

Mapping Exercise: Berwick

The following activities are based on the GTAV Berwick topographic map and aerial photo broadsheet. The activities were originally published in *Interaction*. Copies of this map can be purchased from the GTAV at the *special price* of \$1.10 each.

1. What features are located at the following grid references:

- | | |
|-----------------|-----------------|
| a. 495845 _____ | f. 506885 _____ |
| b. 507915 _____ | g. 552893 _____ |
| c. 508898 _____ | h. 518902 _____ |
| d. 465898 _____ | i. 473915 _____ |
| e. 568875 _____ | j. 544876 _____ |

2. What is the contour interval? _____

3. Describe the relief over the area depicted on the map.

4. Calculate the distance between:

- a. The oval in Edwin Flack Reserve in Berwick (564896) and the cemetery (556898)

- b. Narre Warren Railway Station (478888) and Fountain Gate Shopping Centre (510906).

5. In which direction is:

- a. Cranbourne Golf Club (495845) from the built up area of Berwick?

- b. Hampton Park Shopping Centre (478888) from Berwick Railway Station (564882)?

- c. Casey Air Field (538884) from Berwick?

6 a. Identify the major settlements located over the mapsheet.

b. Along what lines of transport are these new urban centres growing?

c. What is happening in grid square 5290?

d. What would ultimately happen to Fountain Gate, Narre Warren, Berwick and Beaconsfield over time?

e. What sort of land use covers the rest of the area depicted on the map (e.g. at 560845 and 522848)?

8. Why is this environment changing?

9. What is the attraction of these areas located on the rural-urban fringe of the metropolitan area?

10. Identify and give the location of three different regions on the map.

11. Classify the following resources:

a. GR 532916

b. GR 553912

12. Describe, using the relevant spatial concepts, the relative location of Fountain Gate, Hampton Park and Narre Warren in relation to Berwick.

13. Describe the distribution pattern of the blocks of land along Buchannon Rd, North of Inglis Rd (GR 536902).

14. Describe the distribution pattern of land that is subject to flooding (inundation).

15. Describe the spatial association between levee banks and drains.

16. Estimate the distance by road from the Narre Warren Post Office to the Berwick Post Office.

17. Refer to the 1979 aerial photograph. Identify Narre Warren on the photo and on the 1996 topographical map. Create an over lay map and describe the spatial change over time for Narre Warren. Compare the 1996 map with a map in a current street directory. Create a second overlay sheet to show the changes that have occurred. Describe the spatial change over time between 1996 and the present.

[Use a blank sheet of paper to complete this question]

18. a. Identify the main land use in a 500-metre radius of GR 505860.

b. Suggest a previous land use by examining the surrounding region.

19. Identify the features at the following locations.

- a. GR 495874 _____
- b. GR 543917 _____

c. GR 545875 _____

d. GR 562852 _____

20. Identify the feature located at GR 543899. Develop a management proposal for the best use of this resource by examining the existing surrounding land uses.

21. Four locations have been identified for the establishment of a residential subdivision (approx. 1 km²). Area References: 4987, 5491, 5587 and 5685.

a. Using the following criteria, evaluate each of the four sites to identify the one most suited for a housing estate.

b. Justify your choice.

Criteria:

A. Proximity to major transport routes (measure distances to different transport modes).

B. Proximity to existing urban areas (use relative location and distances).

C. Suitability of topography (landform) for residential subdivision.

D. Impacts of proposed subdivision (on people and the environment)

Questions related to spatial concepts

Location

1. Describe the location the Fountain Gate residential area.

2. Describe the location of the Cranbourne Golf club.

Distribution

1. Describe the distribution of:

- orchards/vineyards
- water features
- built up areas.

2. Describe the distribution of recreation areas in Cranbourne.

3. Describe the distribution within the Cranbourne Golf Club of:

- water features
- timbered areas.

4. Describe the distribution and general orientation of wind breaks in the area bound by Pound Road, Cranbourne Road, Shrives Road.

Spatial association

1 a. Draw a single topic map to show the land subject to inundation in the central western areas of the map. Then draw/ label on the map the 30-, 40- and 50-metre contour lines.

b. Describe the spatial association between areas subject to inundation and land below 30 metres in elevation.

2. Describe the spatial association between recreation areas and built up areas.

Spatial interaction

1. To what extent would the location of the highways and freeway on the map influence the location of the built up areas?

2. What factors may have influenced the shape of Berwick?

3. Suggest why the recreation areas in Berwick are distributed in the eastern edge of the built-up area.

Spatial change over time

- 1 a. Locate the oval at 514899 in the north west corner of the photograph.
b. Locate in the photograph the junction in Berwick urban area where the Princes Highway meets Clyde Road and Lyall Road.

2. What percentage of the urban area of Narre Warren east of Cranbourne Road was constructed/existed in 1979?

3. Is the oldest section of Narre Warren located to the north or the south of the railway line? Give reasons for your answer.

4. Suggest the location of future urban expansion on the map. Give reasons for your answer.

Movement

1 a. What types of lines are found in the north-east corner of the map?

b. What resource is being moved?

2. a. What resource is being moved by the feature at 515885?

b. What feature is found along this feature and what would be its purpose?

3. Why does the road at 515877 seem to be inappropriately named?

Region and scale

1. Draw a simple sketch map to show a “region” that you can identify. Justify your choice.

2. Rescale your sketch map so that it becomes four times smaller in scale. What is the new scale?

3. Calculate the area of Berwick.

Berwick Topographic Map Primary mapping activities

Topic: Communities

Introduction

Introduce a range of maps to the class i.e. globe, world map, street directory. Look at the map colours.

- What does green/blue/brown etc. represent on a map? Brainstorm.
- Stress that map colours are usually “real” world colours.
- Which are natural and which are human or built features on a map?
- Using the Berwick topographic map answer: How would the photo have been taken?
- Draw any object from above, below, beside etc.
- Use a digital camera to take photos above/below/beside real objects in the classroom or in the playground. Design a symbol to represent that object.

Use a simple map of school grounds.

1. Use the map colours to shade the features on the school map.

2. Make a jigsaw of the school grounds map.

3. Using the school map, add new features to it using map symbols which you have created.

4. Predict what would happen to the school map, if the following happened:

- 100 extra students enrolled next year
- there was a change in weather patterns i.e. snow in winter, wetter summer, very hot summers etc.

5. Change over time. Look at how your school map has changed over time.

6. Using the Berwick map, count the number of schools, railway stations, football grounds etc and graph the results. (Use an enlarged map section.)
7. Colour an enlarged section of the Berwick map to show natural and human features.
8. Build a 3D scale model of an enlarged part of this map on grid paper. Colour the base map using the map colours.

Use the entire Berwick map i.e. a region

1. Compare the map and the photo. List the natural and human features on the map, link each to its appropriate map symbol.
2. Compare the differences between the rural and urban sections of the map. Look at the map and photo for information.
3. Use a base map or simple line map, to indicate or colour new areas which have been developed since the photo was taken. Describe the patterns which you have mapped and predict where future developments may be located (an overlay might be used).
4. Using the whole map, count the number of schools, railway stations, football grounds etc. and graph the results.
5. Describe different ways that you can get from point A to point B.
6. Draw a map of how you would get to school from your home.
7. Write directions of how you would get to school from home.
8. Use the Berwick map to give alternative routes to get from one place to another.
9. How do features on a map affect each other? E.g. shopping centres and housing, schools and parks etc.