SPATIAL CONNECT

Sport and Recreation Spatial
Answers

To what extent is sport participation interconnected to location?

Introduction

Go to http://www.sportandrecreationspatial.com.au/index.php or http://tinyurl.com/sportportal and watch the introduction video *Sport and recreation spatial documentary* and answer the following questions:

1. How does Rochelle Eime describe the activity level of Australians?

Inactive, Sedentary, Overweight Society

2. What two factors does Michael Cahill mention that is key to the study?

Numbers of people participating, Land Use

3. Why did Rayoni Nelson say that looking at individual age groups was important?

To identify who is less active and less engaged

4. How can this project data and use of GIS help improve sport participation?

Provide knowledge and focus to the people that can bring about change

5. Why is regional sport said to be so important to the community?

Hub of community and links people together

Sport participation

1. Before you start your investigation . . .

    a) Based on your experiences, predict how the level of sport participation might vary across Victoria? Which areas might have the highest participation? Which areas have lowest? Inner city? Outer suburbs? Regional?

    Students own prediction

    b) Justify any predictions made in 1a.

    Based on student predication

Website instructions

2. Describe the distribution of Sport Participation across Victoria using the PQE method (describe the general **Pattern**; **Quantify** by including data in your description; identify and record any **Exception** to the pattern).

   Pattern:
   Quantify:
   Exception:

   Student's own answers dependent on map chosen. Ensure the pattern is described, data is used in the answer and any exceptions identified

3. How did your prediction in 1a compare to the pattern of sports participation you identified from the map?

   Student's own answer based on their original prediction Complete the summary paragraph below using 8 of the words/numbers from the word box.

4. Study the graph, figure 1, and complete the summary paragraph below using eight of the words/numbers from the word box.

For most ages, participation rates were _higher_ in regional areas than metropolitan areas. For the very young, (age 4), the highest participation rate of 29.9% was within the _ metro other_ region. For ages 5 to 49 years, the highest participation rates were within _ regional other_ areas. For ages 50–79 years, the highest participation rates were in Regional – Growth areas. The highest participation rate recorded was _ 84.7%_ for 5–10 year olds, followed closely by 10–14 year olds (_ 82.7%_%) within Regional – Other areas. The largest differences in participation rates by region were within the _ 5 – 9_ years, with Regional – Other having almost _ double_ the participation rates of Metropolitan – Growth areas (80+% vs around 45%). While the participation rates beyond age 19 were much _ lower_, the relative difference across regions was similar, with the highest rate being around double the lowest rate in all age groups.

Looking for socio-economic links

1. a) Choose four LGAs, including two in Melbourne, and two in regional Victoria. Describe (using PQE: see Activity 2, question 2) the pattern of physical activity between regional and metropolitan Melbourne examining:

   • the percentage of participation rates

   • the number of facilities and playing fields.

   How does each of these factors change across the different regions within Victoria?

   Student's own answers dependent on map chosen. Ensure the pattern is described, data is used in the answer and any exceptions identified

   Describe the distribution of frequency and duration of sport participation across Victoria using the PQE method.

   Pattern:

   Quantify:

   Exception:

   Student's own answers dependent on map chosen. Ensure the pattern is described, data is used in the answer and any exceptions identified

   b) How does the pattern of the level of activity from this map differ from the description of your participation map in Activity 2?

   Student's own answers dependent on map chosen. Ensure the pattern is described, data is used in the answer and any exceptions identified

   c) Can you think of any reasons for the differences?

   Reasons may include economic, social or political reasons

2. Describe the distribution of socio economic advantage/disadvantage across Victoria using the PQE (Pattern Quantify Exception) method (see Activity 2, question 2).

   Pattern:
   Quantify:
   Exception:

   Student's own answers dependent on map chosen. Ensure the pattern is described, data is used in the answer and any exceptions identified

3. a) Identify an LGA region in Victoria that has a **high** participation rate and a "Most Disadvantaged" Socio Economic Value?

   No LGA has these parameters

   b) Identify an LGA in Victoria that has a **low** participation rate and a "Least Disadvantaged" Socio Economic Value?

   Examples include Wyndham, Moreland, Darebin, Casey

   c) Identify an LGA in Victoria that have a **high** participation rate and a "Least Disadvantaged" Socio Economic Value?

   Examples include Mornington Peninsula, Knox, Nillumbik and Moyne

   d) Which LGA, in Victor, has **low** participation rate and a "Most disadvantaged" Socio Economic Value

   Greater Dandenong

4. Summarise the degree of spatial association between socio economic disadvantage and sport participation in Victoria? Refer to specific regions and areas.

Students own summary paragraph

Looking for links – sport facilities

1. Zoom in to each of these regions and count how many sports facilities are in each zone to complete the table below.

Region	% Participation	Number of sport facilities
	0–10	
	10–20	
	20–30	
	30–40	
	40–50	
	50–60	
	60–70	
	70–80	
	80–90	
	90–100	

Completed table will vary depending on student's choices

2. Plot the points on the scatter graph to look for any correlation between the two factors. (If you need to, watch this video which shows how to draw a scatter graph: https://www.youtube.com/watch?v=HGV5xibEfv0)

Students produce their own scattergraph using chosen data from the table.

3. Is there any correlation between the level of participation and the number of facilities?

Students produce their own scattergraph using chosen data from the table.

Extension

Add more regions to your scatter graph. The more data added, the more valid the analysis.

Region	% Participation	Number of sport facilities
	0–10	
	10–20	
	20–30	
	30–40	
	40–50	
	50–60	
	60–70	
	70–80	
	80–90	
	90–100	

4. Has the correlation pattern changed at all with the extra regions plotted?

Answers based on student's choice of data and final graph

5. Have the results/patterns you have highlighted surprised you? What did you expect to find?

Student's own answer

How does sport participation change with age?

1. Refer to the graph.

a) Describe the trends shown in sport participation throughout Victoria.

There are very high rates of sports participation in most sports in people aged 5–15 in Victoria in 2015. There is then a steady decline in most sports. One exception is Sport H which is very low at age 5 – 16 but increases steadily to peak at age 74. Further exceptions to the pattern are sports B, F and H which increase in participation after age 39 until the age of ~74 before declining.

b) The sports in the graph have not been labelled. Try to match the sports with the letters in the graph and record them in the table below. You may want to consider the following – high impact, popularity, intensity of sport, media coverage.

Individual student answers and class discussion

Sport	Letter	Reason
Australian Football		
Netball		
Hockey		
Bowls		
Sailing		
Cricket		
Gymnastic		
Football		
Tennis		
Golf		
Basketball		

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2. What reasons might there be for the changes in sport activity identified? Look at the following factors and offer ways in which these might contribute to the change.
   e.g. Economic – people retire at a certain age? Increase leisure time?

Examples could include:

Social	retirement, more leisure time, increase participation in some sports by girls
Historical	traditional gender-based sports in some areas
Environmental	new growth areas with increased leisure facilities
Economic	growth areas with more local council funds
Political	some LGAs spend more on sports and leisure than others
Technological	linked to economic with money spent on new and modern facilities

Planning for the future

1. Describe the predicted change of population across Victoria (use the PQE method again).

   Pattern:
   Quantify:
   Exception:

2. Which areas of Victoria do you think is most in need of investment in sports facilities? Provide reasons for your answer.

The areas expected to experience high growth (10,000–999,999) will require more sports facilities. These include Melton, Wyndham, Whittlesea and Casey.

3. Look back at your original hypothesis. Has your research supported or dis proven your original hypothesis?

Student's own answer

4. What do you think are the most important factors (SHEEPT) that influence sport participation in Victoria?

Socio-econiomic factors (income, where yu live and population size) and economic.

5. Think about the LGA in which you live. How do you think the government could best increase the levels of sport activity in your area? Refer to your investigation and maps as evidence.

   • investment in the local economy
   • increase sporting facilities
   • promotion of club membership.

Student's own answer

6. Do the regions with highest levels of obesity also have the lowest levels of sport participation? (look at activity 3)
   • Select the three regions with the lowest sporting participation.
   • Follow the steps below (using the AURIN website) and see if they have high or low levels of obesity.
     Follow the steps below to look at the areas of highest and lowest obesity.
     • Open the AURIN website
     • Click *ADD DATA*
     • Click on *PHIDU OBESTIY*
     • Click *ADD TO MAP*
   • Zoom into Melbourne.
   • You may need to increase *Opacity* to see clearer pattern and the regions names on the AURIN map

7. Write a summary of your findings based on these map comparisons.

Student's own answer