Geography 11–12

Rural and urban places learning program

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# Rationale

The NSW Department of Education publishes a range of curriculum support materials, including samples of lesson sequences, scope and sequences, assessment tasks, examinations, student and teacher resource booklets, and curriculum planning and curriculum evaluation templates. The samples are not exhaustive and do not represent the only way to complete or engage in each of these processes. Curriculum design and implementation is a dynamic and contextually-specific process. While the mandatory components of syllabus implementation must be met by all schools, it is important that the approach taken by teachers is reflective of their needs and faculty/school processes.

NESA defines [programming](https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/understanding-the-curriculum/programming) as the process of ‘selecting and sequencing learning experiences which enable students to engage with syllabus outcomes and develop subject specific skills and knowledge’ (NESA 2022c). A program is developed collaboratively within a faculty. It differs from a unit in important ways, as outlined by NESA on their [advice on units](https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/understanding-the-curriculum/programming/advice-on-units) page. A unit is a contextually-specific plan for the intended teaching and learning for a particular class for a particular period. The organisation of the content in a unit is flexible and it might vary according to the school, the teacher, the class, and the learning space. They should be working documents that reflect the thoughtful planning and reflection that takes place during the teaching and learning cycle. There are mandatory components of programming and unit development, and this template provides one option for the delivery of these requirements. The NESA and department guidelines that have influenced this template are elaborated upon at the end of the document.

This resource has been developed to assist teachers in NSW Department of Education schools to create learning that is contextualised to their classroom. It can be used as a basis for the teacher’s own program, assessment, or scope and sequence, or be used as an example of how the new curriculum could be implemented. The resource has suggested timeframes that might need to be adjusted by the teacher to meet the needs of their students.

# Overview

**Description**: this program of learning addresses the syllabuses focus area – Rural and urban places. The lessons and sequences in this program of learning are designed to allow students to develop the knowledge and skills to investigate the nature of rural and urban settlements and the global pattern of urban change. They examine the factors causing change in rural and urban locations.

**During week 1 of the program**, students examine the size, pattern and spatial distribution of settlements including the types of settlement and their influences.

**During week 2 of the program**, students will investigate national and global urban hierarchies of settlements.

**During week 3 of the program**, students will investigate the nature of urbanisation and urban growth at a global scale.

**During week 4 of the program**, students will examine settlements in the world today including a focus on small ecological footprints and those settlements with a high level of wellbeing.

**During week 5 of the program,** students will investigate strategies for the sustainable management of rural and urban places.

**During weeks 6 to11 of the program**, students will delve deeper into the study of the rural setting of Broken Hill and a larger urban settlement of Wollongong. Students will develop a comprehensive understanding of the dynamic interplay between location and character of the place, geographical processes, links to other places, changes, response and strategies of affecting the urban and rural place. This includes undertaking a fieldwork activity including using fieldwork data in completing an assessment task.

**During weeks 12 to 14 of the program**, students study the large city outside Australia of Los Angeles. The study includes character and spatial dimension, geographical processes, challenges and responses to living in the big city of Los Angeles

**Duration**: this program of learning is designed to be completed over a period of approximately 14 weeks in 60-minute lessons but can be adapted to suit the school context.

**Explicit teaching**: suggested learning intentions and success criteria are available for some lessons provided. Learning intentions and success criteria are most effective when they are contextualised to meet the needs of students in the class. The examples provided in this document are generalised to demonstrate how learning intentions and success criteria could be created.

# Outcomes

A student:

* **GE-12-01** analyses rural and urban places, ecosystems, global biodiversity and economic activity, for their characteristics, spatial patterns, interactions, and nature and extent of change over time
* **GE-12-02** analyses geographical processes and influences, at a range of scales, that form and transform places and environments
* **GE-12-03** assesses geographical opportunities and challenges, and the role of varying perspectives and responses in their management
* **GE-12-04** evaluates responses and management strategies, at a range of scales, for sustainability
* **GE-12-05** synthesises and evaluates relevant geographical information from a variety of sources
* **GE-12-06** justifies geographical methods used in geographical inquiry and their relevance in the contemporary world
* **GE-12-07** selects and applies geographical inquiry skills and tools, including spatial technologies, fieldwork, and ethical practices, to investigate places and environments
* **GE-12-08** applies mathematical ideas and techniques to analyse complex geographical data
* **GE-12-09** communicates and applies geographical understanding, using geographical knowledge, concepts, terms and tools, in appropriate form

[Geography 11–12 Syllabus](https://curriculum.nsw.edu.au/learning-areas/hsie/geography-11-12-2022/overview) © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2022.

# Teacher Advice

## Fieldwork

The Year 12 geography course includes 12 hours of mandatory fieldwork. This hands-on learning experience allows students to explore and analyse various aspects of rural and urban places, enabling them to gain a better understanding of the world around them. Fieldwork enables students to connect theoretical knowledge with real-world applications. It enhances their critical thinking, problem-solving and observational skills while also promoting a sense of stewardship for the environment. When planning fieldwork activities for this focus area, please consider how [Environmental and zoo education centres](https://education.nsw.gov.au/teaching-and-learning/curriculum/sustainability/environmental-zoo-centres) might be able to support learning outcomes for students.

When conducting fieldwork involving people, ethical practices must be adhered to, including respecting intellectual property (IP) rights. For example, if students are gathering data from community members, informed consent should be obtained, and participants should be made aware of how their information will be used. Additionally, any copyrighted material or resources must be appropriately cited and used with permission.

Fieldwork involving Aboriginal sites or focused on Aboriginal and/or Torres Strait Islander peoples and cultural heritage, requires special consideration of Indigenous cultural and intellectual property (ICIP) rights. To ensure ethical practices, students and teachers should familiarise themselves with cultural protocols for working with Aboriginal communities. Appropriate consultation with local communities and education consultants is necessary to establish respectful and mutually beneficial relationships. For more information, refer to [Aboriginal and Torres Strait Islander principles and protocols](https://curriculum.nsw.edu.au/teaching-and-learning/aboriginal-education).

In accordance with the NSW Department of Education’s [Excursion policy](https://education.nsw.gov.au/policy-library/policies/pd-2004-0010), risk assessments must be conducted prior to any fieldwork activities. This includes identifying potential hazards, assessing risks and implementing control measures to mitigate those risks. Teachers must ensure that adequate supervision is provided, and that all necessary permissions and approvals are obtained before commencing fieldwork.

## Geographical tools

Geographical tools are to be embedded into classroom activities as appropriate. Students should have more than one opportunity to demonstrate their skills. The following geographical tools have been integrated into this program:

* maps – topographic maps, choropleth maps, relief maps, land use maps, thematic maps, political maps, latitude and longitude
* graphs and statistics – compound and composite column and bar graphs, line graphs, scatter graphs, climate graphs
* spatial technologies – virtual maps, satellite images, GPS and Geographical information systems (GIS)
* visual representations – photographs, vertical and oblique aerial photographs, satellite images, flow charts, annotated diagrams and mind maps.

## Geographical inquiry skills

The geographical inquiry skills content is to be integrated throughout the course. ‘Applying geographical understanding’ is an addition to the geographical inquiry skills. It includes:

* evaluating options in response to a geographical challenge by
* developing evaluation criteria based on environmental, social and economic considerations
* making an on-balance judgement about the most appropriate option(s)
* proposing actions and predicting outcomes
* developing a plan to implement a proposal
* assessing how causes, impacts, opportunities, challenges and/or responses relevant to one geographic context might be applicable to another.

**Prior to planning for teaching and learning, please consider the following:**

**Engagement**

* How will I provide authentic, relevant learning opportunities for students to personally connect with lesson content?
* How will I support every student to grow in independence, confidence and self-regulation?
* How will I facilitate every student to have high expectations for themselves?
* How will I identify and provide the support each student needs to sustain their learning efforts?

**Representation**

* What are some different ways I can present content to enable every student to access and understand it?
* How will I identify and address language and/or cultural considerations that might limit access to content for students?
* How will I make lesson content and learning materials more accessible?
* How will I plan learning experiences that are relevant and challenging for the full range of students in the classroom?

**Expression**

* How will I provide multiple ways for students to respond and express what they know?
* What tools and resources can students use to demonstrate their understanding?
* How will I know every student has understood the concepts and language presented in each lesson?
* How will I monitor if every student has achieved the learning outcomes and learning growth?

# Rural and urban settlement

## Week 1 – the size, pattern and spatial distribution of settlements

**Teacher note:** examples included in the syllabus are provided to support delivery of course content. These examples are not mandatory and teachers might choose to use the examples provided or select appropriate alternatives.

### Learning intentions

These learning intentions and success criteria are general and should be contextualised to suit your school and students’ needs.

Students:

* understand and differentiate between various types of settlements (remote settlements, villages, suburbs, regional centres, cities, megacities and urban mega-regions) and analyse their size, patterns and spatial distribution
* investigate the factors that influence the size and spatial distribution of settlements, including location, climate, topography, natural resources and population
* examine the role of natural resources in the economic development of different countries and the importance of these resources in their respective economies.

### Success criteria

Students can:

* correctly define and identify characteristics of each type of settlement
* use online resources, such as the United Nations Population Division site and World Bank, to gather data and examples of different types of settlements
* effectively analyse data and identify patterns or trends related to the size and distribution of settlements
* create and present a case study on a specific settlement type, discussing its size, pattern, spatial distribution and unique characteristics or challenges
* investigate the influence of factors like location, climate, topography, natural resources and population on the size and spatial distribution of settlements.

Table 1 – the size, pattern and spatial distribution of settlements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Outcomes and content | Teaching and learning activities | Evidence of learning | Differentiation or adjustments | Registration and evaluation notes |
| **GE-12-01, GE-12-02, GE-12-05, GE-12-07, GE-12-08**  The size, pattern and spatial distribution of settlements, including:   * different types of settlements – remote settlement, village, suburb, regional centre, city, megacity and urban mega-region   **Geographical tools/skills**   * Political maps | Examine the features of different types of settlements, including:   * remote settlements * villages * suburbs * regional centres * cities * megacities * urban mega-regions.   Provide brief definitions and characteristics of each type of settlement.  Complete Table 1 in ‘Activity 1 – types of settlements’ in the resource booklet.  Use the [United Nations Population Division](https://www.un.org/development/desa/pd/) site to develop an understanding of the differences between settlement types.  In small groups, use a large world map (or use an online mapping tool such as [Google Earth](https://earth.google.com/web/)) to identify and label examples of each type of settlement, using different coloured markers or pins.  Use the [United Nations Population Division](https://population.un.org/) website or [World Bank](https://data.worldbank.org/) to research information and data on different settlements.  Present research findings to the class and discuss the patterns and spatial distribution of settlements. Engage in [peer discussion](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/547?clearCache=9a36d25b-4ca6-a1cf-81a9-733e1ce19e3c) to build on the research findings. | Table 1 in Activity 1 completed with definitions and characteristics of different types of settlements.  Accessed and used the United Nations Population Division site to explore and understand the differences between various settlement types.  Collaboration in small groups to identify and label examples of each settlement type on world maps.  Completed presentation of findings to the class and discussed patterns and spatial distribution of settlements. | Pre-teach key vocabulary and concepts related to settlements.  Provide a glossary of terms, allowing the use of bilingual dictionaries.  Encourage students to use target language during practical activities.  Provide visual examples to support understanding of different settlement types.  Model how to navigate the United Nations Population Division website.  Offer writing scaffolds for paragraph structure when summarising findings.  Consider varying group sizes and roles for students who find group work challenging.  Allow practise with mapping tools before working in groups.  Offer multiple modes of presenting findings, such as verbal or non-verbal methods. |  |
| The size, pattern and spatial distribution of settlements, including:   * settlement patterns | Locate data related to the population, land area and population density of different types of settlements. Create a table to organise the data collected.  Analyse the data to identify any patterns or trends related to the size and distribution of settlements.  Write a brief summary of the findings, highlighting key patterns or trends.  Research a specific settlement type using reputable sources, for example, [National Geographic](https://www.nationalgeographic.com) or [The Guardian’s Cities section](https://www.theguardian.com/cities).  Create a brief report on the settlement type, discussing the size, pattern and spatial distribution of the settlement type, as well as any unique characteristics or challenges.  Review the main concepts learned in the lesson, including the different types of settlements and their size, pattern and spatial distribution.  Discuss the patterns or trends identified during the activities and how these patterns might change in the future. | Completed table with data related to the population, land area and population density of different types of settlements.  Analysed the data to identify patterns or trends related to the size and distribution of settlements.  Students wrote brief summaries of their findings, highlighting key patterns or trends in settlement distribution. | Explicitly demonstrate the correct use of data analysis tools.  Provide templates for organising data in tables.  Support students with various modes of reflection (paper, oral, digital).  Offer opportunities to practise presentation skills before presenting to the class. |  |
| The size, pattern and spatial distribution of settlements, including:   * influences on size and spatial distribution – location, climate, topography, natural resources, population and economic development   **Geographical tools/skills**   * Data tables * Choropleth maps * Graphs | **Teacher note:** students need to think critically about the role of geography in shaping settlements and the challenges and opportunities presented by different types of settlements.  Complete Table 2 in ‘Activity 2 – influences on size and spatial distribution’ in the resource booklet on the influences related to location, climate, topography, natural resources and population.  Use the [Australian Bureau of Statistics](https://www.abs.gov.au) to gather population and economic data for different regions in Australia.  Create choropleth maps (using free online mapping tools such as [CartoDB](https://carto.com) or [QGIS](https://qgis.org)) to visualise the spatial distribution of population and economic activity in relation to the information covered in Activity 1 and 2.  Analyse the maps and identify patterns in size and spatial distribution.  Discuss common themes and differences among the case studies.  **Teacher note**: divide the class into small groups and provide each group with a list of different natural resources (for example, minerals, fossil fuels, water, forests and arable land).  Have students complete the following research and data analysis tasks in their small groups.  Research the importance and uses of each natural resource in relation to economic development, using reputable websites such as [World Bank](https://www.worldbank.org) and the [United Nations Environment Programme](https://www.unep.org).  Select a country with a resource-based economy (for example, Australia for minerals, Saudi Arabia for oil, Brazil for agriculture and Canada for forestry). Students to research the role of their assigned natural resource in the country’s economic development, focusing on factors such as exports, GDP and employment.  Use free online data visualisation tools, such as [Gapminder](https://www.gapminder.org) or [Datawrapper](https://www.datawrapper.de), to create graphs or charts illustrating the importance of a natural resource in the country’s economy.  Present the graphs and findings to the class as part of a [gallery walk](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/555?clearCache=fe7e9cb7-226e-b8dc-5a20-51e910026dda), highlighting the key role of natural resources in economic development. | Completed Activity 2, focusing on the influences related to location, climate, topography, natural resources and population.  Used the Australian Bureau of Statistics to gather data and the creation of choropleth maps using free online mapping tools.  Research identifying the importance and uses of various natural resources in relation to economic development.  Used online data visualisation tools to create graphs or charts. | Allow for various modes of presenting information, such as visual aids or digital formats.  Use thinking activities and graphical organisers to facilitate brainstorming.  Model how to complete graphic organisers for students unfamiliar with these tools.  Include multiple opportunities to respond, such as verbal or non-verbal methods.  Provide additional support with understanding location, climate, topography, natural resources and population concepts.  Offer assistance in using the Australian Bureau of Statistics website and mapping tools.  Natural resource research:   * Model how to navigate and use reputable websites for researching natural resources. * Provide guidance in using data visualisation tools. * Encourage the use of target language during presentations and discussions. |  |

## Week 2 – national and global urban hierarchies of settlements

### Learning intentions

Students:

* understand the concept of urban hierarchies and spheres of influence, and analyse how settlements can be classified based on population size and urban functions
* investigate the factors that influence urban hierarchies and how they vary across different regions and countries, and explore how urban hierarchies can inform urban planning, resource allocation and sustainable development
* develop skills in using online tools to gather data, create custom maps and visualise urban hierarchy information, as well as analyse and compare the factors contributing to the classification of cities within the urban hierarchy.

### Success criteria

Students can:

* identify and describe the key features of urban hierarchies and provide examples of cities that fit into different categories within the hierarchy
* effectively participate in class discussions and group activities related to the factors that influence urban hierarchies and how they vary across different regions and countries
* gather and analyse relevant data and statistics about population size and urban functions for various cities in Australia and around the world
* demonstrate proficiency in using online mapping tools to create custom maps displaying urban hierarchies and spheres of influence, as well as in analysing their maps to identify patterns and factors influencing urban hierarchies
* create a clear and well-organised visual representation of a chosen city’s sphere of influence, effectively presenting and discussing the factors that contribute to the city’s sphere of influence within the urban hierarchy.

Table 2 – national and global urban hierarchies of settlements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Outcomes and content | Teaching and learning activities | Evidence of learning | Differentiation or adjustments | Registration and evaluation notes |
| **GE-12-01, GE-12-02, GE-12-05, GE-12-07, GE-12-08**  National and global urban hierarchies of settlements, based on population and urban function, and spheres of influence  **Geographical tools/skills**   * Population profiles * Visual representations * Graphs and charts * Thematic maps * Web tools * Visual representations * Bar/column graphs | Access the syllabus glossary to define and discuss urban hierarchies and spheres of influence.  Conduct a class [brainstorm](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/542#.ZB0NHH5gpTI.link) on how settlements can be classified based on population size and urban functions such as administration, commerce, transportation and services.  Discuss the main factors that influence urban hierarchies and how they vary across different regions and countries. Access ‘Activity 3 – urban hierarchies’ in the resource booklet and reflect on how understanding urban hierarchies can help inform urban planning, resource allocation and sustainable development.  Make predictions about how urban hierarchies might change in the future due to factors such as population growth, technological advancements and global trends.  In small groups, access the [United Nations](https://www.un.org) or the [Australian Bureau of Statistics](https://www.abs.gov.au) to gather information, data and statistics about population size and urban functions for various cities in Australia and around the world.  Summarise the key features of urban hierarchies and provide examples of cities that fit into different categories within the hierarchy.  Use free online mapping tools such as [Google My Maps](https://www.google.com/mymaps) or [QGIS](https://qgis.org) to create a custom map displaying urban hierarchies, using the research from the previous activity. (Maps should include markers for cities, indicating their rank within the urban hierarchy and the size of their spheres of influence).  Analyse the maps and identify patterns in the distribution of settlements and the factors influencing urban hierarchy and spheres of influence.  Select 5 cities or towns from different regions or countries and create a table or spreadsheet comparing the factors contributing to their classification within the urban hierarchy.  Select one city from the urban hierarchy map and research its sphere of influence, focusing on factors such as economic activity, transportation networks and cultural influence.  Create a visual representation (for example, infographic, poster or digital presentation) of the selected city’s sphere of influence, using tools such as [Canva](https://www.canva.com) or [Piktochart](https://www.piktochart.com).  Using a [gallery walk](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/555#.Y782IS9Pphk.link), present the visual representation to the class and discuss the factors that contribute to the chosen city’s sphere of influence.  In groups, examine a specific case study that represents a unique urban hierarchy, for example:   * a global city (for example, New York) * a national capital (for example, Canberra) * a regional centre (for example, Bendigo) * a transportation hub (for example, Singapore) * a university town (for example, Cambridge).   Each group should use a different case study.  Complete the research tasks in ‘Activity 4 – urban hierarchy case study’ in the resource booklet that focuses on the factors that contribute to the city’s position within the urban hierarchy.  Create a table to display key information and data for the selected city or town, representing different levels of the urban hierarchy. The table will have the following columns:   * City/Town name * Population size * Urban functions (for example, administration, commerce, transportation, education, services) * Centrality (for example, regional, national or international influence) * Connectivity (for example, transportation and communication infrastructure) * Global influence (if applicable).   Each row in the table represents a different city or town, with data provided for each of the columns. The table should make it easy to compare the various factors contributing to the urban hierarchy classification for each city or town.  Use a bar chart or column chart to effectively visualise the urban hierarchy based on population size or centrality scores. For example, create a bar chart with the x-axis representing different cities or towns and the y-axis representing either population size or centrality scores. | From the brainstorming session, students were able to classify settlements based on population size and urban functions.  Students engaged in a group discussion to identify settlement classifications.  Notes from brainstorming session highlighting population size and urban functions.  Contributions from students during class discussion on factors affecting urban hierarchies.  Student reflections on urban planning, resource allocation and sustainable development.  Completed presentations summarising urban hierarchy features and city examples.  Maps created using Google My Maps or QGIS.  Students analysed patterns in settlement distribution and factors influencing urban hierarchy.  Completed tables or spreadsheets comparing factors for 5 selected cities/towns.  Student-completed infographics, posters or digital presentations created using Canva or Piktochart.  Gallery walk presentations discussing factors contributing to chosen city’s sphere of influence.  Completed research questions from Activity 4 in the resource booklet for each case study.  Constructed tables with data for each city/town, including city/town name, population size, urban functions, centrality, connectivity and global influence.  Completed bar or column charts representing urban hierarchy based on population size or centrality scores. | Pre-teach key vocabulary: ‘urban hierarchies’, ‘spheres of influence’, ‘urban functions’, ‘population size’, ‘administration’, ‘commerce’, ‘transportation’, ‘services’.  Provide a glossary and bilingual dictionaries.  Encourage students to use target language during practical learning activities.  Provide visual examples and multimedia resources to illustrate concepts.  Model and provide a template for the reflective process.  Offer multiple opportunities to respond verbally or non-verbally.  Provide support for students who find group work challenging, offering options to work independently or in pairs.  Offer multiple modes of presentation delivery, such as audio, visual or interactive.  Explicitly teach the use of geographical tools and provide guided practise.  Use thinking activities and graphical organisers for brainstorming, considering student needs and alternative options.  Model how to complete graphic organisers and provide writing scaffolds for paragraph structure.  Offer differentiation in research tasks to accommodate various learning needs.  Provide support for students who require additional assistance with data analysis and interpretation.  Allow students to choose from a range of visual representation tools, such as infographics, posters or digital presentations.  Assign diverse case studies to accommodate different learning needs and interests.  Provide support and guidance for using data visualisation tools and techniques. |  |

## Week 3 – the nature of urbanisation and urban growth

### Learning intentions

Students:

* develop an understanding of the nature of urbanisation and urban growth and its impact on rural and urban places
* analyse data and interpret maps related to urbanisation and urban growth trends
* identify and critically evaluate the challenges facing rural and urban places and explore their interconnectedness.

### Success criteria

Students can:

* identify key indicators and trends in urban development using data
* draw a concept map or diagram illustrating the interdependence between rural and urban places, including challenges related to food production and supply
* construct and interpret various graphs to represent patterns, trends and relationships related to urban growth and challenges facing rural and urban places
* create a photo essay or slideshow that explores the challenges and opportunities of urbanisation and urban growth, with captions or annotations to provide context and support the narrative
* compare and contrast the challenges and opportunities of rural and urban places and analyse their interconnectedness.

Table 3 – the nature of urbanisation and urban growth at a global scale

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Outcomes and content | Teaching and learning activities | Evidence of learning | Differentiation or adjustments | Registration and evaluation notes |
| **GE-12-01, GE-12-02, GE-12-03, GE-12-07, GE-12-08, GE-12-09**  The nature of urbanisation and urban growth at a global scale, including:   * challenges facing rural and urban places   **Geographical tools/skills**   * Mind maps * Annotated diagram | [Brainstorm](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/542#.ZB0NHH5gpTI.link) ideas on the nature of urbanisation and urban growth, and the differences between rural and urban places.  Access [World Bank Urban development](https://data.worldbank.org/topic/urban-development) and complete the following questions:   * What are the key indicators and trends in urban development according to the data provided by the World Bank? * How has the urban population growth rate changed globally over the past decades? * What factors contribute to the rapid urbanisation of developing countries as per the World Bank’s data?   Access and interpret the maps from [United Nations World Urbanization Prospects 2018](https://population.un.org/wup/Maps/). Complete the following questions:   * Which urban agglomerations (refer to densely populated areas that consist of a central city and its surrounding urban areas, often including smaller cities, towns and suburbs) are experiencing the fastest growth rates according to the World Urbanization Prospects 2018 maps? * How is the percentage of urban populations and urban agglomerations by size class represented on these maps? * Which regions of the world have the highest percentage of urban populations according to the World Urbanization Prospects 2018 maps? * What are the key trends and projects in urbanisation and urban growth shown by these maps? * How can the information from the World Urbanization Prospects 2018 maps be used by urban planners and policymakers?   **Teacher note:** the following activities will be completed as a group task: one group will research the challenges facing rural places, while the other will focus on urban places.  Use websites, such as the [World Health Organization](https://www.who.int/) and the [International Labour Organization](https://www.ilo.org/), to gather information.  Create a poster or digital presentation highlighting the main challenges facing the assigned area. Include visual representations, such as photos, graphs and charts.  Present the findings to the class, and complete a [quick write](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/548?clearCache=ea9e9927-20d3-c294-e0d7-50f3ad5c29a0) on how these challenges are interconnected. | Collaborative discussion on the differences between rural and urban areas.  Demonstrated understanding of key concepts such as urbanisation, urban growth and interdependence.  Answers to questions based on key indicators and trends.  Identified factors contributing to rapid urbanisation in developing countries.  Completed visual representations of their findings through posters or digital presentations.  Discussion on the interconnectedness of rural and urban challenges. | Pre-teach key vocabulary and concepts related to urbanisation and urban growth.  Provide a glossary and allow the use of bilingual dictionaries for uncommon terms.  During the brainstorming session, encourage students to use target language in context.  Use visual aids or multimedia examples to support the brainstorming process.  Provide a transcript of the World Bank Urban development data and the World Urbanization Prospects 2018 data for students who need it.  Allow students to work individually, in pairs, or in small groups, considering their needs and preferences.  Provide opportunities to practise skills before working in a group, or options to work independently or in pairs.  Consider multiple modes of delivering presentations, such as verbal, written or digital presentations.  Use closed captions when viewing video to assist understanding and vocabulary building. |  |
| The nature of urbanisation and urban growth at a global scale, including:   * the interdependence of rural and urban places   **Geographical tools/skills**   * Concept map * Visual representations * Bar graphs * Line graphs * Scatter graphs * Photographs | Discuss the meaning of interdependence and how it relates to rural and urban places.  Select an example to demonstrate the interdependence of rural and urban places, such as the relationship between agricultural production and urban markets.   * [Improved rural urban linkages: Building sustainable food systems](https://www.youtube.com/watch?v=DJgMzxUTx2U) (5:40) * [Shifting demographics](https://www.un.org/en/un75/shifting-demographics) * [Food and Agriculture Organization](https://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/1152258/).   Use further research and websites including [World Bank DataBank](https://databank.worldbank.org/home.aspx) and [United Nations Human Settlements Programme (UN-Habitat)](https://data.unhabitat.org/) to create a [concept map](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/542?clearCache=6a3fb2fa-28a8-c3d1-64e6-f4b64ebacacc) or diagram illustrating the interdependence between rural and urban places. The guiding questions below can be used as a prompt for the concept map or diagram:   * What is the current percentage of the world’s population living in urban areas? * What percentage of the world’s population is expected to live in urban areas by 2050? * What challenges does urbanisation pose for food production and supply? * What are some challenges faced by both rural and urban residents when it comes to access to nutritious, safe and affordable food? * What are some of the challenges faced by cities and surrounding areas, and how can food systems help to address them? * Who should be involved in the decision-making process when it comes to designing sustainable and inclusive food systems?   Calculate absolute and proportional changes, and identify patterns, trends and relationships within the data, and represent the findings using various graphs (for example, bar graphs, line graphs, scatter graphs).  Complete [Plus, Minus, Interesting (PMI)](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/551?clearCache=53e6b4ef-2a9-406e-a24-7b5dbfb8e35c) about the relationship between urban growth and challenges facing rural and urban places.  Complete Table 4 in ‘Activity 5 – challenges and interdependencies of rural and urban places’ in the resource booklet. Include data to support interdependencies of and challenges facing rural and urban places. (Provided in the resource booklet are examples of challenges and interdependence of rural and urban places).  Create a photo essay or slideshow that explores the challenges and opportunities of urbanisation and urban growth. Use primary sources (own photos) or secondary information (images online), ensuring the proper permissions and credits are provided for any images used.  The photo essay should include captions, annotations or brief descriptions to provide context and support the narrative.  Using the photo essay, compare and contrast the rural-urban interdependence and the challenges presented by the class. | Students calculated absolute and proportional changes and identified patterns and trends within the data. Students constructed and interpreted various graphs to represent their findings.  Students participated in a class discussion on the relationship between urban growth and challenges facing rural and urban places.  Students demonstrated visual literacy skills by selecting appropriate images. Students provided context and narrative through captions, annotations or brief descriptions.  Students compared and contrasted rural-urban interdependence and challenges through their photo essays. | Provide a template or model for the concept map or diagram, as students might not be familiar with these learning tools.  Explicitly demonstrate the correct use of statistical tools and graphical representations.  Model how to complete various types of graphs, as students might not be familiar with these learning tools.  Provide scaffolds for writing captions, annotations or brief descriptions.  Offer support for students who need assistance in finding or using images, ensuring proper permissions.  Consider multiple opportunities for students to respond and share their photo essays, such as verbally, non-verbally, individually or in groups. |  |

## Week 4 – settlements with a small ecological footprint and a high level of wellbeing

### Learning intentions

**Students:**

* understand the concepts of ecological footprint and wellbeing, and their relationship to sustainable communities or eco-villages
* compare settlements (sustainable communities or eco-villages) and their practices for reducing ecological footprints and improving wellbeing
* develop a community action plan for reducing ecological footprint and improving wellbeing based on the principles of sustainable communities or eco-villages
* investigate the role of individual, community and government actions in settlements for reducing ecological footprints and promoting sustainable development.

### Success criteria

**Students can:**

* explain the concepts of ecological footprint and wellbeing, and describe the characteristics of sustainable communities or eco-villages
* calculate their personal ecological footprint and identify factors that contribute to it, such as transportation, housing and energy use
* research and present information on specific sustainable communities or eco-villages and their core principles for reducing ecological footprint
* create a community action plan with specific actions, achievable goals and timelines for reducing ecological footprint and improving wellbeing
* compare and contrast the location, environment and land use of 2 sustainable communities or eco-villages using maps and other geographical tools
* analyse factors that contribute to the success of settlements in maintaining a small ecological footprint and high level of wellbeing, using evidence from case studies and geographical tools.

Table 4 – settlements in the world today

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| --- | --- | --- | --- | --- |
| Outcomes and content | Teaching and learning activities | Evidence of learning | Differentiation or adjustments | Registration and evaluation notes |
| **GE-12-03, GE-12-04, GE-12-05, GE-12-09**  Settlements in the world today that have maintained a small ecological footprint and a high level of wellbeing  **Geographical tools/skills**   * Mapping * Visual representations * Graphs and charts | Access a short video or presentation introducing the concepts of ecological footprint and wellbeing. For example, the [Foot print network](https://www.footprintnetwork.org/) [Educational videos](https://www.footprintnetwork.org/educational-videos/) or [How much Nature do we have? How much do we use?](https://www.youtube.com/watch?v=3M29BY86bP4) (16:21).  ‘Settlements in the world today that have maintained a small ecological footprint and a high level of wellbeing are often referred to as sustainable communities or eco-villages. These communities prioritise environmental stewardship, social cohesion, and economic stability. They strive to minimise their negative impact on the planet while maintaining a high quality of life for their residents.’  Discuss the statement above, the concept of an ecological footprint and its importance in raising awareness about personal and community resource consumption.  Complete the [Footprint calculator](https://www.footprintcalculator.org/) based on personal lifestyle, household and consumption habits.  Take notes on the factors that contribute to ecological footprints, such as transportation, diet and energy use.  In small groups, discuss the results and share ecological footprint scores, as well as the factors that contributed to these scores.  Conduct a [Think-Pair-Share](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/645#.Y6EliJvfwO0.link) to discuss how personal choices and habits impact a community’s ecological footprint and what changes could be made to reduce it.  Research sustainable communities or eco-villages and access ‘Activity 6 – sustainable communities and eco-villages’ in the resource booklet for examples of settlements who have a reduced ecological footprint.  Share the research results about settlements reducing their ecological footprint and improving wellbeing.  Create a community action plan for reducing ecological footprint and improving the community wellbeing. The community could be a hypothetical settlement or a local community with the goal to reducing the community’s ecological footprint through sustainable practices and environmental stewardship.  Complete ‘Activity 7 – ecological footprint’ in the resource booklet to align specific actions, achievable goals and timelines for implementing the plan.  Share the SMART goals table with the class and discuss the potential challenges and benefits of adopting more sustainable lifestyles.  Using the settlements examples from Activity 6 and further research, select 2 settlements (sustainable communities or eco-villages) as case studies. Using a [Venn diagram](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/599#.YucStZJPhGs.link), compare and contrast the location, environment and land use of the settlements.  Access relief maps, political maps and land use maps of the selected settlements to determine the sustainable practices.  Annotate the maps to highlight features that contribute to the small ecological footprint and high wellbeing.  Write a brief description of each settlement, including:   * location * population * key features * reasons for its success in maintaining sustainability and wellbeing.   **Teacher note**: organise ‘Case study carousel’ stations around the classroom, each with information about one of the settlements from students’ case studies, along with photographs, maps and other visual aids. Have groups rotate to the next station and repeat the process until all groups have visited each station.  In small groups, access the case study carousel information and discuss the key features of the settlement.  Rotate to new stations and repeat the process until all groups have visited each station.  After completing the carousel, discuss the similarities and differences between the settlements, and the factors that contribute to their small ecological footprint and high wellbeing.  Research information on various sustainable practices of their settlements such as renewable energy, zero-waste initiatives, public transportation, green spaces and local food production. Write a short response to the question:  ‘Explain the settlement practices that contribute to a small ecological footprint and high wellbeing’.  Create a poster or digital presentation on one sustainable practice of the settlement and its benefits, using maps, graphs, statistics and visual representations.  Share the posters or presentations with the class and discuss how the sustainable practices of the settlement can be applied to other settlements or their local community.  Write a structured extended response, using evidence and examples from the previous activities and case studies to the following question:  ‘Analyse the factors that contribute to the success of settlements in maintaining a small ecological footprint and high level of wellbeing’.  Incorporate geographical tools and techniques such as maps, graphs and statistics, spatial technologies and visual representations to support the analysis.  Conduct a peer-review of the written responses and provide feedback on the organisation, clarity and use of evidence.  Access the [Data Footprint network](https://data.footprintnetwork.org/#/??_ga=2.8988981.1427104011.1682471893-926670318.1682471893) focusing on the following aspects:   * compare countries * trends * solutions.   Discuss the following questions as a class.   * Compare the ecological footprints of 3 countries. What factors might explain the differences in their ecological footprints? How could the sustainable settlement practices identified in previous activities be valuable to those countries? * What trends can be identified in the ecological footprints of countries? describe any patterns or relationships between a country’s level of development and its ecological footprint? * What actions can be taken by individuals, communities and governments to reduce their ecological footprints and move towards sustainable development? Use examples from settlements that were previously researched. * How might an understanding of ecological footprints of settlements contribute to decision-making processes related to sustainable development? Consider the role of policy makers, businesses and individual citizens. | Students can identify and explain the concept of ecological footprint settlements and its significance in raising awareness about personal and community resource consumption.  Calculated ecological footprint using a footprint calculator and discuss the factors contributing to their community footprint, such as transportation, diet and energy use.  Completed community action plan to reduce ecological footprints and improve their wellbeing, using SMART goals.  Discussion of the role of ecological footprint understanding in decision-making processes related to sustainable practices.  Completed Venn diagrams and annotated maps which compare and contrast the location, environment and land use of selected settlements with small ecological footprints.  Researched examples of settlements with small ecological footprints and high levels of wellbeing, identifying key features and reasons for their success.  Analysis of various sustainable practices (for example, renewable energy, zero-waste initiatives, public transportation, green spaces, local food production).  Completed posters or digital presentations on sustainable practices and their benefits, incorporating maps, graphs, statistics and visual representations.  Written structured extended response analysing the factors contributing to the success of settlements in maintaining small ecological footprints and high levels of wellbeing.  Interpretation of data from the Footprint Network, comparing countries’ ecological footprints, trends, Earth Overshoot Day and possible settlements as solutions for sustainable development. | Pre-teach key vocabulary and concepts related to ecological footprint and wellbeing before viewing videos.  Provide transcripts and use closed captions during the video. Pause the video at appropriate points to discuss key concepts and vocabulary.  Provide a glossary of uncommon terms related to ecological footprint including environmental stewardship, social cohesion and economic stability.  Allow students to use bilingual dictionaries if necessary.  Encourage students to use target language in context during discussions.  Provide visual aids and graphic organisers to assist in the Think-Pair-Share.  Model how to complete graphic organisers.  Allow multiple opportunities for students to respond, such as verbally, non-verbally or through response cards.  Provide writing scaffolds for paragraph structure.  Consider alternative options for students who might struggle with traditional discussions.  Provide guided practice for understanding and interpreting data, trends and patterns.  Encourage students to use target language in context during group discussions.  Provide support for students who find working in groups challenging, such as assigning specific group roles or allowing independent or paired work.  Consider multiple modes of presenting information, such as audiovisual materials, to accommodate different learning styles.  Explicitly teach relevant vocabulary and concepts related to sustainable practices and environmental stewardship.  Model the correct use of geographical tools, such as maps and graphs.  Provide templates and examples of successful posters or presentations.  Offer alternative modes of presenting information, such as oral presentations, digital presentations or physical posters.  Provide writing scaffolds to assist with paragraph structure and organisation.  Encourage peer review and feedback to improve students’ responses.  Consider alternative options for students who might struggle with structured extended written responses, such as speech-to-text or digital responses. |  |

## Week 5 – strategies for the sustainable management of rural and urban places

### Learning intentions

Students:

* understand the importance of strategies for sustainable management strategies of specific case studies, and learn to assess the credibility of sources in their research
* develop skills in analysing spatial patterns and relationships related to sustainable management initiatives using GIS software or online mapping tools
* engage in collaborative learning and critical thinking through group discussions and presentations, as well as evaluating various aspects of success criteria for sustainable management strategies.

### Success criteria

Students can:

* complete a Know, Want, How, Learned (KWHL) chart, identifying their existing knowledge, questions and research strategies related to sustainable management strategies
* effectively participate in class discussions, sharing their thoughts on implementing sustainable management strategies in rural and urban settings
* conduct research using reputable sources, evaluating their credibility and justifying the current outcomes of their chosen case study
* create and deliver a clear, concise and engaging group presentation that summarises their research findings and highlights the key elements of their assigned case study, including the use of credible sources
* evaluate the sustainable management strategies in their case study using the success criteria in Activity 9, considering various aspects of success and providing recommendations for future efforts
* use GIS software or online mapping tools to analyse the spatial distribution of their case study initiatives or projects, identifying patterns and relationships with geographical factors
* effectively communicate their findings by creating a custom map or cartogram that highlights the locations and spatial patterns of their case study’s sustainable management initiatives or projects.

Table 5 – strategies for the sustainable management of rural and urban places

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Outcomes and content | Teaching and learning activities | Evidence of learning | Differentiation or adjustments | Registration and evaluation notes |
| **GE-12-02, GE-12-05, GE-12-07, GE-12-09**  Strategies for the sustainable management of rural and urban places, including at least one successful initiative or project  **Geographical tools/skills**   * Mapping * Visual representations * Graphs and charts * Spatial technologies – GIS | Complete a [KWHL](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/562?clearCache=488d7d56-ff86-68db-ed74-6c04daca8f09) chart about strategies for the sustainable management of urban and rural places:   * Know – what is already known? * Want – what do we want to learn? * How – ways to find answers or gather information about sustainable management strategies. * Learned – leave blank and complete throughout the focus area.   Conduct a brief class discussion on the importance of sustainable management strategies and the potential challenges in their implementation in rural and urban places.  In small groups, select one of the case studies in ‘Activity 8 – sustainable management case studies’ in the resource booklet.  Use the table as a starting point for further research and add to the content. Review the statement and outcomes of the project.  Conduct online research on the selected case study, focusing on the sustainable management initiatives and the outcomes of the project.  **Teacher note: s**tudents might choose their own case study. A list of sources has been provided in ‘Activity 8 – sustainable management case studies’ in the resource booklet. Provide students with information on evaluating the credibility of sources, such as the [CRAAP Test](https://researchguides.ben.edu/source-evaluation) (Currency, Relevance, Authority, Accuracy and Purpose).  Create a presentation summarising the research findings, including the key elements of the sustainable management initiative or project, how geographical tools were used to achieve sustainable outcomes. Include slides identifying the sources used and evaluating the credibility of each source.  Present the findings to the class, highlighting the key learnings and insights gained from the research, as well as the importance of using credible sources.  Use and add to the success criteria, in ‘Activity 9 – success criteria’, to evaluate the sustainable management strategies of the initiatives or projects, including different aspects of success, such as short-term vs long-term outcomes, local vs global impacts, and stakeholder perspectives.  Discuss the completed Table 7 in ‘Activity 9 – success criteria’, and the strengths and weaknesses of the initiative or project and provide recommendations for future sustainable management efforts.  Use GIS software or online mapping tools to explore the spatial distribution of the case studies initiatives or projects on different types of maps, such as political, topographic, choropleth, land use and thematic maps.  Analyse the spatial patterns and relationships between the initiatives or projects from the case study and various geographical factors, such as population density, climate and land use. Create a custom map or [cartogram](https://www.data-to-viz.com/graph/cartogram.html) displaying the findings, highlighting the locations of the sustainable management initiatives or projects and any significant spatial patterns or relationships identified. | Demonstrated prior knowledge of sustainable management strategies. Completed KWHL chart.  Engagement in discussion about the importance and challenges of implementing sustainable management strategies in rural and urban areas.  Use credible sources to justify the current outcomes of sustainable management initiatives.  Research findings, highlighting key learnings and insights.  Demonstrated ability to evaluate source credibility.  Applied success criteria to assess the effectiveness of sustainable management strategies.  Engaged in a class discussion to identify strengths and weaknesses of the initiatives, offering recommendations for future efforts.  Examined the spatial distribution of case study initiatives or projects on various types of maps.  Analysis of spatial patterns and relationships between case study initiatives or projects and geographical factors.  Created custom maps or cartograms to display findings, showcasing significant spatial patterns or relationships. | Pre-teach key vocabulary related to sustainable management strategies.  Offer bilingual dictionaries for students who might need them.  Encourage students to use target language when discussing their chart with peers.  Check student understanding by having them restate important points in their own words.  Facilitate discussion in different modes: verbal, non-verbal or using response cards.  Offer opportunities for students to practise skills independently or in pairs before working in groups.  Explicitly teach how to evaluate the credibility of sources and provide templates for reference.  Encourage the use of target language throughout the presentation.  Allow for multiple modes of delivery, such as visual, auditory or digital presentations.  Model the process of evaluating source credibility using the CRAAP Test.  Provide writing scaffolds to support students in organising their evaluation.  Provide opportunities for guided practice in applying the criteria to case studies.  Encourage the use of target language during class discussion.  Explicitly teach how to use GIS software or online mapping tools. Offer support for students who might need additional guidance in using these tools. |  |

# Investigation of a rural and an urban place

## Week 6–11 – ONE place in a rural setting and ONE place within a larger urban settlement

**Teacher note:** students study ONE place in a rural setting and ONE place within a larger urban settlement.

Conducting fieldwork will provide students with a hands-on experience allowing them to observe:

* location
* character of place
* social, economic and environmental changes
* links to other places.

It provides an opportunity to apply geographical tools and skills in a real-world context. Broken Hill and Wollongong might not be the preferred case studies in your context; however this section can be adapted to another geographical rural and urban context more suitable to the schools accessibility. Virtual field trip to Broken Hill or Wollongong might be developed using Google Earth, Google Street View and other online resources.

### Learning intentions

Students:

* develop a comprehensive understanding of Broken Hill (rural) and Wollongong (urban) in terms of their location, historical significance, economic activities and challenges faced by its residents
* gain proficiency in using various maps and spatial technologies to investigate, interpret and represent the physical and human geography of both locations
* delve into the rich cultural heritage of Broken Hill and Wollongong, encompassing art, history and architecture, and will examine how cultural heritage shapes the identity and character of a place
* propose responses to the potential futures for Broken Hill and Wollongong, informed by research and their learning, and present their findings in a creative format.

### Success criteria

Students can:

* accurately describe the location, historical significance and primary economic activities of both Broken Hill and Wollongong
* use resources such as the Australian Bureau of Statistics, to extract and interpret data relevant to their study
* demonstrate the ability to create detailed maps highlighting specific aspects such as land use, population distribution and economic activities
* articulate their learning experiences, developed skills and acquired knowledge in a reflection piece, emphasising the role of geography in understanding the world
* show a deep appreciation and understanding of the cultural sites, events or organisations in Broken Hill and Wollongong and can articulate the role of cultural heritage in shaping a place’s identity
* successfully compare and contrast Broken Hill and Wollongong based on various aspects, employing visual aids like graphs and maps in their analysis.

Table 6 – investigation of a rural and an urban place

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| --- | --- | --- | --- | --- |
| Outcomes and content | Teaching and learning activities | Evidence of learning | Differentiation or adjustments | Registration and evaluation notes |
| **GE-12-01, GE-12-02, GE-12-03, GE-12-04, GE-12-05 GE-12-07 GE-12-08 GE-12-09**  Students study ONE place in a rural setting and ONE place within a larger urban settlement, to investigate:   * the location and character of the place   **Geographical tools/skills**   * Mapping * Visual representations * Graphs and charts | Access the background information about Broken Hill and Wollongong in ‘Activity 10 – case study information’ in the resource booklet.  Conduct further research on Broken Hill and Wollongong to construct a brief history of the area, its economic activities and the challenges it faces Resources to support this research include [Broken Hill City Council](https://www.brokenhill.nsw.gov.au/), [Wollongong City council](https://wollongong.nsw.gov.au/visitor-home) and [Australian Bureau of Statistics](https://www.abs.gov.au).  Create maps of Broken Hill and Wollongong, focusing on specific aspects such as land use, population distribution or economic activities.  Resource to support development:   * [Google Maps](https://maps.google.com) for general mapping and satellite imagery * [Geoscience Australia](http://www.ga.gov.au/) for topographic maps * [Australian Bureau of Meteorology](http://www.bom.gov.au/) for weather and climate.   Research and discuss the various issues and challenges affecting environments, communities and residents in Broken Hill and Wollongong.  Examine the role of local and regional government, community organisations and individual residents in addressing these challenges.  Write a reflection on the importance of studying rural and urban places and the role of geography in understanding our world.  Examine the cultural heritage of Broken Hill and Wollongong, including history, art and architecture. Complete Table 8 from ‘Activity 11 – cultural heritage’ in the resource booklet.  Research specific cultural sites, events or organisations in Broken Hill and Wollongong, such as:   * Pro Hart Gallery * Broken Hill Regional Art Gallery * Broken Hill Heritage Walk * Wollongong Art Gallery * Nan Tien Temple.   Write a short response on the role of cultural heritage in shaping the identity and character of Broken Hill and Wollongong.  Compare and contrast the following aspects of Broken Hill and Wollongong:   * population density * land use * economic activities * environmental challenges.   Use maps, graphs and visual representations to illustrate the differences between the 2 areas.  **Teacher note:** plan a field trip to Broken Hill and/or Wollongong for students to conduct readings, surveys, interviews and observations. Provide students with guidance on how to use various fieldwork instruments such as compasses, clinometers, GPS and cameras. Sample site studies can be found on the [Planning, programming and assessing geography 11–12](https://education.nsw.gov.au/teaching-and-learning/curriculum/hsie/planning-programming-and-assessing-hsie-11-12/planning-programming-assessing-geography-11-12) webpage in the following documents:   * Rural and urban places case study and fieldwork – Broken Hill * Rural and urban places case study and fieldwork – Wollongong   Collect data on various aspects of Broken Hill and/or Wollongong, such as land use, population, economic activities and environmental conditions.  Analyse and interpret the data collected during the fieldwork. Table 9 and 10 in ‘Activity 12 – fieldwork readings’, provides some sample data.  Create graphs, charts and other visual representations to display findings. Use spatial technologies such as GIS and remote sensing to further analyse the data and create maps.  Create a map of Broken Hill and Wollongong that displays different layers of information, such as:   * land use * population density * transportation networks.   Use reputable websites and resources to collect relevant data that can be input into the GIS software.  Create a Future vision for Broken Hill and Wollongong. Imagine what Broken Hill and Wollongong might look like in 10, 20 or 30 years from now.  Create visual representations, such as drawings, models or digital designs, of the future vision for Broken Hill and Wollongong. Present the visions to the class. | Students identify and discuss the location and significance of Broken Hill and Wollongong as rural and urban settings in Australia.  Students demonstrated a comprehension of the history and the current economic activities of the areas through a brief report based on the information available in the activity.  Students successfully created their own maps of Broken Hill and Wollongong using Google Maps and Geoscience Australia. They highlighted land use, population distribution and economic activities, showing a clear understanding of physical and human geography.  Students were able to articulate various challenges faced by residents in both areas. They could identify local and regional solutions to these challenges. Reflections on their learning experience showed a deeper understanding of the cities and the importance of studying rural and urban places.  Students demonstrated the ability to research and present specific cultural sites and events in Broken Hill and Wollongong. Responses showcased their understanding of the role of cultural heritage in shaping the identity of both areas.  Using visual aids like maps and graphs, students successfully compared and contrasted the 2 areas. The focus was on aspects such as population density, land use, economic activities and environmental challenges.  Students demonstrated practical skills by planning and conducting a fieldwork (virtual) trip to Broken Hill and/or Wollongong. They were able to use various fieldwork instruments to collect data on various aspects of the areas. Students were able to use various fieldwork instruments to collect data on various aspects of the areas.  Through visual representations, students were able to create a future vision for Broken Hill and Wollongong. | Pre-teach key vocabulary such as ‘urban’, ‘rural’, ‘location’, ‘significance’.  Use a range of multimedia (videos, images, maps) to familiarise students with these 2 areas.  Provide written background information about both locations in an accessible format, allowing students to revisit it as needed.  If necessary, use bilingual dictionaries or language translation tools to ensure understanding of key terms.  Provide explicit instruction on how to create maps and use geographical tools.  Check for understanding through discussions and questioning.  Support students in researching the challenges faced by Broken Hill and Wollongong, using a variety of sources.  Students write a reflection on their learning, provide writing scaffolds to aid in structuring their response.  Introduce students to the cultural heritage of Broken Hill and Wollongong, pre-teaching vocabulary such as ‘heritage’, ‘architecture’, ‘identity’.  Provide a glossary for any uncommon terms and use closed captions for any video materials.  Guide students through the process of comparing and contrasting, using graphical organisers as needed.  Use visual representations (maps, graphs) to support understanding.  Teach explicitly the language required for comparison and contrast, and provide opportunities for guided practice.  Prior to any fieldwork (virtual or physical), provide instruction and modelling on the use of fieldwork instruments such as compasses, GPS, cameras.  Provide alternatives to group work for students who might find it challenging. |  |
| Students study ONE place in a rural setting and ONE place within a larger urban settlement, to investigate:   * geographical processes, both physical and human, that have shaped the identity of the place   **Geographical tools/skills**   * Mapping * Visual representations * Graphs and charts * Transect * Web tools * Photographs * Climate graphs * Synoptic charts | Investigate the physical and human processes that have shaped the identity of Broken Hill and Wollongong.  Work in pairs or small groups and select a specific geographical process (for example, mining, agriculture, erosion, weathering, urbanisation, and so on).  Use maps, satellite images, aerial photographs and online resources to investigate the geographical process and its impact on Broken Hill and Wollongong.  Research the native plants and animals found in and around Broken Hill and Wollongong, focusing on the adaptations to the semi-arid and coastal environment.  Investigate the role of these species in the local ecosystem and the threats they might face, such as human impact, habitat loss or climate change.  Create species fact sheets to present the findings. [WorldClim](https://www.worldclim.org/) and [Atlas of Living Australia](https://www.ala.org.au/) might provide support.  Create visual representations to showcase the diverse aspects of Broken Hill and Wollongong including its landscapes and landforms. Include:   * photographs (vertical and oblique aerial photographs, satellite images) * illustrations * transects * flow charts * annotated diagrams * field and photo sketches * cartoons * mind maps * web tools.   Investigate the history and impact of the mining industry in Broken Hill and Wollongong, including the extraction of silver, lead, coal, iron and zinc.  Examine the environmental and socio-economic implications of mining in the area and discuss potential solutions for mitigating its negative effects. Create presentations or reports to showcase the findings.  Explore the climate of Broken Hill and Wollongong, focusing on their classifications as semi-arid and coastal climates.  Research historical weather data and climate trends to understand the challenges of living in such a climate. Resources including [Bureau of Meteorology](http://www.bom.gov.au/) and [Climate Data Online](https://www.ncdc.noaa.gov/cdo-web/datatools/records) might be helpful.  Create climate graphs for each location to visualise the findings.  Research the history of Aboriginal peoples in the Broken Hill and Wollongong areas, focusing on:   * the traditional custodians of the land * customs and traditions * how people adapted to and managed the local environment.   Create an interactive map highlighting significant cultural sites and/or a presentation on the traditional ecological knowledge of the local Aboriginal peoples including [AIATSIS Map of Indigenous Australia](https://aiatsis.gov.au/explore/map-indigenous-australia).  Research traditional land use and stewardship practices. Prepare a report or presentation on the findings, discussing how indigenous practices have shaped the environment and how they might be applied today for sustainable land use.  Discuss the geographical processes that have shaped Broken Hill and Wollongong.  In small groups select a geographical process that has significantly influenced the landscape of Broken Hill and Wollongong, for example:   * erosion * sedimentation.   **Extension activity: c**reate a 3D model demonstrating the process and its impact on the landscape. Present and explain the model to the rest of the class, discussing how the process has shaped the location.  Develop a choropleth map of population distribution to understand the population distribution in Broken Hill/Wollongong and surrounding areas, using [Australian Bureau of Statistics data](http://www.abs.gov.au) and mapping software such as ArcGIS or QGIS.  Access the [Australian Bureau of Statistics](https://www.abs.gov.au/) to gather population data for Broken Hill and Wollongong and its surrounding areas.  Analyse the choropleth maps, discussing the possible reasons for the observed population distribution patterns and the implications for the region.  Investigate the water and soil quality in Broken Hill and Wollongong including the surrounding areas and discuss the implications for sustainability.  Use water and soil testing equipment to collect samples from various locations during the field trip. Record the findings on fieldwork recording sheets, noting the location, date and time of each sample.  Analyse the data and discuss the implications for sustainability in the region.  Recommend strategies for improving water and soil quality and promoting sustainable development in the region. | Students successfully identified human and physical processes like mining, agriculture, erosion, weathering and urbanisation.  Students identified various species in the regions and their adaptations to the semi-arid and coastal environment. They discussed the roles of these species in the ecosystem and threats they face, demonstrating an understanding of ecosystem dynamics.  Students created varied visual materials, showcasing the diverse geographical features of Broken Hill and Wollongong.  Students showcased understanding of the history and impact of the mining industry in the areas. They presented solutions for mitigating the negative effects of mining, indicating critical thinking.  Students correctly classified the climates of the areas and referenced historical weather data. Climate graphs or infographics were created, demonstrating an ability to translate data into visual aids.  Students developed an interactive map or presentation highlighting significant cultural sites, demonstrating an understanding of local Indigenous history. They successfully researched traditional land use and stewardship practices, presenting this knowledge in a comprehensive report.  Students collected population data, demonstrating effective research skills.  Students successfully gathered water and soil samples and recorded their findings on fieldwork sheets. | Pre-teach key terms such as mining, agriculture, erosion, weathering and urbanisation.  Allow use of bilingual dictionaries and glossaries for unfamiliar terms.  Teach the names of native species and relevant ecological terms explicitly.  Ensure students understand the concept of adaptations, habitat loss and human impact.  Explicitly explain the meaning and use of various tools used for visual representation, such as annotated diagrams, flow charts, mind maps, and so on.  Model the process of creating a visual representation and provide templates as necessary.  Pre-teach key terms related to mining and its socio-economic and environmental implications.  Provide scaffolding for written tasks like preparing reports or presentations, such as guiding templates for structuring their work.  Explain climatic terms and classifications explicitly, providing opportunities for guided practice.  Pre-teach culturally-based terms, ensuring understanding of these concepts.  Students could use an interactive map or multimedia presentation to demonstrate their understanding.  Pre-teach terms related to water and soil quality testing.  Provide opportunities for guided practice in using testing equipment and recording findings. |  |
| ONE place within a larger urban settlement, to investigate:   * links to other places   For example:   * cultural * economic * political   **Geographical tools/skills**   * Maps * Visual representations * Graphs and charts * Photographs | Examine the connections between Broken Hill and other places, and Wollongong and other places.  Research the links, focusing on:   * trade * transportation * communication * cultural exchanges.   Complete Table 11 and 12 in ‘Activity 13 – connections to other places’ in the resource booklet. Use maps, graphs and statistics to analyse and present the findings to the class.  Examine the transportation infrastructure in and around Broken Hill and Wollongong, including:   * roads * railways * air transport.   Annotate a map to illustrate Broken Hill and Wollongong’s transportation network and any proposed changes.  Analyse the importance of transportation infrastructure for the region’s physical and human aspects and consider potential improvements or expansions.  Investigate the urban planning and infrastructure of Broken Hill and Wollongong. Respond to questions including   * How has the town’s mining history influenced its urban design? * How does infrastructure meet the needs of residents and support industry? * What challenges exist for future urban development?   Research the role of tourism in Broken Hill and Wollongong’s economy, focusing on the main tourist attractions, visitor numbers and the benefits and drawbacks of tourism for the local community.  Propose strategies for promoting sustainable tourism in Broken Hill and Wollongong, considering both the economic and environmental aspects. Supporting resources include:   * [Visit Broken Hill](https://www.visitbrokenhill.com.au/) and [Destination Wollongong](https://www.visitwollongong.com.au/) – for tourism information and suggested itineraries * [Tourism Research Australia](https://www.tra.gov.au/) – for tourism statistics and research.   Create a promotional brochure or website to showcase the sustainable tourism ideas for one.  In small groups, select a specific link to investigate, such as:   * trade partnerships * transportation networks * cultural connections.   Research the selected topic to gather relevant data, maps and statistics. Identify features of each source that evidence why they are a reputable or trustworthy source of information.  Analyse the findings and create a visual representation, such as a flow chart, diagram or map, to illustrate the links between Broken Hill/Wollongong and other places.  Write a short response explaining the implications of these connections for Broken Hill and for Wollongong.  Discuss as a class the concept of urban-rural linkages and their significance for sustainability.  Research the connections between Broken Hill and Wollongong and the surrounding areas, such as:   * trade * transportation * employment * migration.   Write an extended response analysing the potential benefits and challenges of the connection for rural and urban places. | Students successfully completed Table 9 and 10 in the resource booklet, detailing the connections between Broken Hill, Wollongong and other places. They were able to identify key trade routes, communication systems and cultural exchanges by using maps, graphs and statistics.  Students analysed and discussed the significance of transportation infrastructure in Broken Hill and Wollongong. They drew connections between the transport networks and the region’s physical and human aspects, suggesting potential improvements or expansions.  Students demonstrated a thorough understanding of the transportation network by creating detailed maps and models of Broken Hill and Wollongong’s systems, including their proposed changes.  Students conducted an in-depth investigation into the urban planning and infrastructure of Broken Hill and Wollongong. They explored how the mining history influenced the urban design, how infrastructure meets the needs of residents and supports industry, and the challenges for future urban development.  Students critically examined the role of tourism in Broken Hill and Wollongong’s economies, presenting their findings on major attractions, visitor numbers and the impacts of tourism on the local community.  Students used resources to inform their strategies for promoting sustainable tourism in Broken Hill and Wollongong.  Students researched a specific link between Broken Hill/Wollongong and other places. They gathered relevant data, maps and statistics, analysing the information and presenting it visually.  Students demonstrated a deep understanding of the urban-rural linkages between Broken Hill, Wollongong and surrounding areas. They investigated specific linkages, including trade, transportation, employment and migration, and analysed the potential benefits and challenges of these linkages. | Prior to starting the activity, introduce key vocabulary and concepts like ‘urban-rural linkages’, ‘transportation infrastructure’, ‘sustainable tourism’ and ‘trade partnerships’.  Provide a glossary of key terms and allow students to use bilingual dictionaries for uncommon terms.  All students should understand both technical and culturally based terms related to Broken Hill, Wollongong and the aspects under investigation.  Use visual aids like maps and graphs to show connections and emphasis using these aids effectively.  During practical activities like analysing the importance of transportation infrastructure, ensure students are using the required language.  Demonstrate the correct use of geographical tools including maps.  Use visual aids and multimedia resources to explain the influence of mining history on the town’s urban design.  Check students’ understanding of how infrastructure meets residents’ needs and supports industry.  Use closed captions when viewing video materials from Visit Broken Hill & Destination Wollongong.  Pre-teach vocabulary and concepts about ‘urban-rural linkages’ and ‘sustainability’.  Use visual aids and multimedia resources to explain the significance of urban-rural linkages.  Facilitate group discussions about the connections between Broken Hill/Wollongong and surrounding areas. |  |
| Students study ONE place in a rural setting and ONE place within a larger urban settlement, to investigate:   * the nature of changes affecting the place, including social, economic and environmental   **Geographical tools/skills**   * Maps * Spatial technology * Visual representations * Graphs and charts * Web tools * Photographs * Surveys | Investigate the nature of social, economic and environmental changes in Broken Hill and Wollongong using a variety of maps. This includes [relief maps](https://www.theworldofmaps.com/), [topographic maps](https://www.ga.gov.au/scientific-topics/national-location-information/topographic-maps-data) and [land use maps](https://www.planningportal.nsw.gov.au/spatialviewer).  In groups, select a different type of map to study (relief maps, topographic maps, land use maps, and so on). Identify changes in Broken Hill and Wollongong over time that explains the social, economic and environmental changes they observed.  As a class, discuss the similarities and differences in the changes observed at different locations across different map types.  Explore Broken Hill and Wollongong using spatial technology (for example, [Google Earth](https://www.google.com/earth/), [ArcGIS Online](https://www.arcgis.com/index.html) and [QGIS](https://www.qgis.org/en/site/)), focusing on identifying changes over time.  Create a presentation showcasing the changes observed, including the social, economic and environmental impacts of these changes.  Complete a response on the findings by analysing the advantages and limitations of the spatial technology in Broken Hill and Wollongong.  In pairs or small groups, analyse historical photographs of Broken Hill and Wollongong, identifying changes in the landscape, infrastructure and population over time. Collections of photographs can be found through the [State Library of New South Wales](https://www.sl.nsw.gov.au/) and the [National Library of Australia](https://www.nla.gov.au/).  Discuss the potential causes and consequences of these changes, considering social, economic and environmental factors.  As a class, discuss the insights gained from examining historical photographs and the importance of considering multiple sources when studying the changes affecting a place like Broken Hill or Wollongong.  **Teacher note:** staff should determine if it is appropriate to distribute the surveys or conduct interviews with members of the public. Where surveys and interviews are conducted, consideration should be given to the appropriate use and storage of participants information.  Create surveys and interview questions related to the social, economic and environmental changes in Broken Hill and Wollongong. Survey tools like [SurveyMonkey](https://www.surveymonkey.com/) or [Google Forms](https://www.google.com/forms/about/) might be useful. Where appropriate, distribute surveys and conduct interviews with local residents, either in person or via video conferencing.  Interpret and analyse the collected data, identifying patterns and trends in the perspectives of Broken Hill and Wollongong residents.  Present the findings to the class, discussing how the perspectives of residents can help us better understand the nature of changes in Broken Hill and Wollongong.  Create a [story map](https://storymaps.arcgis.com/stories/cea22a609a1d4cccb8d54c650b595bc4) that showcases the social, economic and environmental changes in Broken Hill, incorporating various geographical tools and skills, such as maps, photographs, graphs and spatial technologies. Include multimedia elements in the story map, such as videos, audio recordings and interactive features. [ArcGIS StoryMaps](https://storymaps.arcgis.com/) and [Google My Maps](https://www.google.com/maps/d/) might support this.  Investigate a specific period or aspect of Broken Hill and Wollongong’s mining history, using sources such as:   * [Broken Hill City Council](https://www.brokenhill.nsw.gov.au/Community/Heritage-Highlights) * [Australian Mining History Association](http://www.mininghistory.asn.au/) * [NSW Mining](https://www.nswmining.com.au/mining-history).   In groups, research the selected topic using the provided resources, focusing on the social, economic and environmental changes related to mining in Broken Hill and Wollongong.  Each group presents the work to the class, encouraging a discussion about the various impacts of mining on Broken Hill and Wollongong’s community, economy and environment. | Students successfully distinguished between relief, topographic and land use maps.  Each group was able to identify and describe specific social, economic and environmental changes in Broken Hill and Wollongong, documented in a well-structured written response.  Students prepared presentations showcasing observed changes and analysing the pros and cons of their assigned spatial technology, indicating a robust understanding of how technology can aid geographical research.  Students accurately identified landscape, infrastructure and population changes through a historical photographic analysis of Broken Hill and Wollongong.  Demonstrated an understanding of cause-effect relationships by discussing potential social, economic and environmental triggers and implications of observed changes.  Students designed and potentially distributed online surveys, successfully created and asked interview questions, demonstrating an understanding of qualitative data collection methods.  Analysed collected data to identify patterns and trends, showcasing skills in data interpretation and analysis.  Students integrated various geographical tools and multimedia elements to create an interactive story map highlighting the changes in Broken Hill.  Demonstrated an understanding of the multiple impacts of mining on Broken Hill and Wollongong’s community, economy and environment, as discussed in the class presentation. | Pre-teach relevant geographical terminology and concepts.  Provide glossaries and bilingual dictionaries to aid understanding.  Encourage students to use specific geographical language while discussing their findings in groups.  Provide structured templates to help students write their responses about the observed changes.  Before the activity, review key terms related to social, economic and environmental changes.  Provide students with access to reliable sources like the State Library of New South Wales and the National Library of Australia, for historical photos.  Teach students how to use graphic organisers to jot down their observations from the photos.  Encourage group discussions about the changes observed. Emphasise the use of specific vocabulary during the discussion.  Teach students how to create effective survey and interview questions.  Assist students in using online survey tools like SurveyMonkey or Google Forms.  Make sure students understand the purpose of collecting and analysing data.  Provide students with access to reliable sources about the mining history of the areas, such as the Broken Hill City Council website and the Australian Mining History Association.  Explicitly teach how to use various geographical tools, such as maps, graphs and visual representations.  Assign each group a specific period or aspect of mining history to research, ensuring understanding of both technical and culturally-based terms.  Assist students with structuring their presentations or posters, providing scaffolds if necessary. |  |
| Students study ONE place in a rural setting and ONE place within a larger urban settlement, to investigate:   * responses and strategies, including for sustainability   **Geographical tools/skills**   * Maps * Visual representations * Graphs and charts * Web tools | As a class, discuss the concept of sustainable development and its relevance to rural areas like Broken Hill and urban areas like Wollongong.  Research and explain the various sustainability initiatives and projects in Broken Hill and Wollongong, such as renewable energy, water management and tourism. Explore the role of local government, community organisations and residents in promoting sustainable development.  [Brainstorm](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/542?clearCache=388f677a-b661-7864-4826-ae803bfe9f26) a list of environmental and human challenges facing Broken Hill and Wollongong (for example, water scarcity, soil degradation, air pollution).  In groups, research potential sustainable solutions to one or more of these challenges. Outline proposed solutions, including descriptions of the human and environmental challenges, the proposed solutions and the potential benefits and drawbacks of each solution.  As a class, discuss and compare the proposed solutions to create a dialogue about the future of Broken Hill and Wollongong and the importance of sustainable development.  Investigate and evaluate the environmental initiatives and policies implemented in Broken Hill and Wollongong to mitigate the negative impacts of social and economic sustainability. [Broken Hill City Council's Projects and Initiatives](https://www.brokenhill.nsw.gov.au/Council/Projects-and-Initiatives), [Broken Hill Solar Plant](https://www.agl.com.au/about-agl/how-we-source-energy/broken-hill-solar-plant) and [Wollongong City council](https://wollongong.nsw.gov.au/visitor-home) websites might be helpful.  Research one initiative, focusing on the objectives, implementation and effectiveness of the initiative or policy in addressing environmental issues, responses and strategies in Broken Hill and/or Wollongong.  Identify and explain how water management issues have evolved in Broken Hill and Wollongong due to various factors, including climate, economic development and social needs. Australian Boradcasting Corporation (ABC) News articles on [Broken Hill’s water crisis and solutions](https://www.abc.net.au/news/2019-02-26/wentworth-to-broken-hill-pipeline-turned-on/10844986) and [Wollongong City council](https://wollongong.nsw.gov.au/visitor-home) are useful starting points.  Assess the potential for renewable energy sources in Broken Hill and Wollongong and the surrounding region, including solar, wind and other technologies. [Australian Renewable Energy Agency](https://arena.gov.au/), [Clean Energy Council](https://www.cleanenergycouncil.org.au/), [Wollongong City council](https://wollongong.nsw.gov.au/splash) and [Broken Hill City Council](https://www.brokenhill.nsw.gov.au/) might be helpful resources.  As a class, discuss the concept of sustainable agriculture and its importance in maintaining ecological balance and feeding the population.  Research different sustainable agricultural techniques that could be implemented in Broken Hill and Wollongong, considering its climate and geographical characteristics.  Create a detailed report or presentation about the benefits, costs and practicality of implementing these techniques in the urban and rural place.  Discuss the challenges of modern agriculture and how sustainable practices can help overcome these issues.  Complete a [Think-Pair-Share](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/645?clearCache=121bc755-743b-ac0b-dc0d-2ef2360738e9) about the significance of Indigenous knowledge and practices in environmental conservation and sustainability.  Research local Aboriginal peoples in the Broken Hill and Wollongong areas and how traditional practices support sustainability.  Write an essay about the findings and the ways in which these traditional practices could be incorporated into modern sustainability efforts in the rural and/or urban place.  Engage in a debate on the challenges and opportunities of sustainability in Broken Hill and Wollongong, using geographical tools, skills and knowledge to support the arguments. Conduct the debate, allowing each group to present their arguments, counterarguments and evidence. Write a reflection on the various perspectives and discuss the complexity of sustainability in Broken Hill and Wollongong including the potential ways to address the challenges and opportunities identified.  **Teacher note:** the following activity is a theoretical exercise and letters should only be sent if deemed appropriate. A covering letter explaining the task should accompany the student responses.  Write a mock letter to the Mayor of Broken Hill and/or Wollongong, addressing an environmental, resource or sustainability issue identified during the course of the learning in this topic. Use persuasive language and well-reasoned arguments in the letter, including using evidence and data from the research and fieldwork activities.  The letter should:   * clearly explain the issue * outline the importance to Broken Hill and/or Wollongong * outline any potential solutions or recommendations they have.   Conduct a peer-review of the letters for content, clarity and persuasiveness, and provide feedback.  Engage in a simulated stakeholder meeting, role-playing as different community members to discuss a social, economic and environmental issues in Broken Hill and/or in Wollongong.  Each group represents a stakeholder role (for example, local miners, city council members, environmental activists, local business owners, tourism operators, Indigenous community leaders, and so on). Use ‘Activity 14 -scenarios related to a major issue affecting Broken Hill or Wollongong’ to complete the activity. Each group will research their stakeholder’s perspective on the issue, preparing arguments, concerns and proposed solutions.  Participate in a simulated ‘meeting’ where each group presents their stakeholder’s perspective and engages in a discussion about the issue including the responses and strategies for sustainability.  [Brainstorm](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/542#.ZB0NHH5gpTI.link) to identify a community service project related to the environmental issues in Broken Hill and Wollongong. This could be:   * a tree planting day * a community clean-up * a water conservation initiative * an awareness campaign about a local environmental issue.   Plan the project as a class, with each person taking on a role or task.  Research and develop a sustainable development plan for either Broken Hill or Wollongong addressing social, economic and environmental challenges. Create a presentation or poster to share their sustainable development plan with the class.  Consider the current strategies in place, as well as any additional measures that would be beneficial to the community.  Discuss the various proposed plans, comparing and contrasting the different approaches and strategies.  Research the specific impacts of climate change on Broken Hill and Wollongong, such as:   * changing rainfall patterns * increasing temperatures * geographical processes changes (for example, coastal erosion) * extreme weather events.   Analyse the findings and create graphs, maps or other visual representations to illustrate the impacts of climate change on Broken Hill and Wollongong.  Write a short response that explains potential adaptation and mitigation strategies that Broken Hill and Wollongong could sustainably implement to address the challenges of climate change. | Students engaged in comprehensive discussions around the concept of sustainable development, contrasting its relevance in rural and urban areas. They further demonstrated understanding through researching and explicating various sustainability projects in the said areas.  The class generated an extensive list of environmental and human challenges and used online resources to research potential sustainable solutions.  Displaying their proposals visually and engaging in a healthy debate on their solutions demonstrated their grasp of the complexity of sustainable development and its diverse perspectives.  Students used the provided resources to examine and evaluate local environmental initiatives and policies. This highlighted their ability to critically assess and analyse real-world environmental policies.  Students demonstrated understanding of complex water management issues, and the potential for renewable energy in Broken Hill and Wollongong.  Through class discussions and detailed reports, students illustrated their grasp of sustainable agriculture techniques, their importance, and the potential benefits of integrating indigenous knowledge into modern practices.  Students composed persuasive letters to the local mayor, presenting a well-reasoned argument for addressing an environmental or sustainability issue, which demonstrated their understanding of the issues and ability to propose solutions.  Students’ community service project related to an environmental or human issue demonstrated their ability to apply their learning in a real-world context.  Students prepared and presented sustainable development plans, providing a comprehensive solution to social, economic and environmental challenges in the area.  Students created visual representations to illustrate the impacts of climate change on Broken Hill and Wollongong, demonstrating their understanding of climate change impacts and their data representation skills.  Students wrote responses outlining potential adaptation and mitigation strategies for these areas, demonstrating their understanding of the challenges posed by climate change and their ability to propose feasible solutions. | Show videos with closed captions to further explain these concepts, pausing at appropriate intervals to ensure understanding.  Use a word wall to display and explain key vocabulary used in the discussion.  Provide a glossary of uncommon terms that might be encountered during research, such as specific environmental initiatives or renewable energy concepts.  Use graphic organisers to guide the brainstorming process and model how to use them.  Encourage students to use targeted language learned from the vocabulary and concept discussions.  Facilitate discussion using a structured approach, such as a talking circle, ensuring each student has the opportunity to contribute.  For students who find verbal communication challenging, allow for use of augmentative communication devices or digital tools to share their ideas.  Reinforce understanding of key concepts like water management, renewable energy, and so on.  Provide a template or scaffold to guide students in their research and presentation of findings.  Guide students on the correct use of geographical tools, as well as how to present arguments and counterarguments. Allow opportunities for guided practice before the actual debate.  Use a peer-review process to facilitate learning and provide feedback.  Explicitly teach the language and behaviour required in a meeting, including listening skills, turn-taking and respectful disagreement.  Consider each student’s individual needs and skills when assigning roles for the community service project.  Use reflection activities to encourage metacognitive thinking.  Provide a model or template of the reflective process to guide the creation of the development plan.  Pre-teach key concepts related to climate change and its impacts.  Provide visual examples and multimedia resources to aid understanding. |  |

# Investigation of a large city outside Australia

## Week 12–14 – ONE large city of 5 million people or more, outside Australia

### Learning intentions

Students:

* understand and analyse various types of maps to identify key characteristics of Los Angeles
* comprehend the importance of zoning, land use and community plans in shaping a city’s growth and structure
* appreciate the significance of historical and cultural resources, focusing on Historic Preservation Overlay Zones (HPOZ) in Los Angeles
* understand the challenges of urban living with specific emphasis on Los Angeles, while contrasting these challenges with those experienced in rural and other urban areas
* develop research, analytical and presentation skills to explore, comprehend and articulate the urban challenges faced by residents of Los Angeles
* understand and appreciate the range and depth of sustainable urban planning initiatives, water and energy management, waste and pollution reduction, and social and environmental justice challenges faced by communities in Los Angeles
* develop skills to critically analyse, interpret and present data, using a variety of resources and methodologies, and engage in meaningful discussions about sustainable and equitable urban development.

### Success criteria

Students can:

* identify and describe differences between relief, political, topographic and land use maps
* accurately interpret and extract relevant data from the Los Angeles Department of City Planning GIS Portal
* understand and explain the purpose and influence of community plans and area planning commissions in Los Angeles’ development
* identify and discuss the goals, objectives and policies of a chosen Community Plan and its influence on a specific area
* identify key historic districts in Los Angeles using the HPOZ page and understand their cultural and architectural significance
* source and validate information from reputable resources such as LAistory or the Los Angeles Public Library Collections
* understand and explain the impact of significant events like the 1984 Olympics or the 1992 LA Riots on Los Angeles’ urban fabric
* articulate both short-term and long-term effects of chosen historical events on Los Angeles’ development, land use and societal dynamics
* reflect on the topics discussed, share personal insights and experiences, and articulate the significance of public participation and the role of various stakeholders in promoting sustainable urban development.

Table 7 – ONE large city of 5 million people or more, outside Australia

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Outcomes and content | Teaching and learning activities | Evidence of learning | Differentiation or adjustments | Registration and evaluation notes |
| **GE-12-01, GE-12-03, GE-12-04, GE-12-05, GE-12-07, GE-12-09**  Students study ONE large city of 5 million people or more, outside Australia, to investigate:   * the character and spatial dimensions of the large city   **Geographical tools/skills**   * Maps * Spatial technologies * Visual representations * Graphs and charts * Web tools | In groups, analyse and compare a range of maps of Los Angeles (for example, relief, political, topographic, land use, and so on.) to identify the city’s main characteristics, including physical geography, population distribution and land use patterns.  Using [Planning LA city – Maps](https://planning.lacity.org/resources/maps) [Citywide Maps](https://ladcp.maps.arcgis.com/apps/View/index.html?appid=bb34a3ae0beb4574aa6051c928899e01) and [Council Districts Maps](https://ladcp.maps.arcgis.com/apps/View/index.html?appid=7491e53e169043c98e44f77313c13c74), explore zoning and land use maps from the Los Angeles City. Interpret the zoning and land use maps of Los Angeles to identify patterns, trends and notable features. The focus should be on specific neighbourhoods or areas of interest.  Examine the concept of community plans and identify their role in guiding the city’s growth and development. [Community Plan Areas](https://ladcp.maps.arcgis.com/apps/View/index.html?appid=6c1e477eb9e8491483aac6fd37a46e53) and [Area Planning Commissions maps](https://ladcp.maps.arcgis.com/apps/View/index.html?appid=d014186a1fa64ea8b9258411375fd7ef) are useful starting points.  Explain the role of legends, base maps and layers, in understanding and interpreting maps of [Los Angeles Department of City Planning GIS Portal](https://ladcp.maps.arcgis.com/apps/View/index.html?appid=d014186a1fa64ea8b9258411375fd7ef). Use the legend, layers and base maps to understand the meaning of various symbols and colours to explore the various GIS maps.  Present the findings to the class, discussing the goals, objectives and policies of the chosen Community Plan and how they have influenced the development of the area.  Explore the Local Historic Districts using the [Historic Preservation Overlay Zones (HPOZs)](https://planning.lacity.org/preservation-design/local-historic-districts) page to learn about the various historic districts in Los Angeles and understand their significance in preserving the city’s cultural heritage.  As a class, discuss the concept of [Historic Preservation Overlay Zones (HPOZs)](https://planning.lacity.org/preservation-design/local-historic-districts) and their importance in preserving local historical and cultural resources in Los Angeles.  In small groups, select one specific historic district to research. Investigate the history, architectural styles and cultural significance of the selected district, using the resources provided on the HPOZs page and additional research as needed. Compare and contrast the similarities and differences between the districts, identifying any unique characteristics or trends.  Design a walking tour of the selected district, selecting key historical and architectural sites to visit and providing background information and context for each site. Create a visual representation of the walking tour, such as a map or brochure, or digitally using Google tour. The walking tour presentation should include images, other useful maps and geographical tools. Present the walking tour to the class.  A list of sites is provided in ‘Activity 15 – architectural, cultural and historical sites of Los Angeles’ in the resource booklet.  Research and analyse the impact of major historical events on the character and spatial dimensions of Los Angeles, such as the 1984 Olympics or the 1992 LA Riots.  Gather information on the selected event and its impact on the character and spatial dimensions of Los Angeles. [LAistory](https://laist.com/news/laistory-mapping-laists-laistory-se), [Los Angeles Public Library Collections and resources](https://www.lapl.org/collections-resources) is a good starting point.  Analyse the short-term and long-term effects of the chosen event on the city’s development, land use patterns and social dynamics. | Students analysed and compared various types of maps of Los Angeles, identifying main physical geographical features, patterns of population distribution and diverse land use patterns.  Students can distinguish different types of maps and articulate the unique characteristics of each.  Students identified patterns, trends and notable features in the zoning and land use maps of Los Angeles. They demonstrated their understanding by focusing on specific neighbourhoods or areas of interest and presenting their observations.  Students explained the role of GIS layers.  Students explored the Local Historic Districts and demonstrated understanding of the significance of these districts in preserving the city’s cultural heritage.  Students compared and contrasted their assigned districts, providing evidence of learning through the identification of unique characteristics or trends.  Students designed a walking tour of their assigned district, creating a visual representation of the tour.  Students researched and analysed the impact of major historical events on the character and spatial dimensions of Los Angeles, using reputable resources. | Pre-teach key concepts related to map types (for example, relief, political, topographic, land use).  Allow the use of bilingual dictionaries for uncommon terms.  Provide a glossary of geographical terms.  Use visual aids to explain technical terms such as population distribution, land use patterns, and so on.  Ensure students understand the task and provide a template to guide their analysis and comparison.  Consider using graphic organisers to assist in comparing and contrasting the maps.  Explicitly teach students how to interpret zoning and land use maps.  Provide visual examples of zoning and land use maps for guided practice.  Pause and replay any explanatory videos, using closed captions.  Allow students to work independently or in pairs, if they find group work challenging.  Provide clear explanations of community plans and their role in city development.  Guide students through the process of using the Community Plan Areas and Area Planning Commissions Maps.  Model how to use legends, base maps and layers in map interpretation.  Provide a clear explanation of Historic Preservation Overlay Zones (HPOZs) and their significance.  Assign each group a specific historic district to research, ensuring each group has the necessary resources.  Scaffold how to design a walking tour, providing a template or example.  Support students in creating a visual representation of their tour.  Provide scaffolding for writing their analysis, with a focus on development, land use patterns and social dynamics. |  |
| Students study ONE large city of 5 million people or more, outside Australia, to investigate:   * geographical processes shaping the large city and change over time relating to demographic trends; social and economic patterns; political and economic roles; and regional and global linkages   **Geographical tools/skills**   * Maps * Spatial technologies * Visual representations * Bar graphs, line graphs and/or scatter graphs * Climate data * Data and statistics | Collect data from various graphs and statistics related to Los Angeles, such as:   * Demographics: population profiles, ethnic composition, age distribution and migration patterns. * Economy: employment rates, income distribution, economic sectors and GDP. * Environment: air quality, water consumption, waste production and green spaces.   Resources to support collection and interpretation of data and statistics include [United States Census Bureau](https://www.census.gov/quickfacts/fact/table/losangelescitycalifornia,US/PST045221), [Los Angeles Almanac](https://www.laalmanac.com/index.php) (LAA), [LAA Weather](https://www.laalmanac.com/weather/index.php), [LAA Geography](https://www.laalmanac.com/geography/index.php) and [LAA Government](https://www.laalmanac.com/government/index.php). These resources show changes over time in Los Angeles.  In small groups select a specific dataset to analyse. Ensure that each dataset focuses on a different aspect of Los Angeles and requires the application of specific skills, such as data interpretation, trend identification or statistical analysis.  Different types of maps of Los Angeles include:   * [ArcGIS relief](https://www.arcgis.com/home/webmap/viewer.html) map * [LA county political](https://lacounty.gov/government/about-la-county/maps-and-geography/) map * [USGS topographic](https://www.usgs.gov/programs/national-geospatial-program/topographic-maps) map * [LA county land use](https://planning.lacity.org/zoning/zoning-search) map.   Using these maps, identify key features of Los Angeles, such as urban areas, transportation infrastructure, parks and landforms.  Using the graphs and statistics from the previous activities, interpret and identify trends and patterns using the assigned skills. For example:   * a group assigned to analyse population profiles should focus on identifying patterns in age distribution or population growth * a group assigned to analyse economic indicators should focus on interpreting trends in employment rates or income distribution.   Write a short response to explain how these findings contribute to our understanding of the character and spatial dimensions of Los Angeles. Reflect on the skills applied during the analysis and as a class discuss the importance of these skills in the field of geography.  **Use historical climate data for Los Angeles from sources such as** [Climate Data Online (CDO)](https://www.ncei.noaa.gov/cdo-web/)and **or** [World Climate data](https://www.worldclim.org/data/index.html)**. Create a climate graph for a time period, plotting temperature and precipitation trends on the same graph. Interpret and analyse the climate graphs to identify patterns, trends and potential impacts of climate change, such as increasing temperatures, droughts or changes in precipitation patterns.**  **Predict potential future trends and mitigation strategies.**  Access data tables (for example, [Bureau of Economic Analysis](https://www.bea.gov/)) related to the economic and political roles of Los Angeles, such as employment rates, GDP and the distribution of different industries. Create bar graphs, line graphs and/or scatter graphs to interpret, analyse and visualise the data, looking for trends and correlations.  Write a short response that explains how economic and political roles have changed over time, and how this has influenced the city’s regional and global linkages.  Create a visual representation of Los Angeles using aerial photographs, satellite images, illustrations and/or flow charts. [USGS EarthExplorer](https://earthexplorer.usgs.gov/) and [California Environmental Data Exchange Network](http://ceden.org/) might be helpful resources for the task. The visual representation should identify key features and patterns related to the city’s geography, such as transportation networks, land use patterns and urban development. The visual representations should include annotated diagrams and/or flow charts, to explain the geographical processes shaping Los Angeles and the changes occurring over time.  Using [United Nations Geospatial Information Section](https://www.un.org/geospatial/) as a starting point, create a flowline map or cartogram illustrating the global and regional linkages of Los Angeles. This could include:   * trade routes * transportation networks * migration patterns.   Using the map, work in groups to analyse and identify key patterns, connections and trends in Los Angeles’ regional and global linkages.  Discuss the implications of these linkages on the city’s economy, politics and society, and how these relationships have evolved over time.  Research and present case studies of specific linkages, such as a major trade partner, a transportation hub or a significant migration source, to further explore the city’s connections to the wider world. | Students have successfully collected and analysed data from various graphs and statistics related to Los Angeles, including demographics, economy and environmental factors.  Students have identified key features of Los Angeles using different types of maps, like ArcGIS relief map and LA county land use map.  Students successfully created climate graphs and identified patterns and potential impacts of climate change.  Students demonstrated their ability to interpret, analyse and visualise economic and political data about Los Angeles.  Students effectively used aerial photographs, satellite images, illustrations and flow charts to create a visual representation of Los Angeles.  Created flowline map, cartogram and special-purpose maps showcasing students’ understanding of the global and regional linkages of Los Angeles.  Students were able to research and present case studies of specific linkages, such as a major trade partner, a transportation hub or a significant migration source. | Pre-teach vocabulary related to demographic, economic and environmental statistics.  Provide glossaries or visual aids for technical terms related to statistical analysis.  Use enlarged printed graphs or digital graphs with adjustable sizes for visually impaired students.  Provide sentence starters or graphic organisers for writing the response.  Pre-teach key geographical terms and concepts related to trend identification and data interpretation.  Provide sentence starters or graphic organisers for the reflective writing task.  Provide visual aids and multimedia examples to explain climate change concepts.  Use adaptive technologies to ensure all students can access the climate data.  Model the process of creating graphs and interpreting them.  Use adaptive technologies to ensure all students can access the map resources.  Allow for individual, pair or small group work according to student needs.  Use speech-to-text technology for students who struggle with writing.  Allow for various presentation modes such as verbal, digital, visual, and so on.  Consider alternative options for students who find group work challenging. |  |
| Students study ONE large city of 5 million people or more, outside Australia, to investigate:   * challenges of living in the large city   **Geographical tools/skills**   * Maps * Isoline maps * Spatial technologies * Visual representations * Bar graphs, line graphs and/or scatter graphs * Surveys/interviews * Data and statistics | Examine the concept of urban challenges and identify examples specific to Los Angeles.  Provided are examples of challenges of living in the large city including [Los Angeles Times](https://www.latimes.com/), [Urban Institute](https://www.urban.org/) and [Southern California Association of Governments (SCAG)](https://scag.ca.gov/).  Using maps, graphs, statistics and other resources related to Los Angeles, Broken Hill and Wollongong, compare and contrast the challenges of living in the large city of Los Angeles with rural and urban places. Use a [Venn diagram](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/599?clearCache=2efe576c-ef6b-c66f-eba7-deeffe4649b5) to organise your evidence.  Compare and contrast challenges of Los Angeles including population, land use, transportation networks, urban issues and environmental factors. [City-Data](http://www.city-data.com/) and [Demographia](http://www.demographia.com/) might be useful sources.  Explain the similarities and differences between living in the large city of Los Angeles with rural and urban places studied.  In groups, develop a list of questions related to the challenges of living in Los Angeles, such as traffic congestion, air pollution and housing affordability. Design a survey or prepare interview questions.  Conduct virtual fieldwork to explore different neighbourhoods in Los Angeles and identify the challenges faced by residents.  In groups, select a specific neighbourhood in Los Angeles. Some examples of neighbourhoods could include Hollywood, Downtown Los Angeles, Santa Monica and Boyle Heights.  Using [Google Earth](https://www.google.com/earth/), [Google Maps](https://maps.google.com/) and/or [Google Street View](https://www.google.com/maps/streetview/), explore the neighbourhood from a bird’s-eye view, taking note of geographical features, land use patterns and the overall layout.  View the neighbourhood at street level, observing architectural styles, street conditions and the general atmosphere. Identify key features and challenges faced by residents in the chosen neighbourhood. Challenges might include traffic congestion, lack of green spaces, gentrification, air pollution and/or homelessness.  Conduct a green space analysis of the distribution and accessibility of parks and recreation areas in Los Angeles. Using [Los Angeles Department of Recreation and Parks](https://www.laparks.org/) and [Trust for Public Land ParkScore](https://www.tpl.org/city/los-angeles-california), analyse the distribution and accessibility of green spaces in Los Angeles, considering factors such as population density, distance to parks and park amenities.  Create a visual representation of the findings.  Write a short response focusing on the challenges associated with providing adequate green spaces for residents and the benefits of green spaces in urban environments.  Using and [INRIX Global Traffic Scorecard](https://www.inrix.com/scorecard/), create isoline maps to visualise traffic congestion in Los Angeles. The isoline on traffic congestion in Los Angeles should focus on factors such as travel time, traffic density and areas with the highest levels of congestion.  As a class, discuss the challenges associated with traffic congestion and potential solutions to improve transportation efficiency.  Using [Think-Pair-Share](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/645#.Y6EliJvfwO0.link), discuss the concept of natural hazards and their impact on cities like Los Angeles. Using [United States Geological Survey (USGS) Earthquake Hazards Program](https://earthquake.usgs.gov/) and [Southern California Earthquake Data Center (SCEDC)](https://scedc.caltech.edu/), explore historical earthquake data and the risks faced by Los Angeles.  Create a map or chart to illustrate the earthquake risk in Los Angeles. Conduct research and write a short response on the challenges associated with earthquake preparedness, infrastructure resilience and emergency response in Los Angeles.  Research the homelessness crisis in Los Angeles using case studies and data analysis. Provided are some websites to support research [Los Angeles Homeless Services Authority (LAHSA)](https://www.lahsa.org/data) and [United States Interagency Council on Homelessness](https://www.usich.gov/). In groups investigate the homelessness crisis, such as causes, demographics or services available.  **Research the housing crisis in Los Angeles and explore strategies to address housing inequality and affordability. Using cadastral and land use maps to investigate housing distribution, land ownership and zoning regulations in Los Angeles. Useful websites for this include:** [Los Angeles County GIS Data Portal](https://planning.lacounty.gov/maps-and-gis/gis-data/)**,** [City of Los Angeles ZIMAS](http://zimas.lacity.org/)**,** [United States Census Bureau](https://data.census.gov/cedsci) **and** [Los Angeles Homeless Services Authority](https://www.lahsa.org/data)**. Use population profiles, housing data and socioeconomic indicators to analyse spatial inequality in Los Angeles.**  **Access public transportation data from** [Los Angeles GeoHub](https://geohub.lacity.org/) **and/or** [ArcGIS Online](https://www.arcgis.com/home/index.html)**. Using a blank map of Los Angeles, map public transportation networks, such as bus routes, subway lines and bike lanes. Annotate and overlay transportation data with other data such as population density, socio-economic factors or land use.**  Complete a [Brainstorm](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/542?clearCache=cea9c967-b84f-5399-ead3-5dce3ebde836) **focusing on the challenges related to public transportation, such as accessibility and efficiency. In groups, prepare a presentation to share the findings with the class, identifying patterns, gaps and challenges related to public transportation in Los Angeles.**  Select a challenge, such as housing affordability, traffic congestion or air pollution. Create a photo essay that represents the chosen challenge. The photo essay should include captions and short descriptions to highlight the challenges of living in Los Angeles.  Share and discuss photo essays as a class. | Students demonstrated their understanding of urban challenges by discussing specific examples from Los Angeles. They can identify and articulate key urban challenges such as traffic congestion, air pollution and housing affordability.  Students compared and contrasted the challenges of living in Los Angeles with those of Broken Hill and Wollongong.  Students developed a list of questions related to the challenges of living in Los Angeles. Including designing a survey or preparing interview questions to gather data on challenges like traffic congestion, air pollution and housing affordability.  Students explored different neighbourhoods in Los Angeles using Google Earth, Google Maps and Google Street View. They identified geographical features, land use patterns and challenges faced by residents in each neighbourhood.  Students analysed the distribution and accessibility of parks and recreation areas in Los Angeles.  Students created isoline maps to visualise traffic congestion in Los Angeles, using data.  Students discussed natural hazards and their impact on Los Angeles. Created visual aids to illustrate earthquake risk and wrote responses on earthquake preparedness and emergency response, demonstrating their understanding of the relationship between natural hazards and urban challenges.  Created a fact sheet, demonstrating their ability to analyse and interpret complex social issues.  Students researched the housing crisis in Los Angeles, using cadastral and land use maps and resources.  Completed photo essays focusing on a specific challenge in Los Angeles. They selected photographs, wrote captions and provided short descriptions to highlight the challenges, demonstrating their ability to communicate complex ideas visually and verbally. | Provide a glossary of key terms related to urban challenges.  Use visual aids or multimedia to illustrate examples.  Allow students to access bilingual dictionaries if necessary.  Offer graphic organisers like Venn diagrams to help students visualise similarities and differences.  Scaffold the writing process by providing sentence starters or templates.  Assign roles in groups according to students’ strengths.  Provide opportunities for independent or pair work for those who find group work challenging. Use augmentative communication devices if necessary.  Provide explicit instructions and modelling on how to use Google Earth/Maps/Street View. Encourage students to use target language while discussing their findings.  Offer visual aids like sample maps or graphs. Scaffold the writing process with prompts or paragraph frames.  Provide a model of an isoline map. Encourage discussion about traffic congestion using sentence starters or guided discussion questions.  Use visual aids or multimedia to explain natural hazards. Scaffold the writing process with prompts or paragraph frames.  Allow students to present their findings in multiple modes – orally, through a poster or digital presentation. Provide a template for the fact sheet.  Provide explicit instructions and modelling on how to use GeoHub/ArcGIS. Allow students to present their findings in multiple modes – orally, through a poster or digitally.  Use visual aids to explain housing distribution, land ownership and zoning regulations.  Scaffold the writing process with prompts or paragraph frames.  Provide a template or model of a photo essay. Allow students to present their photo essays verbally, or in written form, depending on their strengths and preferences. |  |
| Students study ONE large city of 5 million people or more, outside Australia, to investigate:   * responses to these challenges and opportunities for enhancing sustainability, including strategies to improve people’s quality of life and reduce spatial inequality   **Geographical tools/skills**   * Isoline maps * Spatial technologies * Thematic maps * Visual representations * Photographs * Data and statistics | Identify examples of sustainable urban planning initiatives in Los Angeles, such as green infrastructure projects, public transportation improvements or affordable housing programs.  In small groups, select a specific sustainable urban planning initiative to research. Use articles and resources, such as [Los Angeles Department of City Planning](https://planning.lacity.org) and Los Angeles [Sustainable City pLAn](https://plan.lamayor.org), and gather information on a selected initiative, its goals and its progress.  Evaluate the effectiveness of the initiative and discuss its potential impact on the character and spatial dimensions of Los Angeles.  Present the findings and engage in a class discussion about the future of sustainable urban planning in Los Angeles.  Research water resources, distribution and management in Los Angeles. Explore strategies for sustainable water use using isoline map and/or thematic maps to analyse water resources, distribution and water scarcity in Los Angeles. Resources to support the research include [United States Geological Survey](https://www.usgs.gov/) and [California Department of Water Resources](https://water.ca.gov/).  Virtually access water treatment facilities, reservoirs or water conservation projects to identify the water management and sustainability practices in Los Angeles. For example, [Los Angeles Department of Water and Power](https://www.ladwp.com) and [Metropolitan Water District of Southern California](https://www.mwdh2o.com).  Investigate urban planning initiatives in Los Angeles and explore the concept of smart cities as a means to improve sustainability and reduce spatial inequality. Research smart city initiatives in Los Angeles using the [City of Los Angeles Department of City Planning](https://planning.lacity.org) and [Smart Cities Los Angeles](https://www.smartcitiesworld.net/smart-cities?topics=Los-Angeles).  Write a short response that explains a smart city solution that contributes to more sustainable and equitable urban development in Los Angeles.  Conduct a role-playing activity to simulate a community meeting focused on urban planning, environmental conservation or social justice issues in Los Angeles. Assign students various roles, such as community members, local officials and urban planners, and provide them with background information and talking points relevant to their role. [EmpowerLA](https://empowerla.org/) and [Los Angeles Neighborhood Councils](https://www.ncwpdr.org/), might be useful sources for the role-play.  As a class, discuss the importance of public participation in shaping sustainable and equitable urban development. Share experiences from the role-playing activity and discuss the challenges and opportunities encountered in the process of community engagement and participatory planning.  As a class, discuss waste management and recycling practices in Los Angeles and explore strategies to improve waste reduction and resource conservation.  In small groups, access data related to waste generation, recycling rates and landfill capacity in Los Angeles. Use data tables and bar graphs, to interpret and analyse data and identify patterns and trends related to waste management and recycling in the city. [Los Angeles County Solid Waste Information Management System](https://dpw.lacounty.gov/epd/swims/) and [CalRecycle](https://www.calrecycle.ca.gov/) might support this task.  In groups, [brainstorm](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/542?clearCache=cea9c967-b84f-5399-ead3-5dce3ebde836) potential strategies for improving waste reduction and recycling in Los Angeles, considering various approaches such as policy changes, technological innovations and public education campaigns.  Present the proposed strategies to the class, providing an opportunity to share ideas and engage in discussions about waste management and resource conservation.  Conduct a small group discussion about the energy resources, distribution, management and strategies for sustainable energy use in Los Angeles.  Create thematic maps to analyse energy resources, distribution and renewable energy potential in Los Angeles. [California Energy Commission](https://www.energy.ca.gov/) and [Southern California Edison](https://www.sce.com) might support this task. The research should include renewable energy facilities, such as solar farms or wind farms, to learn about sustainable energy practices and their impact on Los Angeles. For example, [Los Angeles Department of Water and Power](https://www.ladwp.com) and [Clean Power Alliance](https://cleanpoweralliance.org/).  Create line graphs and data tables to analyse the data, identifying patterns and trends related to air quality and pollution in the city. Use satellite images and aerial photographs as tools for visualising the spatial distribution of air pollution sources. For example, [NASA Worldview](https://worldview.earthdata.nasa.gov/) and [European Space Agency’s Copernicus Sentinel-5P satellite data](https://www.esa.int/Applications/Observing_the_Earth/Copernicus/Sentinel-5P). Use these visual representations to identify major sources of air pollution in Los Angeles.  Discuss the potential health and environmental impacts of air pollution in the city. Brainstorm potential strategies for reducing air pollution in Los Angeles, considering various approaches such as policy changes, technological innovations and public education campaigns.  Create an infographic about the air quality and pollution issues in Los Angeles that explores strategies for reducing emissions and improving air quality. Using [AirNow](https://www.airnow.gov/), include air quality data and trends for Los Angeles. Information should include the main pollutants and their sources.  In small groups, select a specific social or environmental justice issue, such as affordable housing, access to public services or environmental quality in disadvantaged communities. Research and analyse case studies of organisations or community groups working on social and environmental justice issues in Los Angeles, focusing on their initiatives and impact. For example, [Communities for a Better Environment](https://www.cbecal.org/) and [Los Angeles Community Action Network](https://cangress.org/).  Create a multimedia presentation documenting the social and environmental justice issues faced by communities in Los Angeles and the initiatives being taken to address them. Include photographs, videos, interviews or other visual elements to effectively communicate the stories and experiences of the communities they are studying.  Present the work to the class. Reflect on the social and environmental justice issues explored, and discuss the role of geographers in addressing these challenges and promoting sustainable and equitable urban development. | Students identified and discussed the main features and goals of various sustainable urban planning initiatives in Los Angeles.  Successfully used resources from the Los Angeles Department of City Planning and Los Angeles Sustainable City pLAn to gather data and support their research.  Students demonstrated knowledge of the water resources, distribution and management strategies in Los Angeles by conducting comprehensive research. They successfully used the isoline and thematic maps to analyse water scarcity and distribution.  Students successfully researched and understood the concept of smart cities and their role in reducing spatial inequality and improving sustainability.  Students demonstrated the ability to interpret and analyse data related to waste generation, recycling rates and landfill capacity.  Students demonstrated knowledge of the energy resources, distribution and management strategies in Los Angeles. They successfully used thematic maps to analyse energy resources, distribution and renewable energy potential.  Students created infographics showing understanding of the main pollutants, their sources and strategies for reducing emissions and improving air quality in Los Angeles.  Successfully created multimedia presentations or photo essays documenting the social and environmental justice issues faced by communities in Los Angeles and the initiatives being taken to address them. | Pre-teach key terms such as ‘sustainable urban planning’, ‘green infrastructure’, ‘public transportation’, ‘affordable housing’. Provide a glossary for these uncommon terms.  Allow students to use bilingual dictionaries if needed.  Use multimedia examples to explain the concept of sustainable urban planning initiatives. Use closed captions when viewing videos.  Encourage students to use targeted language like ‘sustainable’, ‘urban’, ‘planning’, ‘initiatives’ during their research and discussions.  For the presentation, provide a template or model to help students structure their findings.  Use visual aids such as maps and charts to help explain concepts related to water use and scarcity.  Encourage students to use relevant language during their research and discussions.  Support students in using geographical tools like isoline maps and thematic maps.  Pre-teach key terms related to smart cities and spatial inequality.  Encourage the use of technical language during research and writing.  Provide scaffolds to help students structure their short response.  Provide a script or template to help students prepare for their roles.  Use multimedia resources to support the role play.  Use bar graphs and data tables to visually represent waste-related data.  Provide opportunities for students to practise interpreting and analysing data before the group discussion.  Support students in creating thematic maps to analyse energy resources.  Pre-teach vocabulary related to air quality and pollution.  Use visual aids such as line graphs and data tables to help explain concepts related to air quality.  Use multimedia examples to explain the concept of social and environmental justice issues.  Provide scaffolds to help students structure their multimedia presentation or photo essay. |  |

# Additional information

For additional support or advice, contact the HSIE curriculum team by emailing [HSIE@det.nsw.edu.au](mailto:HSIE@det.nsw.edu.au).

## Further implementation support

Curriculum design and implementation is a dynamic and contextually-specific process. The department is committed to supporting teachers to meet the needs of all students. The advice below on assessment and planning for the needs of every student might be useful when considering the material presented in this sample program of learning.

## Assessment for learning

Possible formative assessment strategies that could be included:

* Learning intentions and success criteria assist educators to articulate the purpose of a learning task to make judgements about the quality of student learning. These help students focus on the task or activity taking place and what they are learning and provide a framework for reflection and feedback. [Online tools](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/622) can assist implementation of this formative assessment strategy.
* Eliciting evidence strategies allow teachers to determine the next steps in learning and assist teachers in evaluating the impact of teaching and learning activities. Strategies that might be added to a learning sequence to elicit evidence include all student response systems, [exit tickets](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/543), mini whiteboards (actual or [digital](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/575)), [Kahoot](https://app.education.nsw.gov.au/digital-learning-selector/LearningTool/Card/621), [Socrative](https://app.education.nsw.gov.au/digital-learning-selector/LearningTool/Card/587), or quick quizzes to ensure that individual student progress can be monitored and the lesson sequence adjusted based on formative data collected.
* Feedback is designed to close the gap between current and desired performance by informing teacher and student behaviour (AITSL 2017). AITSL provides a [factsheet to support evidence-based feedback](https://www.aitsl.edu.au/teach/improve-practice/feedback#:~:text=FEEDBACK-,Factsheet,-A%20quick%20guide).
* [Peer feedback](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/549) is a structured process where students evaluate the work of their peers by providing valuable feedback in relation to learning intentions and success criteria. It can be supported by [online tools](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Browser?cache_id=1d29b).
* Self-regulated learning opportunities assist students in taking ownership of their own learning. A variety of strategies can be employed and some examples include reflection tasks, [Think-Pair-Share](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/645), [KWLH charts](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/562), [learning portfolios](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/583) and [learning logs](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/583).

The primary role of assessment is to establish where individuals are in their learning so that teaching can be differentiated, and further learning progress can be monitored over time.

Feedback that focuses on improving tasks, processes and student self-regulation is the most effective. Students engaging with feedback can take many forms including formal, informal, formative, summative, interactive, demonstrable, visual, written, verbal and non-verbal.

[What works best 2020 update](https://education.nsw.gov.au/about-us/educational-data/cese/publications/research-reports/what-works-best-2020-update) (CESE 2020a)

## Differentiation

Differentiated learning can be enabled by differentiating the teaching approach to content, process, product and the learning environment. For more information on differentiation go to [Differentiating learning](https://education.nsw.gov.au/teaching-and-learning/professional-learning/teacher-quality-and-accreditation/strong-start-great-teachers/refining-practice/differentiating-learning) and [Differentiation](https://education.nsw.gov.au/campaigns/inclusive-practice-hub/primary-school/teaching-strategies/differentiation).

When using these resources in the classroom, it is important for teachers to consider the needs of all students in their class, including:

* **Aboriginal and Torres Strait Islander students**. Targeted [strategies](https://education.nsw.gov.au/teaching-and-learning/aec/aboriginal-education-in-nsw-public-schools) can be used to achieve outcomes for Aboriginal students in K–12 and increase knowledge and understanding of Aboriginal histories and cultures. Teachers should utilise students’ Personalised Learning Pathways to support individual student needs and goals.
* **EAL/D learners**. EAL/D learners will require explicit English language support and scaffolding, informed by the [EAL/D enhanced teaching and learning cycle](https://education.nsw.gov.au/teaching-and-learning/curriculum/literacy-and-numeracy/resources-for-schools/eald/enhanced-teaching-and-learning-cycle) and the student’s phase on the [EAL/D Learning Progression](https://education.nsw.gov.au/teaching-and-learning/curriculum/multicultural-education/english-as-an-additional-language-or-dialect/planning-eald-support/english-language-proficiency). In addition, teachers can access information about [supporting EAL/D learners](https://education.nsw.gov.au/teaching-and-learning/curriculum/multicultural-education/english-as-an-additional-language-or-dialect/planning-eald-support/english-language-proficiency) and [literacy and numeracy support specific to EAL/D learners](https://education.nsw.gov.au/teaching-and-learning/curriculum/literacy-and-numeracy/resources-for-schools/eald).
* **Students with additional learning needs**. Learning adjustments enable students with disability and additional learning and support needs to access syllabus outcomes and content on the same basis as their peers. Teachers can use a range of [adjustments](https://education.nsw.gov.au/teaching-and-learning/disability-learning-and-support/personalised-support-for-learning/adjustments-to-teaching-and-learning) to ensure a personalised approach to student learning. In addition, the [Universal Design for Learning planning tool](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/about-universal-design-for-learning) can be used to support the diverse learning needs of students using inclusive teaching and learning strategies. Subject specific curriculum considerations can be found on the [Inclusive Practice hub](https://education.nsw.gov.au/campaigns/inclusive-practice-hub).
* **High potential and gifted learners**. [Assessing and identifying high potential and gifted learners](https://education.nsw.gov.au/teaching-and-learning/high-potential-and-gifted-education/supporting-educators/assess-and-identify#Assessment1) will help teachers decide which students might benefit from extension and additional challenge. [Effective strategies and contributors to achievement](https://education.nsw.gov.au/teaching-and-learning/high-potential-and-gifted-education/supporting-educators/evaluate) for high potential and gifted learners help teachers to identify and target areas for growth and improvement. In addition, the [Differentiation Adjustment Tool](https://education.nsw.gov.au/teaching-and-learning/high-potential-and-gifted-education/supporting-educators/implement/differentiation-adjustment-strategies) can be used to support the specific learning needs of high potential and gifted students. The [High Potential and Gifted Education Professional Learning and Resource Hub](https://schoolsnsw.sharepoint.com/sites/HPGEHub/SitePages/Home.aspx) supports school leaders and teachers to effectively implement the High Potential and Gifted Education Policy in their unique contexts.

All students need to be challenged and engaged to develop their potential fully. A culture of high expectations needs to be supported by strategies that both challenge and support student learning needs, such as through appropriate curriculum differentiation. (CESE 2020a:6).

## Support and alignment

**Resource evaluation and support**: all curriculum resources are prepared through a rigorous process. Resources are periodically reviewed as part of our ongoing evaluation plan to ensure currency, relevance, and effectiveness. For additional support or advice contact the HSIE curriculum team by emailing [HSIE@det.nsw.edu.au](mailto:HSIE@det.nsw.edu.au).

**Alignment to system priorities and/or needs**: [School Excellence Policy](https://education.nsw.gov.au/policy-library/policies/pd-2016-0468)

**Alignment to the School Excellence Framework**: this resource supports the [School Excellence Framework](https://education.nsw.gov.au/inside-the-department/directory-a-z/strategic-school-improvement/school-excellence-framework) elements of curriculum (curriculum provision) and effective classroom practice (lesson planning, explicit teaching).

**Alignment to Australian Professional Teaching Standards**: this resource supports teachers to address [Australian Professional Teaching Standards](https://educationstandards.nsw.edu.au/wps/portal/nesa/teacher-accreditation/meeting-requirements/the-standards/proficient-teacher) 3.2.2, 3.3.2.

**Consulted with**: Curriculum and Reform, Inclusive Education, Multicultural Education, Aboriginal Outcomes and Partnerships and subject matter experts.

**NSW syllabus**: Geography 11–12

**Syllabus outcomes**: GE-12-01, GE-12-02, GE-12-03, GE-12-04, GE-12-05, GE-12-06, GE-12-07, GE-12-08, GE-12-09

**Author**: Curriculum Secondary Learners

**Publisher**: State of NSW, Department of Education

**Resource**: Program of learning

**Related resources**: further resources to support geography 11–12 can be found on the [Planning, programming and assessing geography 11–12](https://education.nsw.gov.au/teaching-and-learning/curriculum/hsie/planning-programming-and-assessing-hsie-11-12/planning-programming-assessing-geography-11-12) page.

**Professional learning**: relevant professional learning is available through MyPL and the HSIE statewide staffroom.

**Universal Design for Learning**: [Curriculum planning for every student – advice](https://education.nsw.gov.au/teaching-and-learning/curriculum/planning-programming-and-assessing-k-12/advice-on-curriculum-planning-for-every-student-k-12). Support the diverse learning needs of students using inclusive teaching and learning strategies.

**Creation date**: 1 September 2023

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# Evidence base

[Geography 11–12 Syllabus](https://curriculum.nsw.edu.au/learning-areas/hsie/geography-11-12-2022/overview) © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2022.

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