# Place and liveability – Stage 4 geography

## Key inquiry questions

* Why do people’s perceptions of the liveability of places vary?
* What effect does environmental quality and access to services have on people’s wellbeing?
* How can strong community identity and social connectedness enhance the liveability of places?
* What approaches can be used to improve the liveability of places?

## Overview

Students -

* discuss factors that influence people’s perceptions of the liveability of places
* investigate features and characteristics of places across a range of scales that support and enhance people’s wellbeing such as community identity, environmental quality and access to services and facilities
* assess the liveability of places and propose strategies to enhance the liveability of a place in Australia.

## Outcomes

A student -

* locates and describes the diverse features and characteristics of a range of places and environments **GE4-1**
* explains how interactions and connections between people, places and environments result in change **GE4-3**
* examines perspectives of people and organisations on a range of geographical issues **GE4-4**
* explains differences in human wellbeing **GE4-6**
* acquires and processes geographical information by selecting and using geographical tools for inquiry **GE4-7**
* communicates geographical information using a variety of strategies **GE4-8**

[Geography K-10 Syllabus](https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/hsie/geography-k-10) © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales, 2015

## Teaching and learning activities

### Inquiry questions

For each key inquiry question, students are encouraged to design their own inquiry questions as a subset in order to complete the geographical inquiry process which forms the basis of these teaching and learning sequences.

### Assessment

The strategies require students to demonstrate their learning and are either assessment for learning or assessment as learning activities. Some activities might be selected and included in a school assessment schedule for assessment of learning.

## Syllabus references

### Influences and perceptions

Students investigate factors influencing perceptions of the liveability of places, for example

* examination of environmental factors that influence perceptions of liveability. For example, climate, landforms, natural resources
* discussion of human factors that influence perceptions of liveability. For example, culture, incomes, employment, crime and safety
* explanation of ways used to measure, assess or rank the liveability of places. For example, surveys, liveability index
* development of personal liveability criteria and application to a local place.

### Access to services and facilities

Students investigate the influence of accessibility to services and facilities on the liveability of places, for example

* identification of services and facilities considered important to people’s wellbeing
* examination of variations in access to services and facilities between urban, rural and remote places.

### Environmental quality

Students investigate the impact of environmental quality on the liveability of places, for example

* discussion of factors that reduce environmental quality. For example, natural hazards, conflict, population pressures, land degradation.

### Community

Students investigate the influence of social connectedness and community identity on the liveability of places, for example (**ACHGK046**)

* identification of the characteristics of places that influence community identity. For example, culture, environment, public events, religious beliefs
* discussion of factors that enhance social connectedness. For example, transport, technology, open spaces, meeting places, employment.

### Enhancing liveability

Students investigate strategies used to enhance the liveability of places using examples from different countries, for example

* identification of the characteristics of places considered highly liveable
* examination of a range of strategies used to enhance liveability
* assessment of the roles of governments, non-government organisations, communities and individuals in enhancing liveability
* proposal of strategies to improve the liveability of a place in Australia.

## Learning sequence 1 – influences and perceptions

**Key inquiry question -** Why do people’s perceptions of the liveability of places vary?

### 1.1 Investigating factors influencing perceptions of the liveability of places

**Teachers’ note** - Liveability is an assessment of what a place is like to live in, using particular criteria such as environmental quality, safety, access to shops and services and cultural activities. Liveability criteria are characteristics used to assess the liveability of places or their contribution to people’s quality of life, for example healthcare, education, infrastructure and environment. The Economist Intelligence Unit publishes an annual [Global Liveability Index](https://pages.eiu.com/rs/753-RIQ-438/images/The_Global_Liveability_Index_2018.pdf) which ranks 140 cities for their urban quality of life based on stability, healthcare, culture and environment, education and infrastructure.

#### Activity

Your task is to visually represent your perception of the places where you live. You must create a diagram, cartoon or comic book layout of your perception of your home, neighbourhood or town, closest city, country and the world.

A digital version is useful so that you can demonstrate your understanding of places you live in. You could use [Storyboard That](https://www.storyboardthat.com/storyboard-creator) to visually represent your perception of the places where you live using a variety of images, graphics, information and speech boxes (dialogue of people in the community).

After completion of the visual representation task, students share their perception using the [Speed Sharing model](https://www.teachermagazine.com.au/articles/speed-sharing-a-non-threatening-alternative) of discussion. Speed sharing is a quick paced, non-threatening way for you to share your perceptions of liveability with your classmates. You will form into small groups and sit in front of one of the presenters and rotate the presenter and the listeners.

### 1.2 Perception and access to services and facilities of places

1. Based on your own perceptions, you will list what you think are the 10 most and least liveable cities in the world and the liveability of surrounding communities. You will use the collaborative learning tool of [Think-Pair-Share](http://www.educationoasis.com/printables/graphic-organizers/think-pair-share/) on why you have that perception.
2. Using the ranking data from [The Global Liveability Index 2018](https://pages.eiu.com/rs/753-RIQ-438/images/The_Global_Liveability_Index_2018.pdf) indicated below create an inquiry based learning task about the local community’s perception and access to services. Students locate on a printed political map, or labelled on [Google Maps](https://support.google.com/maps/answer/6257830?co=GENIE.Platform%3DDesktop&hl=en&oco=0), or an annotated online map or their choice, the ten most and least liveable cities, five biggest improvers and decliners. Your map should include a legend using colour for each category of city.

It is important that students understand that the liveability score is reached through category weights that are based on key indicators and the indicators are scored as acceptable, tolerable, uncomfortable, undesirable or intolerable. Moreover, these are then weighted to produce a rating, whereby 100 means that liveability in a city is ideal and 1 means that it is intolerable. This rating system will be used when you produce your own liveability survey of the local suburb/town. A Likert Scale, one to ten rating, may also be used for simplicity whereby 10, highly liveable, to 1, intolerable. An example is provided in table 5 below

Table 1 - 10 most liveable cities

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | City | Rank | Overall rating (100=ideal) | Stability | Healthcare | Culture and environment | Education | Infrastructure |
| Austria | Vienna | 1 | 99.1 | 100.0 | 100.0 | 96.3 | 100.0 | 100.0 |
| Australia | Melbourne | 2 | 98.4 | 95.0 | 100.0 | 98.6 | 100.0 | 100.0 |
| Japan | Osaka | 3 | 97.7 | 100.0 | 100.0 | 93.5 | 100.0 | 96.4 |
| Canada | Calgary | 4 | 97.5 | 100.0 | 100.0 | 90.0 | 100.0 | 100.0 |
| Australia | Sydney | 5 | 97.4 | 95.0 | 100.0 | 94.4 | 100.0 | 100.0 |
| Canada | Vancouver | 6 | 97.3 | 95.0 | 100.0 | 100.0 | 100.0 | 92.9 |
| Canada | Toronto | 7 | 97.2 | 100.0 | 100.0 | 97.2 | 100.0 | 89.3 |
| Japan | Tokyo | 7 | 97.2 | 100.0 | 100.0 | 94.4 | 100.0 | 92.9 |
| Denmark | Copenhagen | 9 | 96.8 | 95.0 | 95.8 | 95.4 | 100.0 | 100.0 |
| Australia | Adelaide | 10 | 96.8 | 95.0 | 100.0 | 94.2 | 100.0 | 96.4 |

Table 2 - 10 least liveable cities

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | City | Rank | Overall rating (100=ideal) | Stability | Healthcare | Culture and environment | Education | Infrastructure |
| Senegal | Dakar | 131 | 48.3 | 50.0 | 41.7 | 59.7 | 50.0 | 37.5 |
| Algeria | Algiers | 132 | 44.1 | 50.0 | 45.8 | 45.4 | 50.0 | 30.4 |
| Cameroon | Douala | 133 | 44.0 | 60.0 | 25.0 | 48.4 | 33.3 | 42.9 |
| Libya | Tripoli | 134 | 42.9 | 45.0 | 41.7 | 40.3 | 50.0 | 41.1 |
| Zimbabwe | Harare | 135 | 42.6 | 40.0 | 20.8 | 58.6 | 66.7 | 35.7 |
| Papua New Guinea | Port Moresby | 136 | 41.0 | 30.0 | 37.5 | 47.0 | 50.0 | 46.4 |
| Pakistan | Karachi | 137 | 40.9 | 20.0 | 45.8 | 38.7 | 66.7 | 51.8 |
| Nigeria | Lagos | 138 | 38.5 | 20.0 | 37.5 | 53.5 | 33.3 | 46.4 |
| Bangladesh | Dhaka | 139 | 38.0 | 50.0 | 29.2 | 40.5 | 41.7 | 26.8 |
| Syria | Damascus | 140 | 30.7 | 20.0 | 29.2 | 40.5 | 33.3 | 32.1 |

Table 3 - 5 biggest improvers in the last 5 years

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| City | Country | Rank (out of 140) | Overall rating (100=ideal) | Five year improvement % |
| Abidjan | Cote d’lvoire | 124 | 52.2 | 6.3 |
| Hanoi | Vietnam | 107 | 59.7 | 5.5 |
| Belgrade | Serbia | 82 | 72.2 | 5.0 |
| Tehran | Iran | 128 | 50.8 | 5.0 |
| Ho Chi Minh City | Vietnam | 116 | 57.1 | 4.4 |

Table 4 - 5 biggest decliners in the last 5 years

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| City | Country | Rank (out of 140) | Overall rating (100=ideal) | Five year improvement % |
| Kiev | Ukraine | 118 | 56.6 | -12.6 |
| San Juan | Puerto Rico | 89 | 69.8 | -8.9 |
| Damascus | Syria | 140 | 30.7 | -7.7 |
| Caracas | Venezuela | 126 | 51.3 | -5.1 |
| Asuncion | Paraguay | 102 | 64.3 | -4.5 |

Table 5 - Rating system

|  |  |  |
| --- | --- | --- |
| Rating | Description | Suggested allowance % |
| 80-100 | There are few, if any, challenges to living standards | 0 |
| 70-80 | Day-to-day living is fine, in general, but some aspects of life may entail problems | 5 |
| 60-70 | Negative factors have an impact on day-to-day living | 10 |
| 50-60 | Liveability is substantially constrained | 15 |
| 50 or less | Most aspects of living are severely restricted | 20 |

1. Students develop a survey using the five categories: stability, healthcare, culture and environment, education and infrastructure. This survey will be conducted within school, family, friends and local community to gather perceptions of the suburb or local town. This may also be used as a fieldwork activity in which you will conduct a survey with a member of the public and practise your interview technique. You will use the indicators to frame your questions for example, “what level of access to public education is there in your local area”. You will conduct the survey using the [SurveyMonkey](https://www.surveymonkey.com/) or [Survey123](https://survey123.arcgis.com/) (which allows for geolocation and can be displayed on a variety of maps). You will represent your findings by using a variety of graphs, for example, line graph, pie chart, bar graph, scatter plot, histogram, or frequency curve). Survey123 automatically generates graphs and can streamline analysis.

The following resources will help when preparing your surveys:

* + [Survey123 how to guide](https://doc.arcgis.com/en/survey123/browser/create-surveys/createsurveys.htm) and [How to use survey 123](https://www.youtube.com/watch?v=xxi_mxIGu-k&feature=youtu.be) (duration 6:08)
  + [SurveyMonkey how to guide](https://www.wikihow.com/Create-an-Online-Survey-With-Surveymonkey) and [SurveyMonkey - Creating, Testing, and Sending a Survey](https://www.youtube.com/watch?v=DGcDNzaWBq4&feature=youtu.be) (duration 1:12)
  + [Effective Surveys how to guide](https://www.qualtrics.com/blog/10-tips-for-building-effective-surveys/)
  + [7 tips for good survey questions](https://www.youtube.com/watch?v=Iq_fhTuY1hw&feature=youtu.be) (duration 4:01)

In addition, the Australian Geography Teachers Association (AGTA) [Neighbourhood liveability survey (PDF 303KB)](http://www.geogspace.net.au/Core%20units/Years%207-8/Exemplars/y7-exemplars-y7-illus5.php) is an effective introduction to a Likert Scale survey for liveability.

Table 6 – survey categories

|  |  |
| --- | --- |
| Category | Indicators |
| Category 1: Stability (weight 25% of total) | Prevalence of petty crime  Prevalence of violent crime  Threat or terror  Threat of military conflict  Threat of civil unrest/ conflict |
| Category 2: Healthcare (weight 20% of total) | Availability of private healthcare  Quality of private healthcare  Availability of public healthcare  Quality of public healthcare  Availability of over-the-counter drugs  General healthcare indicators |
| Category 3: Culture and Environment (weight 25% of total) | Humidity/ temperature rating  Discomfort of climate to travellers  Level of corruption  Social and religious restrictions  Level of censorship  Sporting availability  Cultural availability  Food and drink  Consumer goods and services |
| Category 4: Education (weight 10% of total) | Availability of private education  Quality of private education  Public education indicators |
| Category 5: Infrastructure (weight 20% of total) | Quality of road network  Quality of public transport  Quality of international links  Availability of good quality housing  Quality of energy provision  Quality of water provision  Quality of telecommunications |

[eiu.com/public/topical\_report.aspx?campaignid=Liveability2018](https://www.eiu.com/public/topical_report.aspx?campaignid=Liveability2018)

Table 7 - survey assessment rubric

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Component | 4-5 marks | 2-3 marks | 0-1 mark | Your mark |
| Survey organisation | * Survey topic is clearly understood * Layout is understandable * Survey is easy to navigate through information * Layout is logical and consistent | * Survey topic is somewhat understood * Some inconsistent layout of pages * Survey lacks purpose * Unclear connections amongst sections * Poor layout and difficult to understand | * Survey topic is confusing for participant * Survey lacks closure * No theme identified for survey * Survey layout is inconsistent * Unable to understand in an organised way |  |
| Survey presentation | * Survey is clearly identified * The survey layout is clear and easy to follow * Survey background and texts work well together * Graphical elements are used appropriately | * Survey is easy to follow * Backgrounds and text are somewhat effective * Purpose of graphics is confusing | * Survey is confusing or inappropriate * Backgrounds and text not effective * Inconsistent or inappropriate graphics |  |
| Survey questions | * Survey questions are effective and are optimised for all information * Survey questions are useful to all participants * Survey resources work properly * Survey is easy to find | * Survey questions are sound and are generally optimised * Survey questions work in some cases * Survey resources work most of the time * Able to answer questions with effort | * Survey questions do not work properly * Survey questions need explanation * Survey resources failed to work * Survey questions were difficult to answer |  |

## Learning sequence 2 – environmental quality

**Key inquiry question -** What effect does environmental quality and access to services have on people’s wellbeing?

### 2.1 Environmental quality field sketch

**Teachers’ note** - The teacher should develop a [geolocated](https://wiki.openstreetmap.org/wiki/Geolocation) map prior to and/or during student fieldwork which shows each survey site and where it was conducted during the fieldwork. This includes a field sketch and environmental survey. Useful geolocation fieldwork maps include [Google Maps](https://www.google.com/maps), [Google Tour](https://tourbuilder.withgoogle.com/), [ARC GIS](https://www.arcgis.com/home/webmap/viewer.html?useExisting=1), [ARC GIS Explorer](https://www.esri.com/en-us/arcgis/products/explorer-for-arcgis), or an annotated printed map.

Before fieldwork, you will investigate how to draw a field sketch using an image of your choice or Google Street View. Less experienced drawers should divide a blank page into four parts (use your ruler) so your sketch is more manageable. Record the main human and natural features within your sketch. Resources to assist in drawing of field sketches can be found on the [GeoHub](https://geohubliverpool.org.uk/topic/field-skills/) Liverpool website.

Studying your closest town and using [Google Street View](https://showmystreet.com/), you will conduct fieldwork (including online) on the impact of environmental quality on the liveability of places. This will be a comparison between Australia and a place from the least liveable places listed from lesson 1.2. During the fieldwork, you will draw a field sketch of your local community to show the environmental quality in the local area. Then complete a photo sketch of your least liveable place. In both sketches, you will record the main geographical and environmental features that are visible.

### 2.2 Comparative environmental quality survey

Students conduct an environmental survey of their local community and a city from the least liveable list. For example, Damascus, Syria.

Using the environmental criteria below, they make a judgement about the two sites, the online fieldwork from the list of least liveable places (this should be from the same place you conducted your field sketch or relatively close by) and secondly, from multiple sites within your local fieldwork site. Using Global Positioning System (GPS) coordinates with a geolocated map prior to and during your fieldwork, students should show where each survey site was conducted or where the survey should take place. Prior to fieldwork or access to the online least liveable site, you should conduct an environmental survey using the below criteria. This will provide you with a comparison and show the environmental quality between Australia and another country.

Table 8 - natural features

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Natural features assessment categories | 3 | 2 | 1 | 0 | -1 | -2 | -3 |
| Landform (mountain, plateau, valley, hill) |  |  |  |  |  |  |  |
| Running water (river, wetlands) |  |  |  |  |  |  |  |
| Still water (lake, pond) |  |  |  |  |  |  |  |
| Wildlife (fauna) |  |  |  |  |  |  |  |
| Variety of vegetation (flora) |  |  |  |  |  |  |  |

Table 9 - human features

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Human features assessment categories | 3 | 2 | 1 | 0 | -1 | -2 | -3 |
| Vehicles |  |  |  |  |  |  |  |
| People |  |  |  |  |  |  |  |
| Litter |  |  |  |  |  |  |  |
| Man-made structures (buildings) |  |  |  |  |  |  |  |
| Access services (bus stops, chemist) |  |  |  |  |  |  |  |

At each fieldwork site, students take a ground image to record their observations. The photographs will be used to record the exact location which will accurately represent the scale and colour of the fieldwork sites. This will be used to compare the local community site and the images from Google Street View of another country.

Using the following environmental criteria, make a judgement about the sites in your local community and a city from the least liveable places (you will use the same city from the previous images). You will use this as a subjective task which requires you to make a judgement about what you think of the location and how it makes you feel about the sites liveability. For each item give a rating from 1 to 5 (tick the box).

Table 10 - local community

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Undesirable factors | 1 | 2 | 3 | 4 | 5 | Desirable factors |
| Ugly |  |  |  |  |  | Beautiful |
| Smelly |  |  |  |  |  | Fresh |
| Chaotic |  |  |  |  |  | Ordered |
| Unhealthy |  |  |  |  |  | Healthy |
| Motionless |  |  |  |  |  | Moving |
| Poor |  |  |  |  |  | Rich |
| Boring |  |  |  |  |  | Interesting |
| Old |  |  |  |  |  | New |
| Weak |  |  |  |  |  | Strong |
| Noisy |  |  |  |  |  | Quiet |
| Hostile |  |  |  |  |  | Friendly |
| Dirty |  |  |  |  |  | Clean |
| Empty |  |  |  |  |  | Dense |
| Dark |  |  |  |  |  | Light |
| Tense |  |  |  |  |  | Relaxed |
| Pessimistic |  |  |  |  |  | Optimistic |
| Multicultural |  |  |  |  |  | Mono-cultural |
| Alternative |  |  |  |  |  | Mainstream |
| Unsafe |  |  |  |  |  | Safe |
| Monotonous |  |  |  |  |  | Colourful |

Table 11 - A city from the least liveable list

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Undesirable factors | 1 | 2 | 3 | 4 | 5 | Desirable factors |
| Ugly |  |  |  |  |  | Beautiful |
| Smelly |  |  |  |  |  | Fresh |
| Chaotic |  |  |  |  |  | Ordered |
| Unhealthy |  |  |  |  |  | Healthy |
| Motionless |  |  |  |  |  | Moving |
| Poor |  |  |  |  |  | Rich |
| Boring |  |  |  |  |  | Interesting |
| Old |  |  |  |  |  | New |
| Weak |  |  |  |  |  | Strong |
| Noisy |  |  |  |  |  | Quiet |
| Hostile |  |  |  |  |  | Friendly |
| Dirty |  |  |  |  |  | Clean |
| Empty |  |  |  |  |  | Dense |
| Dark |  |  |  |  |  | Light |
| Tense |  |  |  |  |  | Relaxed |
| Pessimistic |  |  |  |  |  | Optimistic |
| Multicultural |  |  |  |  |  | Mono-cultural |
| Alternative |  |  |  |  |  | Mainstream |
| Unsafe |  |  |  |  |  | Safe |
| Monotonous |  |  |  |  |  | Colourful |

### 2.3 Comparison of environmental quality on the liveability of places

Using [How to Label Home and Work in Google Maps](https://www.youtube.com/watch?v=bGkSCcPMvu4) (duration 3:49) as a guide, label both fieldwork sites to examine the area and the infrastructure. The labelled infrastructure should include police stations, hospitals, chemists, doctors, churches, sporting grounds, post offices, and schools. The map must be of the same scale for effective comparison

You can use [Google Sheets](https://docs.google.com/spreadsheets/u/0/?pli=1&tgif=d), [Apple Numbers](https://www.apple.com/au/numbers/) or [Microsoft Excel](https://products.office.com/en-au/excel), to create a tally sheet and pie chart comparing the two fieldwork sites. Using the collected information and data (from the observations, surveys, images), you will compare the two fieldwork sites. Below is a ‘Venn Diagram’ to help scaffold the similarities, difference and the relationship between the two fieldwork sites.

## Learning sequence 3 – community

**Key inquiry question h**ow can strong community identity and social connectedness enhance the liveability of places?

### 3.1 Understanding community identity and social connectedness

**Teachers’ note** - Students will need to know the following terms for this lesson sequence.

Community identity - a small or large social unit (a group of living things) that has something in common, such as norms, religion, values, or identity

Social connectedness - a measure of the number and strength of people’s social relationships with other people in the same place, or in other places via face-to-face connections or electronic methods. The opposite of good social connections is social isolation, or loneliness.

Your task is to research and locate 10 places in your local community which demonstrate community identity and social connectedness. For example, voluntary beach lifesavers organisation, local bowling club, Lions club. Using the GeogSpace Places are for living in [Images of cities, villages and towns (PDF 4,520KB)](http://www.geogspace.net.au/Core%20units/Years%207-8/Exemplars/y7-exemplars-y7-illus3.php), you will identify where and how community identity and social connectedness is or could be demonstrated in the images. You will also complete the GeogSpace [Where people live (PDF 305KB)](http://www.geogspace.net.au/Core%20units/Years%207-8/Exemplars/y7-exemplars-y7-illus3.php) worksheet.

You will show what type of communities you are involved in and how they have shared space or shared organisation in common.

Every individual will belong to a variety of communities. Examples of these communities could be:

* your school
* the sports you play and/or support
* where you live or have lived
* the job you have
* your beliefs.

You will write down the communities you belong to then circle the shared space communities and underline the social organisation communities.

Complete the table listing as many shared space communities and shared social organisations that you can think of.

Table 12 - classification task

|  |  |
| --- | --- |
| Shared space communities | Shared social organisation communities |
| Examples: The state of NSW, the Italian community, Cootamundra High School, Sapphire Marketplace in Bega | Examples: Aboriginal peoples, Central Coast Council, Parramatta Eels supporters, the Muslim community, Wollondilly Neighbourhood Watch |
|  |  |
|  |  |

### 3.2 Smart Cities and Suburbs Program

In 2016, the Australian Government committed to the Smart Cities Plan for productive and liveable cities. You have been commissioned to create a proposal and a model to redevelop your local suburb or town for the Australia Government’s ‘[Smart Cities and Suburbs Program](https://www.business.gov.au/Grants-and-Programs/Smart-Cities-and-Suburbs-Program)’. Moreover, the Australian Government, in collaboration Local Governments, has funded over $50 million with 32 projects funded in the stage 2 process. A list of [Round Two successful projects](https://www.infrastructure.gov.au/cities/smart-cities/) is available.

Your proposal funding criteria must include:

* The minimum grant amount is $250,000.
* The maximum grant amount is $5 million.
* The grant amount will be up to 50 percent of eligible project costs.
* You must complete your project by 30 June 2020.

To be eligible, your project:

* must include at least one partner organisation during the life of the project. For example, a non-government organisation, local council.

Projects must involve the innovative application of knowledge and technology that:

* is new to the organisation, the local government area, city, region or country
* delivers an outcome which has not previously been realised by your community.

Table 13 - criteria

|  |  |
| --- | --- |
| Criteria | Value (points) |
| 1.Is your project innovative and uses smart technology to build community identity and social connections | 30 |
| 2.The scope of social, environmental and economic benefits your project will deliver | 30 |
| 3.The project’s community identity focus and the impact on the liveability of the cities, suburbs and towns | 20 |
| 4.Your capacity to carry out the project’s aim of building social connectedness | 20 |

Provided is the link Smart Cities and Suburb [Grant opportunity guidelines (PDF 0.58MB)](https://www.business.gov.au/Grants-and-Programs/Smart-Cities-and-Suburbs-Program).

Your project proposal may focus on:

* crime and safety
* education
* health provision
* access to shops and services
* recreational facilities and cultural activities
* air and water quality
* noise
* access to open space
* traffic volumes
* visual effects of buildings and roads.

You can create your own [personalised checklist](http://pblchecklist.4teachers.org/index.shtml) to support your proposal. A sample of a checklist has been provided at [pblchecklist.4teachers.org](http://pblchecklist.4teachers.org/view.php?id=443755) to help you complete the required elements of the proposal.

### 3.3 Smart Cities and Suburbs Program model

**Teachers’ note** - Resources required include cardboard boxes, paper (small and large for the street map), tape, pencil, glue. For students in rural and remote communities, the Smart Cities and Suburb Program model can be adapted to from cities and suburbs to local towns to suit school contexts.

#### Activity

Using the Smart Cities and Suburbs proposal, students will create a project-based learning activity that includes building a cardboard model. The cardboard model must visually represent and incorporate community identity and strong social connectedness. The model must include an accurate and scaled street map of the suburb (or town) as the floor of the cardboard model. The cardboard model building should be accurate and effectively implement the proposal.

Example of cardboard cities can be found at

* Birds Eye Cardboard City, [Civic Explorer](https://civicexplorer.wordpress.com/projects/)
* [Cardboard City by Kiel Johnson](https://dirtcheapmag.wordpress.com/2012/09/03/cardboard-city/kiel-johnson-cardboard-cityscape4/)

## Learning sequence 4 – enhancing liveability

**Key inquiry question -** what approaches can be used to improve the liveability of places?

### 4.1 Importance and strategies of creating sustainable places

Teachers’ note - Students will need to know the following terms for this lesson sequence.

Sustainability - the capacity of the environment to continue to support our lives and the lives of other living creatures into the future. For example, pressures on the earth’s water resources and landscapes, the need to manage environments for a long-term future, sustainable management approaches.

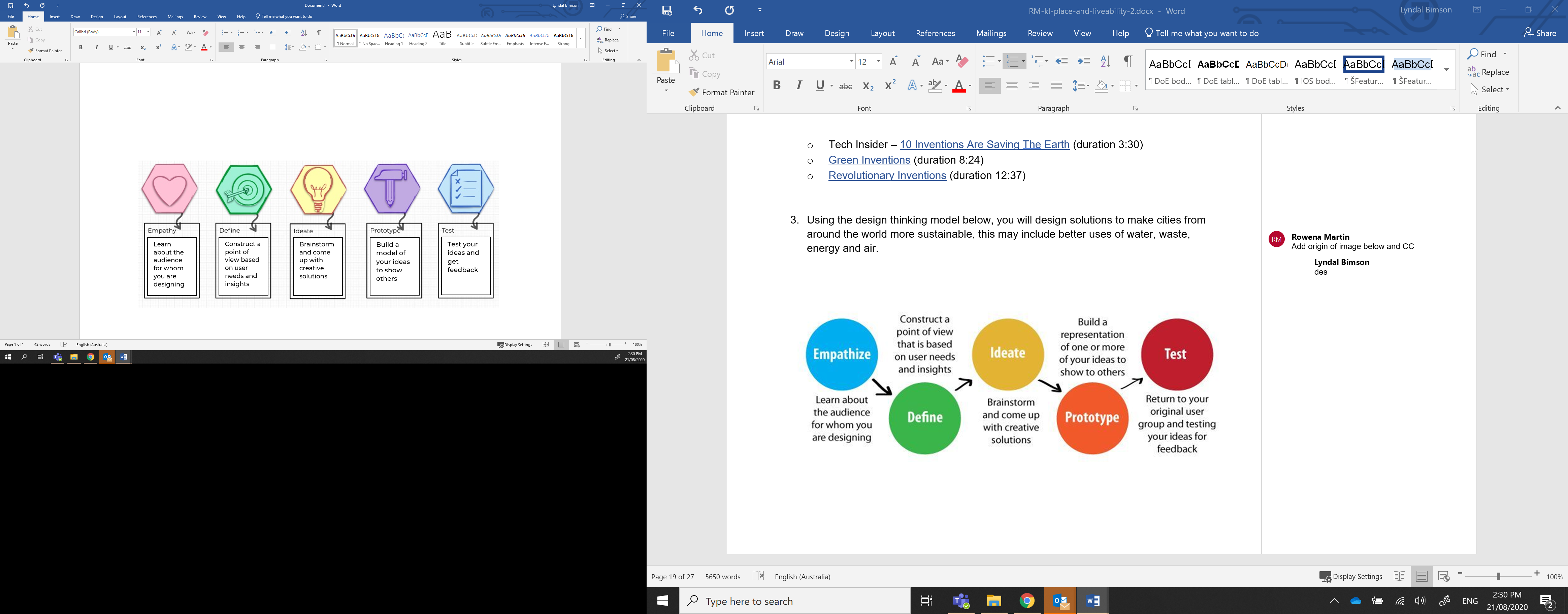
#### Activity

1. Your task is to use the [circle of viewpoints](http://www.pz.harvard.edu/resources/circle-of-viewpoints?qt-social=0) to discuss the Venn diagram (below) which shows the interaction of the three parts (social, economic and environment) of sustainable development.



Sustainable development Venn diagram by [ConceptDraw.com](https://conceptdraw.com/a2058c3/preview) is licenced under [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/)

1. Students watch the following videos and along with the Sustainable development Venn diagram show how the inventions in the videos are being used to enhance the liveability of places from around the world. You should show how inventions use the three parts (social, economic and environment) of sustainable development
   * Tech Insider – [10 Inventions Are Saving The Earth](https://www.youtube.com/watch?v=d4AU0tMQd0Y) (duration 3:30)
   * [Green Inventions](https://www.youtube.com/watch?v=5jzcWz8oZGg) (duration 8:24)
   * [Revolutionary Inventions](https://www.youtube.com/watch?v=nvKXOY8K9Js) (duration 12:37)
2. Using the [design thinking](https://app.education.nsw.gov.au/rap/resource/access/ba43743b-baca-4dd2-9689-2da09ad2ffc7/1c) model below, you will design solutions to make cities from around the world more sustainable, this may include better uses of water, waste, energy and air.



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Empathy | Define | Ideate | Prototype | Test |
| Level | Level 1  Students interview and collect data to seek and understand the importance of sustainability for all people around the world.  [Guidelines for conducting interviews](https://managementhelp.org/businessresearch/interviews.htm)  Survey 123 | Level 2  Students clearly articulate the problem and what they want to solve to achieve a sustainable city from around the world, this may include water, waste, energy and air.  POV scaffold.  [Word map](http://www.educationoasis.com/printables/graphic-organizers/word-chart-5/). | Level 3  Students brainstorm to meet the needs of different perspectives for possible solutions to improve cities/towns.  [Idea mapping tool](https://bubbl.us/)  [Goal setting scaffold](http://www.educationoasis.com/printables/graphic-organizers/goal-setting-worksheet/).  [Cause and effect chain scaffold](http://www.educationoasis.com/printables/graphic-organizers/cause-and-effect-chain/). | Level 4  Students build or storyboard a representation of their solutions to make a city/town more sustainable.  Fish bone scaffold.  Flow chart.  3D printed product.  [Q-chart scaffold](http://www.educationoasis.com/printables/graphic-organizers/question-creation-chart/).  [Progress report scaffold](http://www.educationoasis.com/printables/graphic-organizers/progress-report/). | Level 5  Students test their sustainable prototype. Students use reflective learning.  Individual and group complete reflection surveys.  Rubrics for reflection and R stem scaffold.  Group contract. |
| Design thinking questions | What are the differing perspectives? Who is the user? | What are the needs of the people from around the world? | What are the possible solutions to fix sustainability in cities? | How can the ideas be shown and demonstrated? | What worked? What did not? |
| How to | **Empathy**  **Observe**  Students view the users and their behaviour in the context of their lives.  **Engage**  Students use interviews and need to prepare questions. Students keep the conversation only loosely bounded but framed by stories from the people they talk to, always asking “why?” to uncover deeper meaning. Engagement can come through both short encounters and longer scheduled conversations.  **Watch and listen**  Students combine observation and engagement by the user to show how they completed the task. This may be physically going through the steps, interacting with an object. Students should use the environment to prompt deeper questions. | **Define**  A good **point-of-view** is one that:   * Provides focus and frames the problem * Inspires the students’ team * Informs criteria for competing ideas * Empowers student team to make decisions independently in parallel * Captures the hearts and minds of people the students meet * Saves students from the impossible task of developing concepts that are all things to all people (for example, your problem statement should be discrete, not broad) | **Ideate**   * Step beyond obvious solutions and thus increase the innovation potential of your solution * Use **different perspectives** and strengths of your teams * Uncover unexpected areas of exploration * Create **fluency** (volume) and **flexibility** (variety) in your innovation options * Get obvious solutions out of students’ heads and drive student team beyond unknown | **Prototype**  **Start building**. Even if students are not sure what they are doing, the act of selecting materials (Post-it notes, tape and found objects are a good way to start) will be enough to get them going. Student should not spend too much time on one prototype. Students need to identify what’s being tested with each prototype.  **A prototype should answer a particular question when tested**. Students should build with the user in mind. What do you hope to test with the user? What sorts of behaviour do you expect? Answering these questions will help to focus the prototyping and help student receive meaningful feedback in the testing phase. | **Test**  Put your prototype in the user’s hands or use your user within an experience.  Let your tester interpret the prototype. Watch how they use (and misuse) what you have given them, and how they handle and interact with it. Listen to what they say about it, and the questions they have. Create your prototypes and test them in a way that feels like an experience that your user is reacting to, rather than an explanation that your user is evaluating. Ask users to compare. Bringing multiple prototypes to the field to test gives users a basis for comparison often revealing latent needs. |

## Concepts, inquiry skills and tools

### Geographical concepts

The following geographical concepts have been integrated into the teaching and learning sequence:

* Place – factors influencing people’s perceptions of places; the special significance place has to some people
* Space – how location influences the ways people organise places
* Environment – the reasons why people live where they do
* Interconnection – how people are affected by the environment with regard to the liveability of places
* Scale – the management of geographical challenges across a range of scales from local to global; responses and actions undertaken by governments, organisations and individuals; communities operating at local to global scales
* Sustainability – pressures on the earth’s water resources and landscapes; the need to manage environments for a long-term future; sustainable management approaches
* Change – changes to places over time

### Geographical inquiry skills

The following geographical inquiry skills have been integrated into the unit:

#### Acquiring geographical information

* develop geographically significant questions and plan an inquiry, using appropriate geographical methodologies and concepts (ACHGS047, ACHGS055)
* collect, select and record relevant geographical data and information, using ethical protocols, from appropriate primary data and secondary information sources (ACHGS048, ACHGS056)

#### Processing geographical information

* represent data in a range of appropriate forms, with and without the use of digital and spatial technologies (ACHGS049, ACHGS057)
* represent the spatial distribution of different types of geographical phenomena by constructing maps at different scales that conform to cartographic conventions, using spatial technologies as appropriate (ACHGS050, ACHGS058)
* analyse geographical data and other information using qualitative and quantitative methods, and digital and spatial technologies as appropriate, to identify and propose explanations for spatial distributions, patterns and trends and infer relationships (ACHGS051, ACHGS059)
* apply geographical concepts to draw conclusions based on the analysis of the data and information collected (ACHGS052, ACHGS060)

#### Communicating geographical information

* present findings, arguments and ideas in a range of communication forms selected to suit a particular audience and purpose; using geographical terminology and digital technologies as appropriate (ACHGS053, ACHGS061)
* reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic and social considerations, and predict the expected outcomes of their proposal (ACHGS054, ACHGS062)

### Geographical tools

The following geographical tools have been integrated into the unit.

#### Maps

* sketch maps, relief maps, political maps, topographic maps, flowline maps, choropleth maps, isoline maps, précis maps, cartograms, synoptic charts
* maps to identify direction, scale and distance, area and grid references, latitude and longitude, altitude, area, contour lines, gradient, local relief

#### Fieldwork

* observing, measuring, collecting and recording data, developing and conducting surveys and interviews
* fieldwork instruments such as weather instruments, vegetation identification charts, compasses, Global Positioning System (GPS), Geographical Information System (GIS)

#### Graphs and statistics

* data tables, pie graphs, column graphs, compound column graphs, line graphs, climate graphs, population profiles, multiple tables and graphs presented on a geographical theme, statistics to find patterns and trends

#### Spatial technologies

* virtual maps, satellite images, GPS, GIS

#### Visual representations

* photographs, aerial photographs, illustrations, flow charts, annotated diagrams, multimedia, field
* sketches, cartoons, web tools

## Assessment task and rubric

### Outcomes

* Explains how interactions and connections between people, places and environments result in change GE4-3
* Communicates geographical information using a variety of strategies GE4-8

### Community

In 2016, the Australian Government committed to the Smart Cities Plan for productive and liveable cities. You have been commissioned to create a proposal and a model to redevelop your local suburb for the Australia Government’s ‘Smart Cities and Suburbs Program’. Moreover, the Australian Government, in collaboration Local Governments, has funded over $50 million and 32 projects were funded in stage 2 process. Provided is a list of round two successful projects.

Your task is to complete:

Proposal which must include

* Show roles of government and non-government organisations, communities and individuals in enhancing the liveability of your place
* The extent to which your project is innovative and uses smart technology to build community identity and social connections
* The scope of social, environmental and economic benefits your project will deliver
* The project’s community identity focus and the impact on the liveability of the cities, suburbs and towns
* Your capacity to carry out the project’s aim of building social connectedness
* Suburb/ town Model which must include
* a map of the area at a variety of scales – incorporating geographical conventions such as BOLTSS – border, orientation, legend, title, scale and source.
* at least one major change that will promote the social connectedness of this space, such as a new open space for business start-ups to develop and network.
* a visual representation demonstrating and explaining the changes you plan to make (model)

### Rubric

|  |  |
| --- | --- |
| Mark | Criteria |
| 17-20 | * Provides a variety of different scales on multiple maps and correctly incorporates geographic conventions * Correctly applies border, orientation, legend, title, scale and source (BOLTSS) to all maps * Includes clear and concise visual representations of proposed changes * Includes a wide variety of visual resources as evidence * Clearly and comprehensively provides a strategy to enhance the social connectedness of the space * Outlines, in detail, the strategy using multiple resources. |
| 13-16 | * Provides different scales on multiple maps and correctly incorporates geographic conventions * Correctly applies BOLTSS to most maps * Includes clear visual representations of proposed changes * Includes numerous visual resources as evidence * Clearly provides a strategy to enhance the social connectedness of the space * Outlines the strategy using multiple resources |
| 9-12 | * Provides some different scales on maps and correctly incorporates some geographic conventions * Correctly applies BOLTSS to some maps * Includes visual representations of proposed changes * Includes some visual resources as evidence * Describes a strategy to enhance the social connectedness of the space * Outlines the strategy |
| 5-8 | * Provides basic scales on maps and incorporates some geographic conventions * Correctly applies some BOLTSS to some maps * Includes some visual representations of proposed changes * Includes some visual resources as evidence * Describes a basic strategy to enhance the social connectedness of the space * Provides some basic details of the strategy |
| 1-4 | * Provides limited scales on maps and incorporates few geographic conventions * Applies 1 or 2 parts of BOLTSS to some maps * Includes a limited visual representation of proposed changes * Includes limited visual resources as evidence * Describes, in limited detail, a strategy to enhance the social connectedness of the space |

|  |  |
| --- | --- |
| Differentiation | Evaluation |
| Possible adjustments made   * Vision/hearing impairments – extra support * Reduce the number of questions – more time given to complete activities – simplified activities * Scaffolding – scaffold work based on ability – reading aloud, sentence starters, group/partner work, partially completed scaffold tables – Utilising graphic organisers of matrixes (idea, peel, alarm, newmans) – modelling activities, visuals, connect to background knowledge * Assistance required – one on one support – Student Learning Support Officer (SLSO) – peer tutoring * Assessment tasks – scaffolds, additional time, use of a reader and or writer, rest breaks, rephrasing questions, using simplified language, change format of a task, written point form instead of reports or essays, oral or PowerPoint presentation instead of essay |  |