


# How to plan community development: Doing a population survey

Key Learning Area	Unit or lesson title and main focus questions	Most appropriate level and suggested number of lessons
 <b>Geography</b>	<b>How to plan community development: Doing a population survey</b>  What is the average age and population structure of The Hills Shire community?	<b>Stage 5</b>
		2-3 lessons

## Teacher briefing

Population change in the North West region is rapid and is forecast to increase further. That growth is expected to include many more families with children. This predicted population growth is one of the main reasons for the development of Sydney Metro Northwest. The railway will also influence the nature of that growth. In this sequence of lessons students learn more about their local population and how it is changing. Students learn how to gather data by conducting a small survey and building a population pyramid.

### Requirement for the lesson

- Computer with internet access
- Activity sheet 1.

### Assessment

Students are assessed on their capacity to collect, record, present and interpret geographical data.

### Key terms and vocabulary

Population pyramid, survey, questionnaire, age and sex distribution.

## Web links



Public Health Information Unit Population Pyramid Generator.

### **An online tool for creating population pyramids**

<http://phidu.torrens.edu.au/tools/population-pyramid-generator>

### **Australian Bureau of Statistics interactive Population Pyramid of Australia**

<https://www.abs.gov.au/websitedbs/d3310114.nsf/home/Population%20Pyramid%20-%20Australia/>

### **Nation Master – Population Pyramids for Australia**

[http://www.nationmaster.com/country/as-australia/Age\\_distribution](http://www.nationmaster.com/country/as-australia/Age_distribution)

### **Collecting Survey Data – Australian Privacy Principles**

<https://www.oaic.gov.au/privacy-law/>

## Syllabus links

### **Geography K-10**

Geography Stage 5 – Changing places

– the management and planning of Australia’s urban future.

Environmental change and management

– the causes, extent and consequences of the environmental change (urban environments).

(GE5-1) explains the diverse features and characteristics of a range of places and environments

(GE5-7) acquires and processes geographical information by selecting and using appropriate and relevant geographical tools for inquiry.

## Learning experiences

### Step 1 – Class discussion

Population pyramids are an important geographic tool in the study of development and change. They are the most effective way to graphically depict the age and gender distribution of a population.

The teacher leads discussion on population pyramids and uses information provided in web links to demonstrate their uses and how to interpret them.

### Step 2 – Options

There are several options for conducting this lesson sequence:

- Students create a local population survey in their own time and survey residents living near the school in a double period
- The teacher hands out pre-prepared survey, (Activity sheet 1, page 178–179) and the surveys are conducted in class time. The data is then recorded in the next lesson and students create the population pyramid
- The teacher distributes the survey forms to students and asks them to collect the data with a friend on weekends or after school.

### Step 3 – Write a survey

Students may need assistance with constructing a survey. Discuss items in Activity sheet 1 (page 178–179).

Privacy and data collection via surveys should be discussed. All researchers must be aware of what they can and cannot do with collected information. For more on Australian Privacy Principles:

<https://www.oaic.gov.au/privacy-law/privacy-archive/privacy-resources-archive/privacy-fact-sheet-2-national-privacy-principles>

### Step 4 – Create a population pyramid

Devise a quick way of collating and recording survey findings in class, such as a show of hands, as the teacher reads out the different age groups and gender.

Explore changes in population. Compare students' population pyramids to other examples from the local area or state or national locations. These can be found on the Australian Bureau of Statistics website (see web links).

### Step 5 – Class discussion

Use questions such as these to lead the discussion:

- What is the shape of your pyramid?
- Does it match the Australian population as a whole?
- Does it match the official population pyramid of your local area?
- Is population growth the main driver of change? What other factors are there?
- What has happened in the North West region?
- How has the population changed?
- How might population change suggest the need for a rail line in the North West region?

## Teacher references

How to make population pyramids with your data, a pen and a ruler:

- Write the total number of people in each age group separated by gender (total for your class)
- Fill your total information into a table like Figure 10
- Get a blank population template and mark the vertical and horizontal axes
- Create a bar graph for each gender and each age group like Figure 11.

Age	Male	Female
0–7 years		
8–13 years		
14–19 years		
20–25 years		
26–30 years		
31–35 years		
36–40 years		
41–45 years		
46–50 years		
51–55 years		
56–60 years		
61–65 years		
66–70 years		
71–75 years		
76–80 years		
81–85 years		
86 years plus		

Figure 10: Sample population pyramid table.

How to make population pyramids in Excel:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/2A20C4E754A463D6CA2579AB000E8CBD#Anchor5>



Figure 11: Typical population pyramid.

# Activity sheet 1

Survey for \_\_\_\_\_ Geography class

Introduce yourself and why you are there: Hi, my name is \_\_\_\_\_ and this is \_\_\_\_\_ . We are here from the local \_\_\_\_\_ High School and we are trying to discover the average age and population structure of The Hills community. Would it be OK for us to ask you some questions?

(Show them the questions and let them fill the sheet out themselves if they prefer).

**Question 1:** In this household, how many people are of the following age groups? Circle the appropriate ranges below and write how many people in the household fit in that age range.

Age	Male	Female
0-7 years		
8-13 years		
14-19 years		
20-25 years		
26-30 years		
31-35 years		
36-40 years		
41-45 years		
46-50 years		
51-55 years		
56-60 years		
61-65 years		
66-70 years		
71-75 years		
76-80 years		
81-85 years		
86 years plus		

This information will be used in class to create a population pyramid for The Hills area. Please answer these questions but you do not have to answer any if you don't want to.

**Question 2:** How long have you lived in The Hills area?

---

---

---

---

---



Northwest

# Activity sheet 1

**Question 3:** Does anyone in this house work or study in the following locations?  
More than one can be ticked.

Sydney Central Business District	
North Sydney	
Parramatta	
Norwest Business Park	
Macquarie Park	
Chatswood	
Epping	
Other	

**Question 4:** What effect do you think the population growth of the North West region will have on Sydney Metro Northwest?

---

---

---

---

---

---

---

---

---

---

---

---

---



Northwest