Earth's surface. The absolute location of something can be measured accurately using coordinates. For example, a capital city can be located by latitude and longitude, or by a six-digit grid reference on a topographic map. A place can also have a relative location. This is the location of one phenomenon in relation to another and is measured by distance and direction.



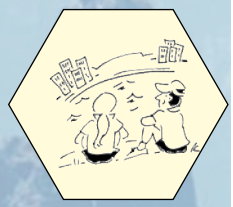
Distance

This is the space between locations on Earth. The absolute or linear distance can be measured in units such as metres or kilometres. The relative distance is the length of time it takes to travel between locations, the costs incurred or convenience of the journey.



Scale

This is the relationship between the size of an area on a map and the actual size of an area on Earth's surface. It also refers to the size of an area being studied. For example, phenomena can be studied at a local, national, regional or global scale.



Distribution

This is the arrangement of phenomena at or near Earth's surface. Distribution can vary from ordered to apparently random patterns.

Region

A region is a definable area with one or more common characteristics. Regions can vary in size (local, national, regional, global) and be part of the natural or human environment. For example:

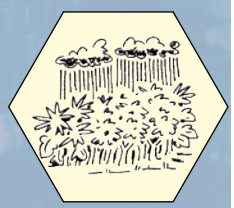
Physical region: Antarctica
Political region: ASEAN
Socio-economic region: European Union (EU)
Climatic region: arid Australia

Movement

This relates to the flow and transport of phenomena from one location to another, as in the flow of goods, people, ideas, energy, water or air. The pathway, method and speed of transport are important factors in studying movement.

Spatial interaction

This describes the strengths of the relationships between phenomena and places in the environment, and the degree to which they influence or interact with each other over space and time.



Spatial association

This is the degree to which things are similarly arranged over space. It compares distribution patterns. A strong spatial association occurs where two distributions are similar. A weak association describes little similarity. No association occurs when two distributions are dissimilar.

Spatial change over time

This is the degree to which an area has changed its geographic characteristics, features or patterns of use over a period of time. Change occurs at varying rates at different times and can be considered at different scales.

A guide to introducing the spatial concepts

Throughout VELS progression is identified in the development of the knowledge and understanding to show the continuum of student learning. Students are expected to understand and utilise the spatial concepts on a continuum, although different students develop at different rates. VCE Geography has the spatial concepts embedded as organisational tools. Table 2 suggests a progression in the development of the spatial concepts.

Table 2: Progression in the development of the spatial concepts

Learning progressions	Years P–4 Laying the foundations (VELS Levels 1–3)	Years 5–8 Building breadth and depth (VELS Levels 4–5)	Years 9–10 Developing pathways (VELS Level 6)	Years 11–12 VCE
Spatial concept progression	*Using familiar examples*	*Applying the spatial concepts and geographic language*	*Applying the spatial concepts and geographic language*	*Utilisation of the geographic language and combining the spatial concepts within selected case studies*
Location	Where is my school?	Students use the spatial concepts to underpin student inquiry-based learning.	Students use the spatial concepts to underpin student inquiry-based learning and develop and expand their geographic language.	Students use the geographic language to express geographic relationships in the case studies.
Scale	What does my school look like on a map?			
Distance	How far is school from home?			
Distribution	Where are the drinking taps?			
Region	Where is there another school like mine?			
Spatial change over time	What was here before the school?			
Movement		How do I get to school? Using familiar examples, such as how do I get to secondary school?	Apply the concept and geographic language.	
Spatial association			Introduce and apply the conceptual understanding with the use of the geographic language. Is there a relationship between my school location and transport routes? What interaction occurs between school buildings and students?	
Spatial interaction				

Teacher directed ⟵⟶ Student initiated

WWW The Essence of Geography: spatial concepts

WWW Activities developed using spatial concepts posters

2 How does Geography contribute to student learning?

2.1 Geography P–12 overview

In VELS, Geography is in the strand of Discipline-based Learning and the domain of The Humanities. From Levels 1–3 of VELS, Geography is taught within The Humanities and then, from Level 4, Geography becomes a separate sub-domain. The progression of geographic knowledge and understanding, and the geospatial skills, are embedded through Levels 1–6, as identified in the standards. Beyond Level 6, Geography is available in course selection at VCE.

Table 3 summarises the place of Geography in the Victorian curriculum.

Table 3: Geography P–12

Discipline-based learning	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	VCE
Humanities	Learning focus provides advice about learning experiences that will assist students to work towards achievement of Level 3.		VELS standards for assessment and reporting				
Geography				VELS standards for assessment and reporting			VCE assessment and reporting for Units 1–4

2.1.1 Geography in VELS

Figure 1 shows Geography as a domain within the triple helix of VELS is entwined in students' understanding of their dynamic world. Geography enables students to see the interactions of the world via various perspectives, gain deeper understandings, see the relevance of case studies and comprehend their own role in implementing change. Geography interacts with components of other disciplines (History, Economics and Science) as well as components from the Physical, Personal and Social Learning strand and the Interdisciplinary Learning strand. These interactions provide students with the ability to reflect on the world in which they live.

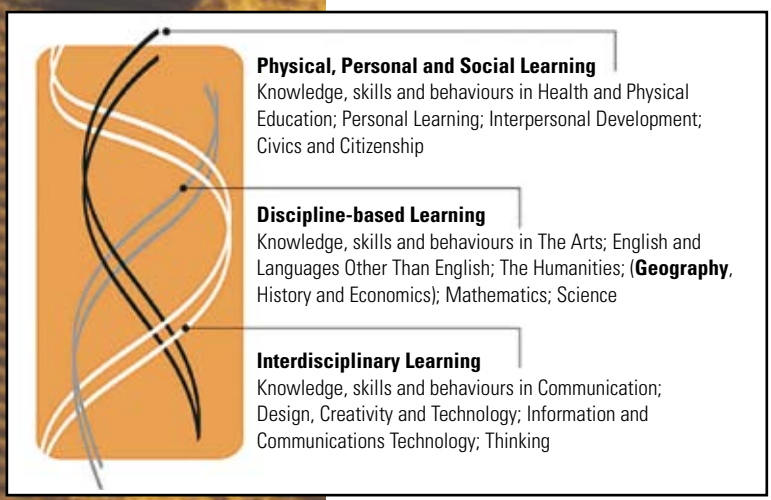
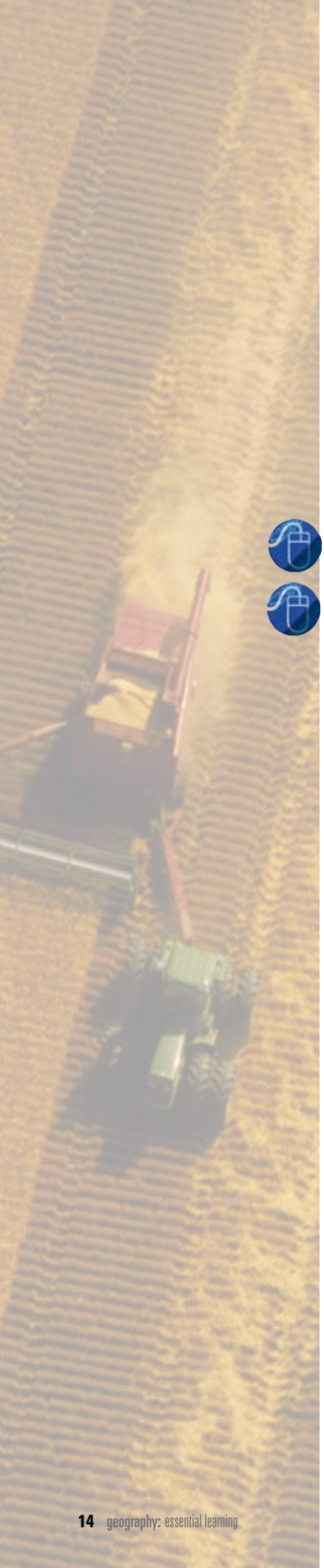


Figure 1: The place of Geography in VELS



2.1.2 Geography and its dimensions

The dimensions of Geography in VELS Levels 4–6 are:

- geographic knowledge and understanding
- geospatial skills.

Geographic knowledge and understanding incorporates an understanding of the patterns and interactions of physical and human phenomena on Earth's surface and the processes involved. Spatial concepts are seen as a major organising tool underpinning the questions that geographers ask and assisting students to organise and assess data from a spatial perspective.

Geospatial skills incorporates the development of the ability to read and interpret a wide range of geographic media, collect and analyse data, and present the data in an appropriate format.

At each level VELS is structured with a learning focus as a guide to achieving the standards in both dimensions at that level.

WWW Geography Learning Focus and Standards

WWW Progression points for Geography

2.1.3 Geography and the domains

Geography's interaction with other domains will be determined by schools in their individual curriculum design and by the choices made in reporting to progression points across domains. Some schools might report to progression points in Geography only. Either way it is useful to know what is in the other domains and how Geography uniquely contributes to the development of skills in these areas.
Some examples of the interaction between Geography and other domains of VELS follow.

Strand: Physical, personal and social learning

Interpersonal development

Through fieldwork and other activities students develop their interpersonal skills working cooperatively with others in teams to more effectively provide a broad range of perspectives and insights on issues. Students are encouraged to respect individuality and empathise with others in local and global contexts. They acknowledge the diversity of individuals and respond with appropriate sensitivity. Students explain how local and global values and beliefs determine their own and other social relationships.

Personal learning

Through the activities undertaken in Geography students are able to demonstrate the ability to learn independently and with peers to enhance the quality of the outcomes they achieve. Exploration of local environments through fieldwork activities offers scope to work as an individual and to work with peers in teams. Diverse activities provide a range of learning strategies appropriate to particular contexts, allowing students to implement strategies to maximise their own and others' learning.

Civics and citizenship

Geography has long been concerned with citizenship education. Through studies of space and place, Geography provides a better understanding of people's rights and responsibilities at local, national and global scales. Issues such as global warming, international human rights and sustainable development of resources encourage students to regard their own actions and consequences at a global scale. Students are encouraged to interact with their local community, government and non-government organisations to identifiy a range of perspectives and possible responses to issues.

Strand: Discipline-based learning

Geography, within the VELS triple helix, is part of The Humanities in the Discipline-based Learning strand. Geography as a discipline focuses on the spatial context and as such provides valuable contextual information across other domains. The following examples of interaction with other domains provide useful links, reinforcing knowledge and skills, to emphasise when arguing for the importance of Geography in the curriculum.

English

Geography involves students in reading, viewing, writing, comparing, researching and discussing environments and issues at a scale from local through to global. Texts that students use from Level 1 through to Level 6 place people and events in a variety of environments that form part of the spatial context of the story. Students develop a specific vocabulary in identifying the geographic aspects of a topic. In presenting their information students sequence and organise complex ideas using a variety of multimedia styles.

Languages Other Than English

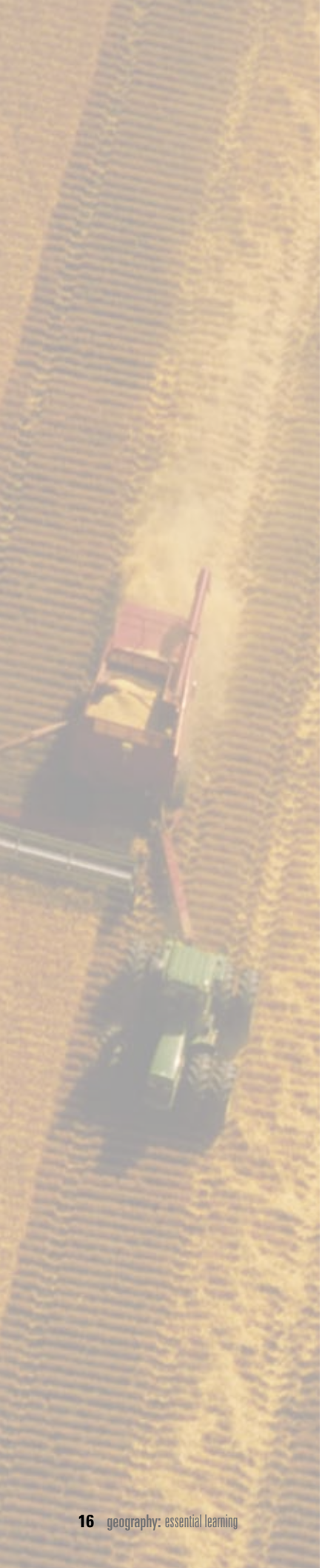
The study of environments on a global scale allows students to compare and contrast aspects of life in countries beyond Australia with those in Australia. Students develop an understanding of cultural diversity and knowledge of significant places.

The Humanities – Economics

The study of how different groups of people classify and use resources is linked to environments and their sustainability. The influence of governments at a range of scales – local, national, regional and global — on economic issues affects the way people both use and manage natural and human environments. The standard of living in a human environment is influenced by a globalised world.

The Humanities – History

The history and geography of places and societies is closely linked by the concepts of location, distance, scale, distribution, region, movement and spatial change over time. For example, the observation and explanation of change through time involves a strong spatial perspective, and an understanding of the organisation of places and societies is dependent on an analysis of natural and human environments.



Mathematics

The use of maps and plans are fundamental to Geography and utilise the Measurement, Chance and Data dimension from Level 1 onwards. Students learn to interpret and create maps and identify patterns and relationships depicted in different maps and spatial arrays. Students are involved in specifying relative location, giving directions, and using scale and coordinate systems.

Geography applies mathematical ideas and techniques to display, analyse and interpret geographic data, for example, the use of a variety of graphing styles. From Level 4 onwards there are strong links to the space dimension. In Levels 5 and 6 Geography students are required to provide quantification as evidence to support statements.

Science

Geography is a physical science that develops a sense of curiosity and wonder about places. Scientists study natural and human environments including the interaction between Earth and the atmosphere, the interaction between humans and the survival of living things, the change resulting from interactions such as weathering and erosion, the maintenance of respect for the environment as well as address issues of sustainability at a local and global scale. Fieldwork skills are developed through observation of phenomena, collection and analysis of data, identification of patterns and presentation of explanations.

Strand: Interdisciplinary learning

Communication

Geographers ask clarifying questions, develop interpretations and provide reasons for them. Students consider their own and other points of view, apply prior knowledge to new situations, challenge assumptions and justify their interpretations. In communicating the information, geographers apply subject-specific language and conventions related to the purpose of their presentation and audience.

Design, creativity and technology

Geography provides a context for design. Through posing questions and identifying needs, wants, opportunities and areas for improvement in natural and human environments students can work towards designing solutions. The outcomes of design and technology processes and products address aesthetics, and social, cultural, economic and environmental issues. Students explore and assess the consequences of technology on society, culture, the environment and place.

Information and communications technology (ICT)

The application of technology in Geography has become increasingly significant. ICT tools that are used for visualising thinking include a variety of software that enable graphic organisers such as Venn diagrams, future wheels, concept maps and mind maps to be created. Students develop ICT skills to research and access information, and for the presentation of their work. Students use the internet to investigate case studies, complete webquests and use an ever-increasing range of computer-based Geography programs. Software applications such as word processing, email, graphics and analysis packages, spreadsheets and databases are important geographic tools that process information and

communicate learning. GIS software provides an additional powerful spatial toolset for the analysis and communication of geographic information.

Thinking processes

Reasoning and inquiry are central to geographic learning. Geography, rather than being a amount of content to be delivered, should encourage students to question and become independent learners. In a thinking curriculum, Geography students generate questions – What? Where? How? Why? How should? What is the future? – and seek explanations through an inquiry-based approach. Students can build on their knowledge bases, process and evaluate information, and explore perceptions and possibilities. Geography entails the categorisation of information, the identification of patterns and processes, and the representation of ideas through the use of geographic tools.

Geography students are required to form generalisations about natural and human environments at a range of scales from the local to the global. Students become capable of making informed decisions about controversial and complex issues relating to the management and the sustainability of the world using higher-order cognitive processes.

Within each of these domains, Geography has a place in providing deeper understandings based on current knowledge as well as a framework for assessing those understandings that lead to informed judgements. The geospatial skills provide a means to support ideas with the selection and inclusion of spatial data combined with the use of technology such as GIS, with its spatial perspective. Geography provides the development of personal skills and capabilities while emphasising the active involvement of students (see figure 2).

WWW The components of Standards within the dimensions most commonly addressed by Geography

2.2 Principles of Learning and Teaching P–12 (PoLT)

The Principles of Teaching and Learning (PoLT) articulate six principles that describe how students learn best and help to strengthen pedagogical practices. Geography teachers are well placed to develop the six PoLT principles as they link closely to the inquiry-based approach of Geography methodology. PoLT provides a basis for teachers to review their practices, improve their teaching and find a focus for their professional learning. The principles focus on the teacher's role in creating and maintaining a learning environment conducive to meeting student needs. PoLT is relevant across all key learning areas and all stages of learning.

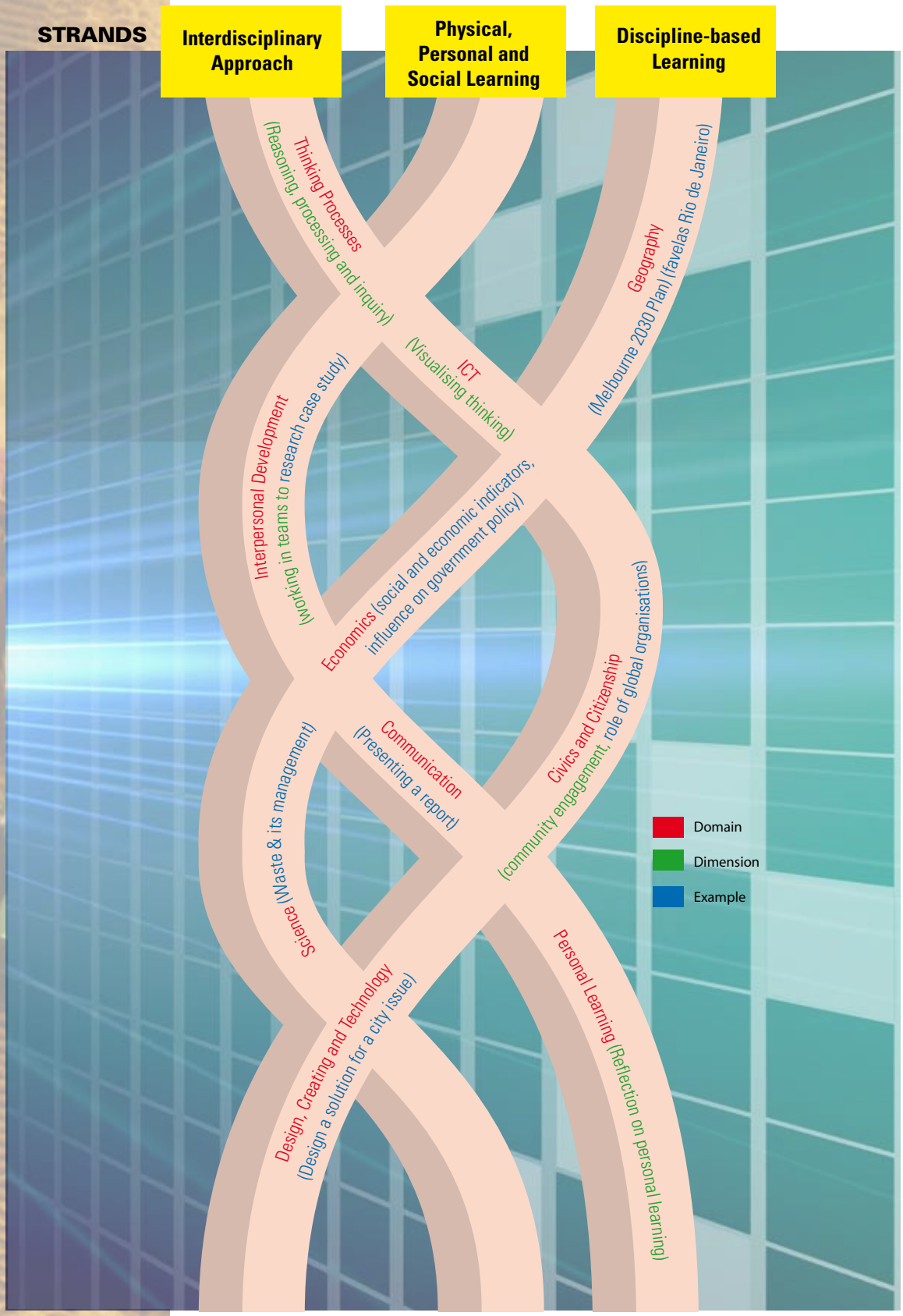
Geography P–12 can embrace these six principles:

Principle 1 The learning environment is supportive and productive.

Positive relationships can be enhanced by the Geography teacher through knowing and valuing each student. Acknowledgement of individual needs and potential contributions can be attained through the inquiry-based approach where the range of student perspectives can be incorporated because individual responses are valued and respected.

Figure 2: An example of the interaction within VELS strands

Level 6: How sustainable are modern cities?
(with case studies of Melbourne's 2030 Plan and the favelas of Rio de Janeiro, Brazil)



Principle 2 The learning environment promotes independence, interdependence and self-motivation.

Geography teachers encourage and support students to take responsibility for their learning by using strategies that build skills for productive collaboration. Team-building skills and decision-making processes are part of the structured learning experiences. The negotiation of roles, responsibilities and outcomes are part of the meaningful learning tasks.

Principle 3 Students' needs, backgrounds, perspectives and interests are reflected in the learning program.

The classroom should be an interesting place and suited to a wide range of dispositions. Geography teaching provides a unique opportunity to capture an understanding of students' lives, perspectives and interests. Students' prior knowledge, skills and experiences can support their understanding of learning. Flexible and responsive teaching strategies that support different ways of thinking and learning can be met through the inquiry-based approach and the use of technology.

Principle 4 Students are challenged and supported to develop deep levels of thinking and application.

The progression of geographic knowledge and understanding, and geospatial skills in VELS The Humanities – Geography and VCE Geography encourages students to explore, question and engage with significant ideas and practices, and focus on geographic issues. Teachers use strategies that challenge and support students to achieve high expectations. The more complex questions of the inquiry-based approach involve interpretation, analysis and application, and ethical and philosophical questions which guide students toward deeper understandings.

Principle 5 Assessment practices are an integral part of teaching and learning.

Monitoring of student learning and assessment is ongoing and forms part of the planning for and teaching of a unit of work. Geographers should make explicit the assessment criteria and encourage reflection and self-assessment.

Principle 6 Learning connects strongly with communities and practice beyond the classroom.

Geography provides the opportunity for student learning that connects with their current lives as well as their local, national and international communities, and to see links to the future. Through fieldwork students are able to develop skills both within the Geography classroom as well as interacting with the local and broader community, developing a deeper understanding of place.

Further reading can be found at <www.sofweb.vic.edu.au/blueprint/fs1/polt/unpacked.htm> where POLT is 'unpacked'.

3 How do geographers inquire?

3.1 The inquiry-based approach to geographic learning

Teachers of Geography adopt an inquiry-based method of teaching and learning to expand and consolidate students' knowledge and understanding of the world, and the interaction of people and environments.

As seen in the previous section, an inquiry-based approach shows the link between Geography and the VELS strands of Interdisciplinary Learning (Thinking Processes and Communication) and Physical, Personal and Social Learning (Civics and Citizenship: community engagement).

Inquiry-based learning is structured around three components, as shown in the diagram below. Each is essential to developing geographic understanding of a topic or issue. The inquiry sequence, which increases in complexity over the years of schooling involves:

Figure 3: Inquiry-based learning process

Thinking processes develop skills in researching, processing and interpreting data. Students identify the topic or issue to be investigated and use their skills to construct hypotheses and design methods for gathering, organising and processing information. They develop their ability to observe, collect, record, collate, describe, evaluate and extrapolate data either individually or collectively. Geography teachers use a range of teaching and learning activities to encourage students to question and become independent thinkers. These include information-processing skills, reasoning skills, inquiry skills, creative thinking skills and evaluation skills.

Communication develops skills in presenting and interpreting information in a variety of forms – oral, written and a wide range of visual formats. Students use a variety of techniques to present their interpretation of the geographic investigation.

These include:

- maps
- graphs
- tables
- diagrams
- photographs
- satellite images
- a field work report
- annotated visual displays
- oral presentations
- debates or discussions
- essays or structured questions
- ICT: databases, Inspiration and other software packages
- GIS analysis.

Community engagement develops interpersonal skills and recognition of the processes involved in decision-making and implementing management actions. Students analyse their attitudes and values, and are encouraged to think creatively. They develop the ability to work cooperatively in group activities and learn to apply strategies to achieve common goals and implement responses to issues.

Tabe 4 outlines the types of questions asked in Geography P–12.

Table 4: Geographic inquiry statement

Route to inquiry	Simple key questions *Lower-order cognitive skills*	Summary questions	More complex key questions *Higher order processes*
Observation and perception	What?	What do I observe? What are my perceptions? How do others view it?	What are the issues and problems being studied? What is their scale? What patterns of distribution are there?
Definition and description	What and where?	What is it like? What is it all about? What is in the background in the wider context? Where is it?	What natural processes and human activities are occurring? Where are the links between the natural and human environments? What will happen if these relationships are altered? What changes will occur? Are these desirable and for whom?
Analysis and explanation (reasoning)	How and why?	Why is it there? How did it happen? What processes are involved? Why is it like this?	How are the natural and human environments interrelated? How is the phenomenon structured?
Processing, prediction and evaluation	What might? What will? With what impact?	What are the alternative viewpoints? What might happen and with what impacts? How could these impacts be assessed?	What are the effects of these processes? How can these effects be evaluated?
Decision-making	What decision? With what impact?	What decision is likely to be made? With what consequences?	How can these effects be evaluated? What alternatives should be considered in making decisions about changes? Who decides and for whom? Who gains and who loses as a result of the decision? What criteria could be used to evaluate the appropriate responses?
Personal evaluation and judgement (metacognition)	What do I think? Why? How should?	Which alternative and which decision would I choose and why? How would I justify my views?	What criteria could be used to evaluate the appropriateness of the responses?
Personal response Participating	What next? What shall I do?	How should I respond? Should I take action?	How well do I participate in society?

Adapted from: Teaching Geography in secondary schools, *p. 24*

3.2 The thinking curriculum

Our world and the world of the future demand that all students are supported to become effective and skilful thinkers. Thinking validates existing knowledge and enables individuals to create new knowledge and to build ideas and make connections between them. It entails reasoning and inquiry together with processing and evaluating information. It enables the exploration of perceptions and possibilities. It also involves the capacity to plan, monitor and evaluate one's own thinking, and refine and transform ideas and beliefs.

The Thinking Processes domain encompasses a range of cognitive, affective and metacognitive knowledge, skills and behaviours which are essential for students to function effectively in society, both within and beyond school.

Source: http://vels.vcaa.vic.edu.au/essential/interdisciplinary/thinking/index.html

Geography challenges students to think about people and environments both around themselves and beyond. Through questioning, students gain a greater understanding of the world and explore common perceptions as well as possibilities for the future.

Developing curriculum involves developing a process by which students can greater better understand the world. An inquiry-based approach to Geography draws on a variety of theoretical models of teaching used to enhance thinking including Bloom's taxonomy, Gardner's Multiple Intelligences, De Bono's Six Thinking Hats and 16 Habits of Mind.

Whichever approach is used, students will pass through a number of levels. These include:

- reasoning, processing and inquiry
- synthesis and creativity
- metacognition, including reflection and evaluation.

By learning through an inquiry-based approach Geography students develop thinking skills that equip them for thinking at a higher level in order to function effectively as citizens both within the classroom and beyond.

Table 5 is an example of an inquiry-based approach of the topic "Fresh water in our world".

WWW New Perspectives on page 26–27.

Table 5: An applied example of the inquiry-based approach – Topic/theme: 'Fresh water in our world'

Route to inquiry	Simple key questions *Lower-order cognitive skills*	Summary questions	More complex key questions *Higher order processes*
Observation and perception	What is the water cycle? What do I already know about it?	What do I observe about water use at my local creek/river? What are my perceptions about the value of water for different uses? How do others view water and water use in different parts of Australia, Asia–Pacific and the world?	Are there inequalities in the global use of water? What is the scale of the issues associated with the water cycle? What patterns of distribution are there represented at local/regional/national and global scales?
Definition and description	What is the global/ regional/ national/local distribution of water? How is freshwater used at different scales?	How can the processes involved in the water cycle be described and explained? Where is water found across the globe? Are there any links between how water is used in my local environment and the wider world?	What natural processes and human activities impact on water use? Is there a spatial association between global water supply and population growth? What factors contribute to the global pattern of changing water supply?? Who has/does not have access to safe water?
Analysis and explanation (reasoning)	Why is freshwater important to people and the environment?	Why is water such a valuable resource? What changes have occurred to the water cycle to make water such a valuable resource? What processes are involved in this change?	What is the spatial interaction between natural processes and human activities? How does this interaction impact on global/regional/national/local water supply?
Processing, prediction and evaluation	What happens when the water cycle is altered? What is the impact of water use on people and the environment?	How do different user groups view water as a resource? Do all countries use water in the same way? Are there policies on water use and management? What might happen with changes in water use? With what impacts?	What are the effects of changing water use on people and environments? How could the impacts of changing water use be evaluated? What criteria could be used for evaluation?
Decision-making	What action/water use can alter the water cycle? With what impact?	What policies are being developed about water use at different levels – local, national, regional and global? With are the consequences of these policies on the water cycle?	How can policies on water use be evaluated? What alternative policies could be developed? Who should be involved in developing new water policies? Who gains and who loses as a result of water policy decisions?
Personal evaluation and judgement (metacognition)	What are my views on changes to water use? Why? How should water be used?	Which alternative and which decision about water use/regulation would I choose and why? How would I justify my views?	What criteria could be used to evaluate the appropriateness of different water policies?
Personal response Actively participating	How should? What next? What shall I do?	How should I respond to severe drought and water restrictions? What action can I take to reduce my water consumption?	How well do I participate in society? What is my response to government legislation and community concerns about water usage?

Adapted from: Teaching Geography in secondary schools, p. 24

3.3 Geography in the field

Fieldwork is an important element of Geography. All levels of the Victorian curriculum mandate fieldwork in Geography.

Fieldwork is work in the field, undertaken outside the classroom (even within the school grounds) so that geographic knowledge and geospatial skills learnt in the classroom can be applied to the real world. It is different from an excursion because it includes the collection of data rather than a 'look-see' from a walk around a place. In fieldwork, students use data-gathering skills to find information about places. Students investigate environments and, through the gathering of data, gain an experience of the wholeness of an environment they are studying.

Fieldwork need not be difficult to introduce or maintain. A simple task during a lesson undertaken in the school grounds can provide the opportunity to include thinking processes, communication, and civics and citizenship. For example, simple weather measurements at a variety of sites can provide the data to mount a campaign for the development of a wind barricade in the school's grounds.

Fieldwork beyond the school ground can be undertaken at a local stream, park, housing estate or shopping strip when students measure distances, record numbers, sketch geographic characteristics, map features, survey attitudes and question change factors.

WWW GTAV Fieldwork Guide

4 Where does Geography fit in the curriculum?

Schools will plan for the inclusion of Geography using a variety of organisational approaches. The approach adopted will be influenced by the nature of the school, the school's charter, its structure, student cohort, staffing levels and resource availability. A school could use one of the following structures throughout a year or might opt to vary the structure across the year.

4.1 Approaches in Victorian schools

Geography as a discipline

The discipline approach – generally seen in secondary schools – has Geography clearly identified within a timetable structure and classes focus on a course over a year, a semester or a combination of both across VELS levels 5–6.

Geography at VCE is discipline-based, according to the requirements stated in the Victorian Curriculum and Assessment Authority Geography Study Design.

A snapshot of one school's curriculum reveals studies of the natural environment, such as rainforests and volcanic environments, are of particular interest. The inclusion of geospatial skills within the case studies is seen as a foundation for further Geography studies. Fieldwork in the school ground (a study of microclimates) and local area (street characteristics) encourages the integration of the geospatial skills with the geographic knowledge and understanding.

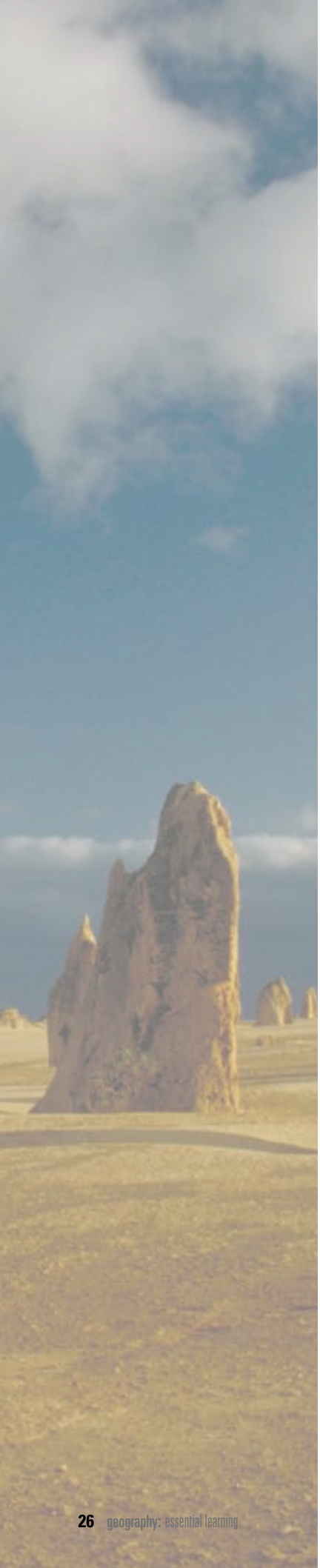
Geography in a thematic approach

Primary schools, where the one teacher is responsible for the teaching and learning of a class, often utilise a series of themes to integrate a range of domains, including The Humanities – Geography. VELS identifies the geographic knowledge and understanding, and the geospatial skills to be incorporated within the Levels 1–3 of The Humanities and at Level 4 where Geography is a domain.

The learning focus statements illustrate a range of possible topics, but schools are able to select beyond this range provided the themes chosen meet the standards and allow for authentic learning and assessment. For example, a theme from the Level 3 learning focus statement is 'national parks' so a class might study the history, the economics, the geography, the recreational activities and the management occurring in a specific national park.

At a primary school (Levels 1–4) the thematic approach can be seen in an integrated curriculum where the school is studying Australian desert environments. Lessons and class activities at each of Levels 1–4 address the knowledge and understanding of desert environments relevant to each specific level to culminate in a contribution to a performance combining movement, song, costume and comment on a desert environment performed for the school families.

Another school at Year 10 offers an elective with an emphasis on the geospatial skills through a unit developed around the use of both GPS and the GIS.



Geography in a cross-domain study

Both primary and secondary schools might choose to integrate selected domains where specific knowledge, understanding and skills of one discipline are taught along with another domain. In particular this format lends itself to the teaching of social issues that cannot be resolved within one discipline. For example, pollution might be studied in Geography and Science, and HIV/AIDS could be studied in Geography and Health Education. Identification of elements pertaining to the Geography standard is essential for the authentic assessment of the Geography dimensions.

One school's approach involves Year 9 students taking part in a program titled *Enviro* which concentrates on environmental and cultural issues with strong links to the school camp program. As such the focus is on the natural environment studying water, rivers and the Australian Alps.

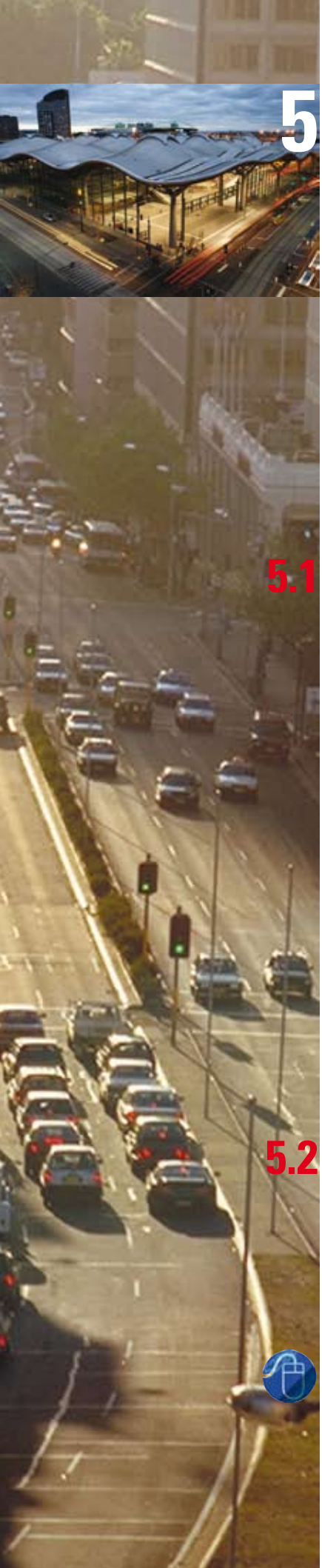
Geography in a trans-domain unit

A trans-domain approach involves multiple domains and brings together new perspectives with the focus being on the inquiry or issue itself. For example, the study of sustainable cities or climate change requires collaboration and interaction between domains to develop the fundamental characteristics of rigour, openness and tolerance. A number of schools use a city *experience* in this way.

Whatever the organisational approach taken within a school, identification of the Geography component of a unit is essential to meet the requirements of the standards and reporting. The spatial concepts outlined on pages 10–12 underpin the knowledge and understanding at all levels, and the geospatial skills are central to the discipline by providing the tools for understanding and communication of those understandings. Fieldwork at all levels provides the practical application in the real world and the opportunity to develop active citizenship.

This range of approaches reflects the interpretation of curriculum frameworks for the needs of individual schools whether for structural purposes, student development or an innovative approach.

The strength in any of these approaches is the quality of the Geography being taught. The opportunities are provided for students to meet VELS standards, and for authentic assessment to allow teachers to report to those standards, and for students to progress to VCE Geography with a sound basis on which to build their geographic knowledge and understanding. The value of Geography should not be underestimated.



5 Where could Geography lead?

Geographic education makes a lifelong contribution to an individual's understanding of the events, activities, changes and developments at a local, national, regional and global scale. The natural and human environments – and the interaction between them – are studied through an inquiry-based approach to develop a deep understanding of people and environments. Teaching strategies – research, practical activities, fieldwork and active citizenship – utilise thinking processes that can be transferred to other subject areas, and used long after formal schooling has ended.

Whether it be in further education, the workplace, travel experiences or community service, a sound geographic background provides a sense of location (place), of distribution (space), of people and processes (movement), interactions and associations, spatial changes over time, and of scale (local, national, regional, global).

5.1 Education

Each year in July when the Victorian Tertiary Entry Ranking (VICTER) booklet is released, the GTAV provides to its membership and on its website www.gtav.asn au a listing of the tertiary courses that specifically include Geography. Year 10 students are advised of such tertiary course requirements in time for their selections at school for entry into VCE or Vocational Education and Training (VET) studies.

In VET, such courses as Certificate II in Agriculture, Horticulture, Sport and Recreation, and Forest Industries Studies utilise the important knowledge and skills attained through Geography in the compulsory years of school.

In the Victorian Certificate of Applied Learning (VCAL), a student selects curriculum components and builds an individual program across four strands. Geography and the workplace environments (see Table 6) can assist school-based apprenticeships to develop units in association with the key competencies of the strands for Personal Development Skills and Work Related Skills.

Across the tertiary institutions in Victoria, Geography is provided in courses as diverse as physical and human Geography studies, global studies, indigenous studies, environmental issues, sustainability and GIS. The websites of the various universities reveal the wide range of options open as part of ongoing studies.

5.2 Workplace

The geospatial skills and the ability to apply the inquiry-based approach gained from a study of Geography are valued in a wide range of workplaces, examples of which are outlined in Table 6. Some of these require further studies, some are direct entry and others want experience.

WWW Geography Careers

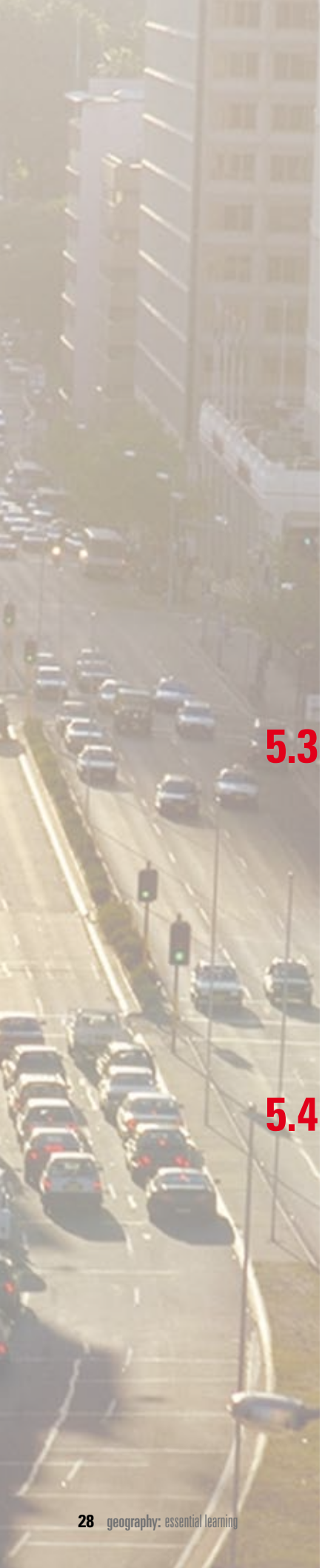


Table 6: Employment opportunities that involve a study of Geography

Job opportunities with an interest in:	Direct entry with ongoing training	Further studies required	Experience/job changes
Plants/animals and the land	Parks officer Stock agent	Forest manager Mining manager	Sustainability department manager Renewable power adviser
Maps and photography	Courier Landscape design apprentice	Cartographer Catchment manager	GIS analyst
People and their activities	Non-government organisation (NGO) volunteer	Recreation and tourism advisor Town planning manager	Marketing and public relations spokesperson Aid program manager
Youth services	Administrative assistant	Social worker	Education officer on recreation

This table provides only a brief overview of the variety of jobs available. The brochure 'The Place of Geography in Your Career Choice' (an AGTA publication available through the GTAV), the website www.geocareers.net.au and the 'Jobs for Geographers' section of the GTAV journal *Interaction* provide detailed examples of people working in placements where their study of Geography at school or beyond has provided them with an enhanced opportunity in the workplace.

5.3 Travel experiences

As communication becomes increasingly easier, quicker and cheaper in our globalised world, the movement of people, ideas and knowledge of other places becomes more extensive. Geography cultivates awareness and knowledge of people and environments in a range of societies and locations, and stimulates an interest in cultural similarities and differences. Geography not only fuels a sense of travel, whether within our own state, nation or beyond, but also provides a basis for decision-making about recreational pursuits. The skills of map reading, observation and planning allow geographers to make daily choices about activities, whether these are based on weather considerations, movement patterns or the pursuit of personal well-being.

5.4 Community citizenship

Geography encourages the development of knowledge about a range of contemporary social and environment issues, and suggests strategies for the management of these. It also promotes participation in a variety of activities at different scales that help develop the skills for individuals to interact with their community and its organisations and groups.

Table 7 provides examples of some such activities.

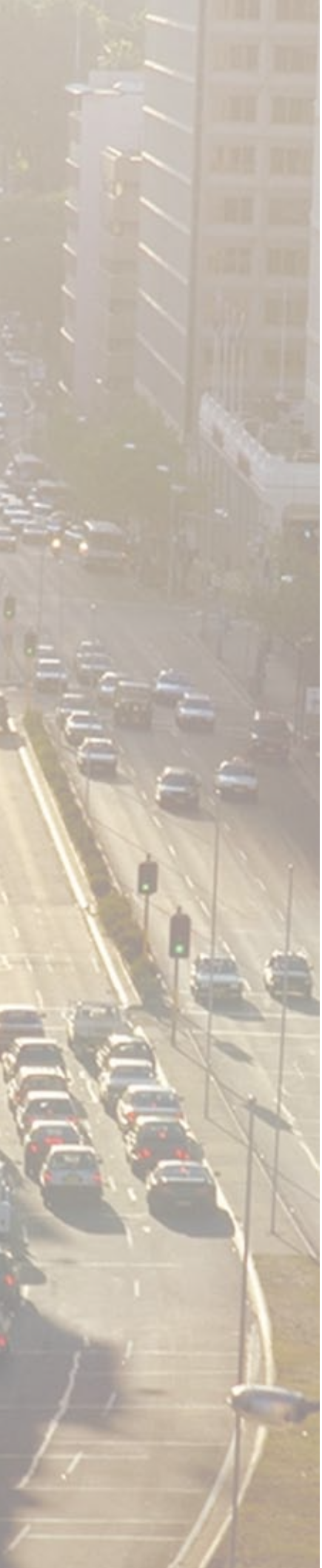


Table 7: Examples of community involvement by a variety of schools

Scale activity	Local/regional	National	Global
Species rescue and recovery programs	Helmeted honey-eater, Healesville Sanctuary	National Recovery Plan for the Bilby	China's Giant Panda (World Wildlife Fund)
Heritage preservation and interpretation	Paddleboats, Echuca Rainforest, Orbost	Rebuilding of the cattlemen's huts after the alpine fires in 2003 and 2006.	Angkor Wat, Thailand
Environmental focus	Coles Bay, Tasmania – first town to go plastic bag free	Clean up Australia (Greening Australia)	World Environment Day (United Nations)
Environmental monitoring programs	Remnant roadside vegetation sites (local councils)	Wetland Care Australia	The International Union for the Conservation of Nature and Natural Resources (IUCN)
Revegetation and environmental repair	Re-establishment of native vegetation along a creek (Friends of Gardiner's Creek)	Coast Action (Department of Environment and Sustainability)	Coral Reef Alliance (ICRAN) aims to halt and reverse the decline in the health of the coral reefs
Response to a natural hazard	Provision of toiletries for bushfire victims (organised by local authorities)	Blankets for the homeless (Australian Broadcasting Corporation Appeal)	Provision of schools and equipment after a flood, earthquake or tsunami (Red Cross International)
Participation in service communities	School social service	Lions Club assistance for migrant families	Rotary International educational grants for African students

References

Australian Geography Teachers' Association Ltd (2007), *Australians Need Geography*, available in *Interaction*, Volume 35 No 2 June 2007

Bourke, M (2005), *The Essence of Geography: Using Spatial Concepts*, Geography Teachers' Association of Victoria Inc, Camberwell

Geographic Association, *Teaching Geography*, Sheffield, various issues

Geography Teachers' Association of Victoria Inc., *Geography – its value and place* (1996), Camberwell

Geography Teachers' Association of Victoria Inc, *A Guide to Fieldwork in Geography* (2003) Camberwell

Kriewaldt Jeana (ed) (2004), *Keys to Geography*, Macmillan Education Australia, Melbourne

Lambert, D and Balderstone, D (2000), *Learning to Teach Geography in the Secondary School*, Routledge Falmer, London

Leat, D (2001) 2nd Ed. *Thinking Through Geography,* Chris Kington Publishing, Cambridge

Morgan, J and Lambert, D (2005) *Geography: Teaching School Subjects 11–19,* Routledge, London

Nichols, A (2001) *More Thinking Through Geography,* Chris Kingston Publishing, Cambridge

Roberts, M (2003), *Learning Through Enquiry*, Geographic Association, Sheffield.

Smith, Maggie (ed) (2002), *Teaching Geography in Secondary Schools: A Reader*, (Open University Flexible PGCE Teaching in Secondary School), Routledge Falmer, London

Geography is the study of the interaction between people and environments.

It develops knowledge and understanding of the distribution of human and natural phenomena. Spatial perspectives underpinning the discipline provide a means for describing and interpreting patterns and processes affecting Earth and its people.

A spatial perspective provides a unique conceptual structure for the investigation of phenomena. Using spatial concepts geographers define and elaborate their understanding of phenomena.

Whatever the organisational approach taken within the school, identification of the Geography component of a unit is essential. The spatial concepts guide the knowledge and understanding at all levels, and the geospatial skills underpin the discipline by providing the tools for understanding and communication of those understandings. Fieldwork at all levels provides the practical application in the real world and the opportunity for the inclusion of active citizenship.

By investigating spatial dimensions of topics and issues, students analyse the impact of the interaction between people and environments, and consider appropriate responses.

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