

4 The Basic Features of 1: 50 000 Topographic Maps of Sri Lanka



This lesson offers an opportunity to study several basic features of 1: 50 000 topographic maps of Sri Lanka.



Various features on the Earth's surface can be presented by maps. The features formed by nature (Natural features) and features made by man (Man-made features) are represented in topographic maps. Colours, letters and symbols have been used to represent these features. These maps are very useful to have a total understanding about the landscape. For that, the maps should be well understood by reading them correctly.

Activity

- Some features that can be seen on the land are given below. Write them under the correct heading in the table.

Mountain ranges, Main roads, Buildings, Rivers, Forests, Tanks, Farmlands, Plains, Grasslands, Canals

Natural Features	Man-made Features

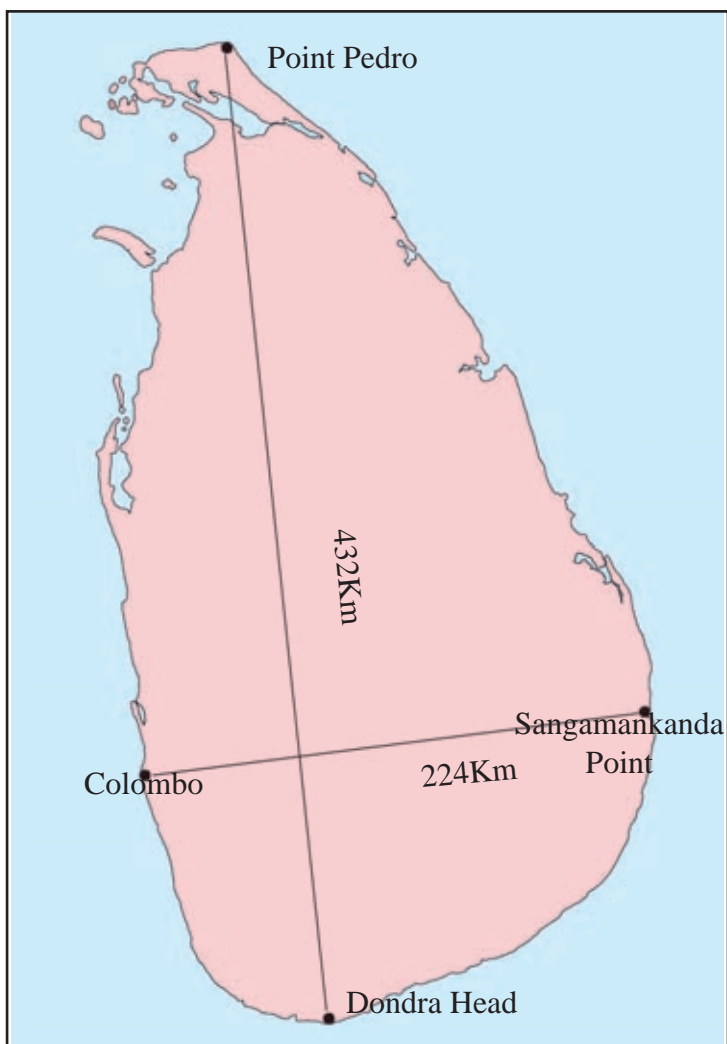
The natural features seen on the land are known as physical features and man-made features are known as cultural features.

The Scale and Largeness of the 1: 50 000 topographic maps of Sri Lanka

The Survey Department of Sri Lanka began to prepare a map of Sri Lanka based on metric units during the first half of the 1980 decade. The scale of this map is 1:50 000. That means one unit on the map, is equal to 50 000 such units. Accordingly, 1cm on 1:50 000 topographic map is equal to 50,000cm (0.5 kilometre). A distance

of one kilometre on land is shown by two centimetres on the 1: 50 000 topographic map. The correct distance between two places on the map can be found using this scale.

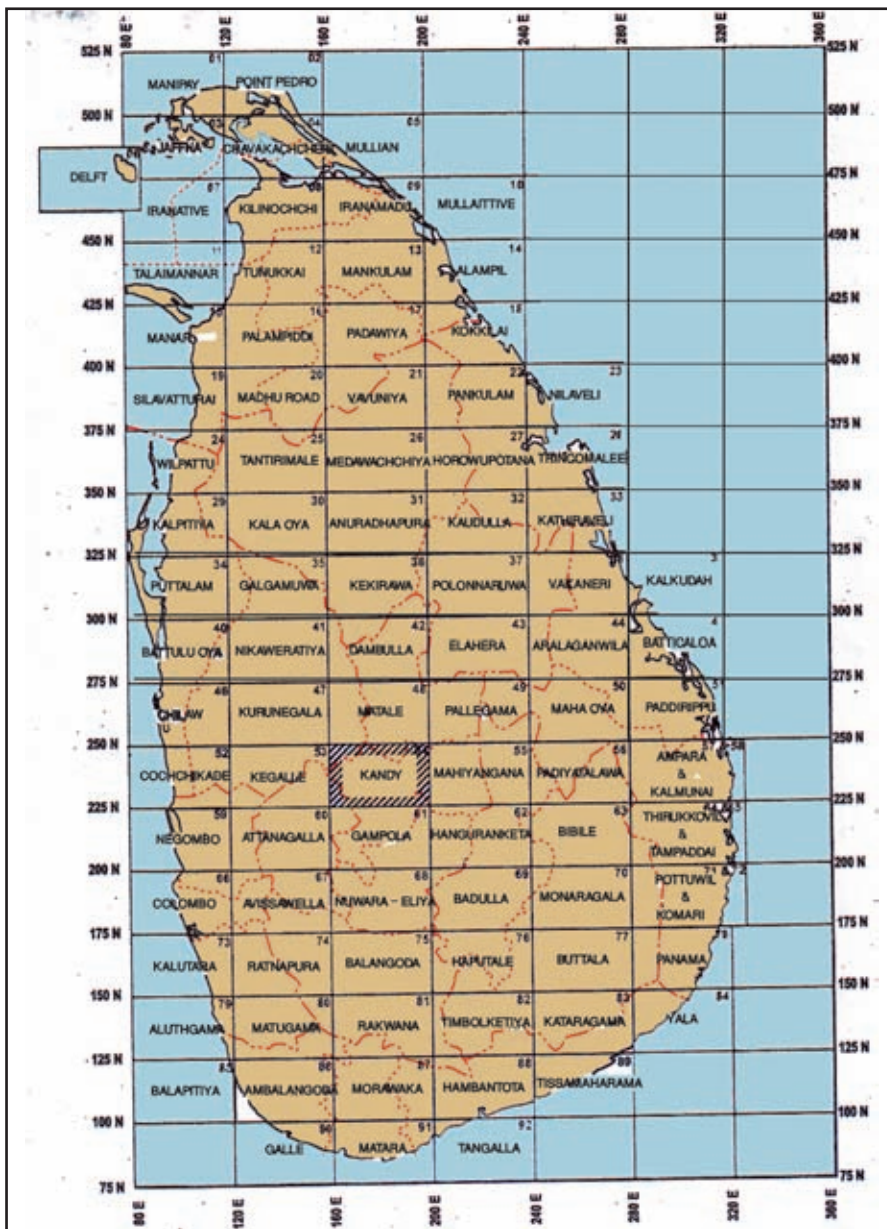
The length of Sri Lanka from Point Pedro in the North to Dondra Head in the South is 432 km. The width of Sri Lanka, from Colombo in the West to Sangamankanda Point in the East is 224 km (Map 4.1). If the whole map of Sri Lanka is drawn to 1: 50 000 scale, the size of it will be 864 cm - that is (432×2) in length and 448 cm (224×2) in width. Accordingly, the map will be 8.64 m in length and 4.48m in width. Drawing and using such a map is practically difficult. Hence, for the easy and efficient use, topographic map of Sri Lanka, has been divided into 92 parts. Each part is known as a map sheet and each map sheet has been given a name and a sheet number.



Map 4.1 - The length and the width of Sri Lanka

ex :-

Name of the map sheet	- Kandy
Number of the map sheet	- 54



Map 4.2 - The map of Sri Lanka after dividing in into 92 map sheets

Activities

01. Name map sheets No 01 and No 92.
02. Study the map 4.2 and write the name and the sheet number of the map sheet where your school is located.
03. Name with the sheet numbers, the adjoining maps of it.
04. Name five map sheets with sheet numbers, where a larger area is covered by the ocean.

A segment from number 91 Mathara sheet of the 1: 50000 topographic map is depicted below. It includes Waligama bay and the adjoining areas. To study the information represented on the map use the key given in Fig. 4.1. Every topographical map contains such a key.



Map 4.3 - Physical and cultural features - A Part of Matara Map

Source - Sri Lanka Survey Department

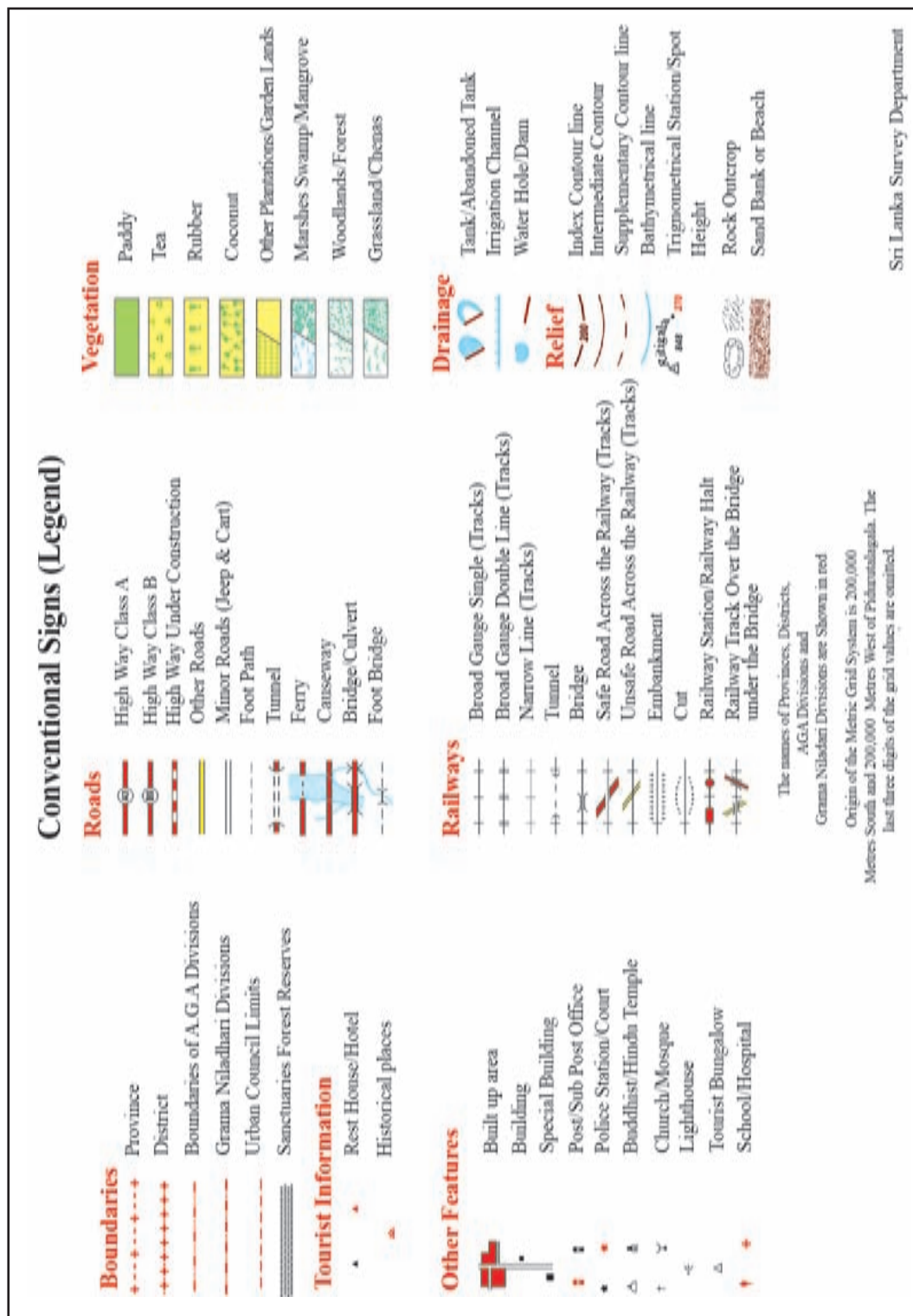


Fig. 4.1 - Key

Activities

1. What is the length and the width of the map 4.3 in centimetres?
2. Calculate the length and the width in kilometres using 1:50 000 scale.

Physical Features

The land is not the same everywhere. Features like mountain ranges, highlands, plains, slopes, valleys and gaps can be seen on the land. This is termed 'relief'. Contour lines are used to show such topographic features.

Contour lines

- The lines that have been drawn on maps joining the places with equal height on land, are called contour lines.
- Every contour line has a specific value .
- The interval between two Contour lines is equal.
- Contour line interval in 1: 50 000 topographic maps of Sri Lanka is 20 metres.

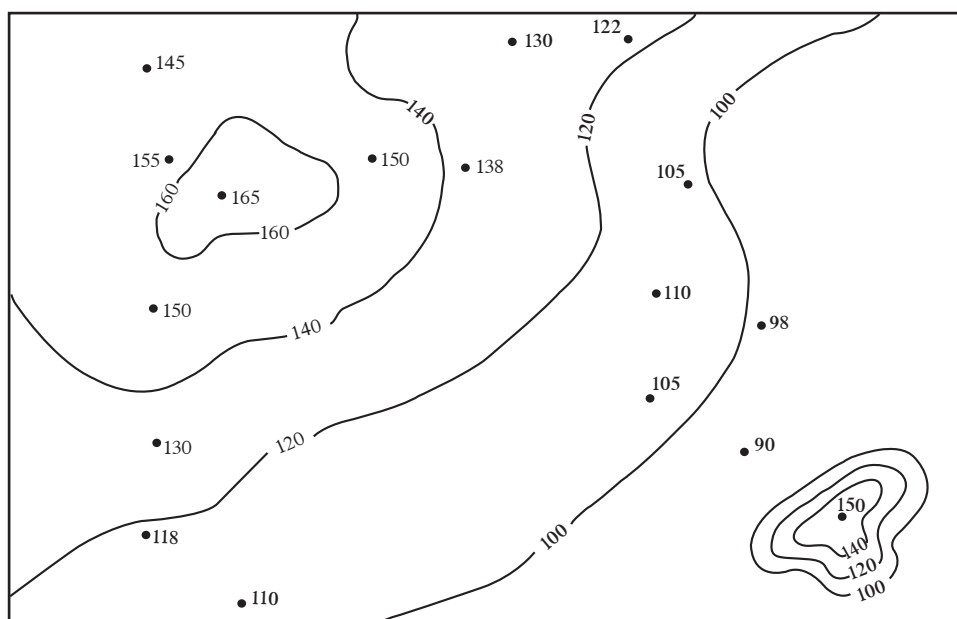


Fig. 4.2 - Showing relief using contour lines

Topographic features are represented in maps using contour lines. Here, several topographic features have been selected for the purpose of study.

- Mountain range
- Conical hill
- Spur
- Valley
- Gap

Mountain range

High land that spreads in narrow elongated shape is called a mountain range. There may be several peaks on such a mountain range.

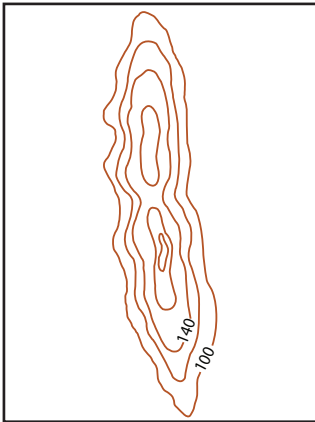


Fig. 4.3 - Mountain range shown by counter lines



Fig. 4.4 - Mountain range

Conical hill

A small high land that takes the shape of a cone in a flat land is called a conical hill. Conical hill is represented on a map by the contour lines that spread in a circular shape.

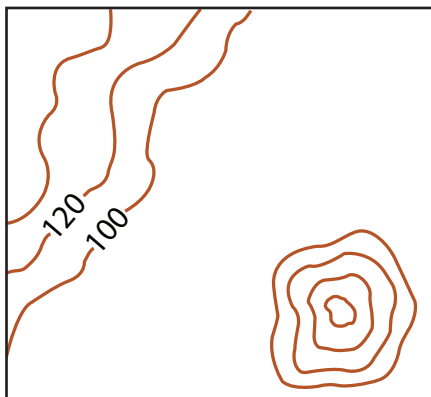


Fig. 4.5 - Conical hill



Fig. 4.6 - A conical hill

Spur

A part of a highland which protrudes towards a low land is known as a spur. Spur is represented in a map by the contour lines that run in narrow elongated shape from the high land towards low land.

Valley

Low land located between two high lands is a valley. Rivers flow through some valleys. They are called river valleys. When the contour lines extend pointing towards the highland in the map the valley can be identified.

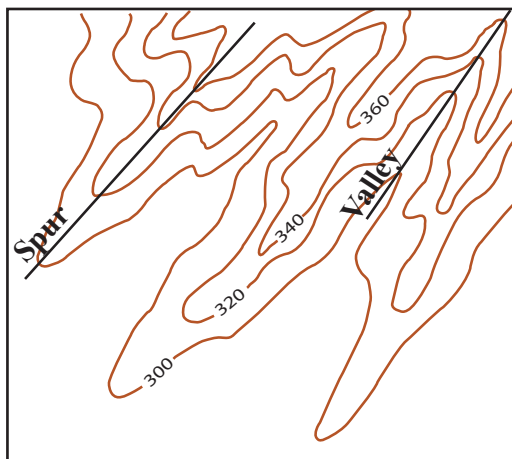


Fig. 4.7 - Spur and Valley



Fig. 4.8 - Picture of a Spur



Fig. 4.9 - Picture of a Valley

Gap

The low level opening located in highland or among the peaks of a mountain is known as a gap.

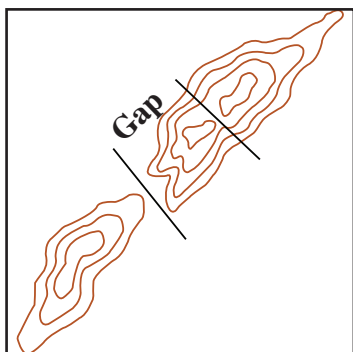


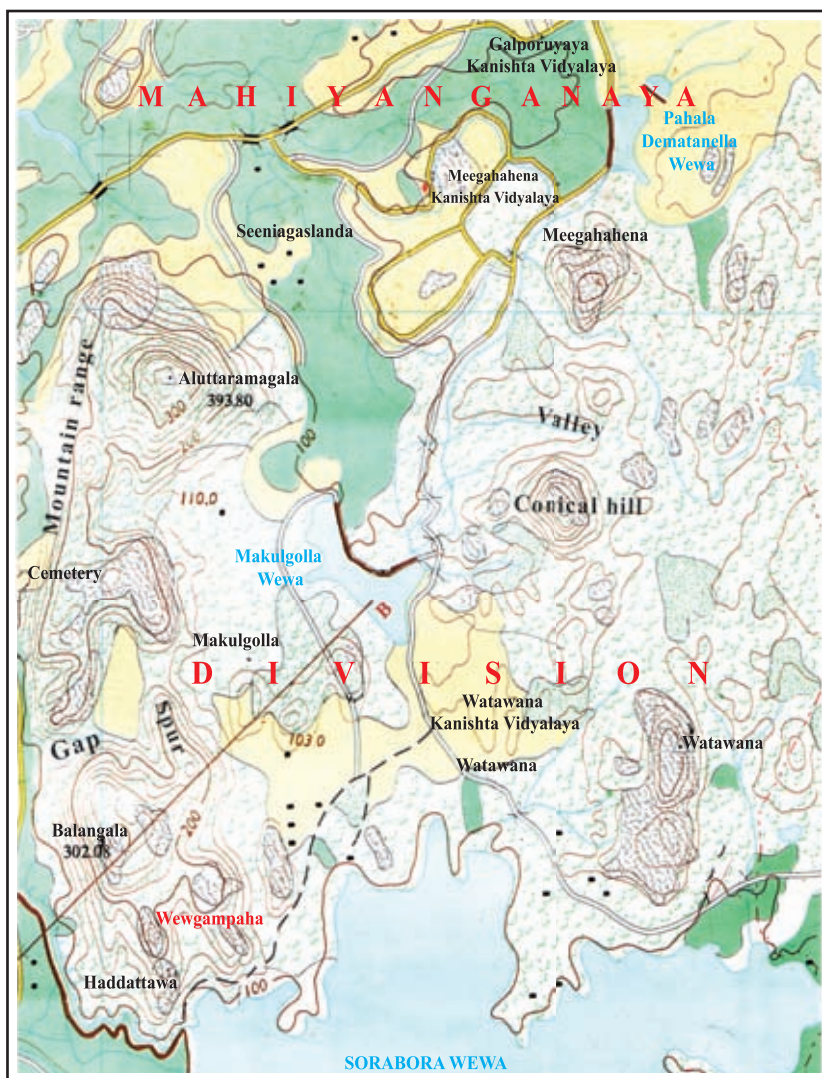
Fig. 4.10 - Gap shown by contour line



Fig. 4.11 - Picture of a gap

Activity

Following teacher's instructions draw the topographic features you have identified by contour lines as separate figures.



Map 4.4 - Physical features represented in a topographic map

Map segment 4.4 shows how the topographic features you have studied are represented on a 1 : 50 000 map. Study the segment of the map and identify them.

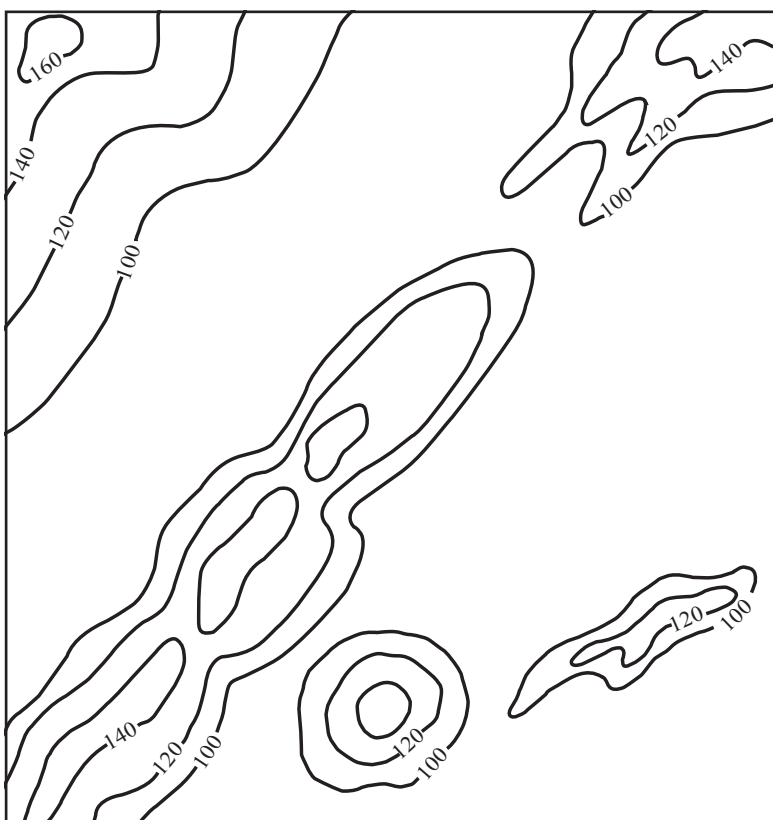


Fig. 4.12 - Showing relief by contour lines

The topographical features can be seen in Sri Lanka have been shown in two dimensions using contour lines in 1:50 000 topographic maps. By building them three dimensionally, these features could be understood easily.

Activities

1. With the help of the teacher, build figure 4.11 three dimensionally using card boards or some other suitable material.
2. The three dimensional figure can be built setting the card board layers from contour line to contour line as the height of the land rises.

Cultural Features

The cultural landscape has been built by man on the physical foundations. Hence there is a close relationship between cultural feature shown and physical features shown in a 1:50 000 map. Here, your attention is focused on several selected cultural features.

• Administrative Boundaries (Provincial, District)	• Main Roads
• Express ways	• Railway Lines
• Irrigation Channel	• Tanks

These cultural features have been shown in the maps by various symbols and colours. These cultural features can be found by observing the key of the topographic map.

Administrative Boundaries

Among the administrative boundaries in Sri Lanka, Provincial and District boundaries are very important. These boundaries have been marked using red symbol on maps.

Provincial Boundary	---+---+---+---+
District Boundary	++ ++ ++ ++ ++ ++

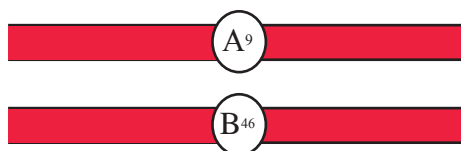
When these boundaries are delimited, on most occasions the distribution of rivers and mountain ranges has been considered.



Map. 4.5. - Administrative boundaries in a topographic map

Main Roads

Main roads are marked by red colour line margined by thin black colour lines on either side of it. They are represented in topographic maps by, 'A' type roads marked with letter 'A' and the road number and 'B' type roads with letter 'B' and the road number.

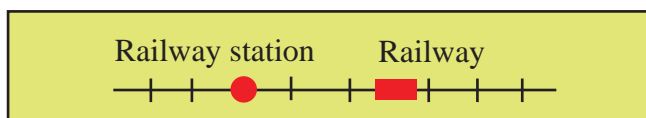


Express ways

Express ways were added to the road system of Sri Lanka recently. They will be added to the new 1:50 000 topographic maps of new editions.

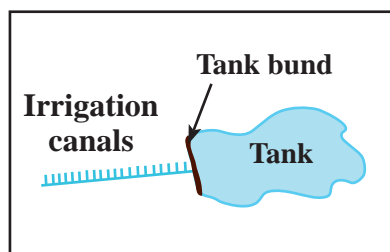
Railway Lines

In topographic maps railway lines are marked in black colour. Railway station and railway halt on railway line are shown by red colour symbols.



Tanks and Irrigation Canales

Tanks have been built to collect water on land. Water from the tanks is supplied to the farmlands through irrigation canals. The tank bund is marked in brown and area of water is shown in blue in topographic maps. Irrigation canal is marked with a blue colour symbol.



Exercise 01

1. Draw the cultural features you have learnt using relevant colours and symbols.

Provincial boundary

Main road

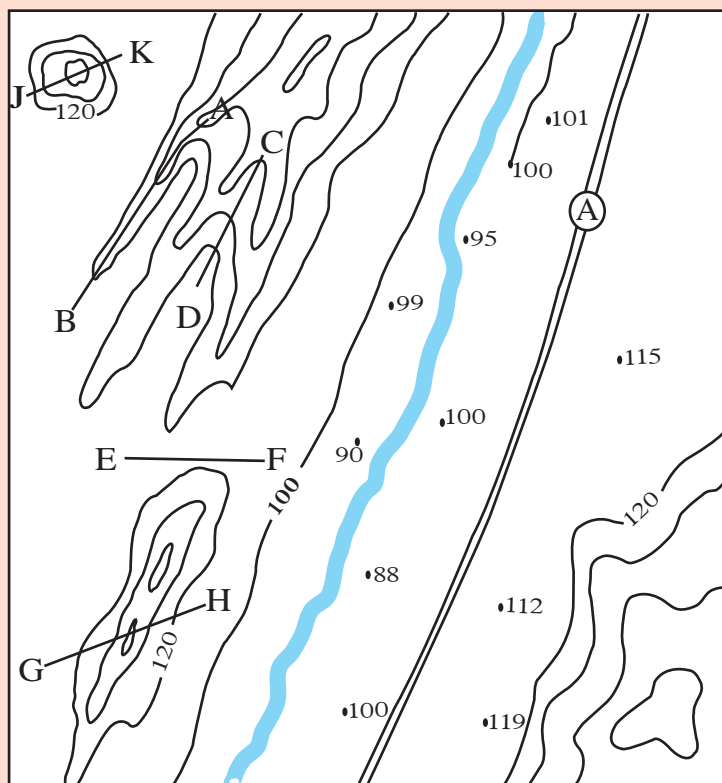
Railway line

Tank

Irrigation canal

District boundary

Exercise 02



1. Trace the contour line map shown above.
2. 100m contour line is drawn half, complete it.
3. Mark the values of other contour lines following the 20m contour line interval.
4. Shade the lands above 160m with in brown.
5. Name the topographic feature shown by C-D, E-F, G-H, J-K
6. Draw the road marked on the map using the correct colour.
7. Mark the provincial boundary along the river.

Source

- Sri Lanka Survey Department

Glossary

• Topography	භූ ලක්ෂණ	இடவிளக்கவியல்
• Relief/Physical features	භෞතික ලක්ෂණ	பௌதிக அம்சங்கள்
• Cultural features	සංස්කෘතික ලක්ෂණ	பண்பாட்டு அம்சங்கள்
• Scale	පරිමාණය	அளவுத்திட்டம்
• Contour lines	සමෝච්ච රේඛා	சமவயரக்கோடுகள்
• Mountain range	කඳු වැටිය	மலைத்தொடர்
• Conical hills	කොන්කන්ද	கூம்புக்குன்று
• flat land/Plain	තැනිතලා බිම	தட்டைநிலம்/ சமவெளி
• Spur	නෙරුව	சுவடு
• Valley	නිම්නය	பள்ளத்தாக்கு
• Gap	කපොල්ල	கணவாய்
• Land forms	භූ රූප	நில அமைப்பு
• Two dimensional	ද්විමාන	இருபரிமாணம்
• Three dimensional	ත්‍රිමාන	முப்பரிமாணம்
• Road system	මාර්ග පද්ධතිය	வீதிமுறைமை
• Symbols	සංකේත	குறியீடுகள்



