Construction of Graphical Scale

Ram S. Kolapkar,
Assistant Professor
Nowrosjee Wadia College, Pune,
Maharashtra,
India
Graphical scale is essential for representation of map while reduction or enlargement of map has been done.

Graphical scale is also called as linear scale as it is represented by a line.

This line can be divided into certain parts to show ground units.

Each part of the line is representing length between two points on the map and unit shows ground distance between those points.

These parts of line are called Primary divisions.

Graphical scale always shows ground unit only.

Graphical scale has reference of verbal scale in any system.
You can represent the graphical scale in any of the below mentioned formats.

- A single Bar
- A single Line
- Divided Line
- Divided Bar
- An alternate divided bar
- An alternate and shaded bar
Rules to construct Graphical Scale:

1. To draw a graphical scale you must need a verbal scale. If you have RF then first convert this into VS. and then proceed further.

2. In metric system the length of graphical scale is about 8 cm to 12 cm. And in British system it is 4 inches to 8 inches.

3. First we have to do primary divisions according to scale.

4. Zero should be written on second place because at left side we have to show secondary units.

5. Always write ground distance on line to represent the ground length according to scale.
Example: Construct a simple graphical scale for following verbal scale.

\[ 1 \text{ cm} = 10 \text{ km} \]

If the length of graphical scale is 10 cm then,

\[ 10 \text{ cm} = 10 \times 10 \text{ km} \]

\[ \therefore 10 \text{ cm} = 100 \text{ km} \] (10 cm of graphical scale will represent 100 km on the ground)

Now next step, if we divide the line of 10 cm in 5 equal parts, each part will be of 2 cm and represents 20 km on the ground.

\[ 10 / 5 \text{ cm} = 100 / 5 \text{ km} \]

\[ \therefore 2 \text{ cm} = 20 \text{ km} \]
- Draw a line with the length of 10cm. Divide this line into 5 equal parts of 2 cm each.
- Each part of 2 cm will represent 20 km on the ground.
- Start 0 zero from second place and write ground unit (km) in front of it.
- At the last 80 km number will be there. These are primary divisions.
- At the left side Secondary divisions will be there, which are represented in meters here.
- 10 km = 10000m, therefore at the secondary division 10000m and 20000m number will be there.
- Now, from the line take distance of 3mm above and 3mm below at both ends. Join the ends and make boxes.
- Shade the alternate boxes as shown in diagram.