

Chapter 4 – Navigation

PO.4 – Navigation

EO.1 – Explain the Basic Principles of Map Reading

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During Recruit Training you learned the meaning behind the colors and symbols on topographical maps. This chapter will discuss map scales, different types of maps, and how to care for your map in preparation for learning to use maps in the next section of this guidebook.

Map Scales

As you learned in the Recruit Guidebook, map scales and scale bars will be included in the marginal information of all maps. Map scales let you know how many units on a map match distances on land. Scale bars will help you to measure this distance accurately. The most common map scales used are 1:50,000 or 1:250,000-scale topographical maps. Both of these have been produced for most areas of the United States by the federal government.

To use the map scale, you need to know what both numbers on the scale mean. The smaller number represents the distance on the map while the larger number represents distance on land. For example, a map scale of 1:50,000 means one centimeter (cm) on the map equals 50,000 centimeters (cm) on the ground. Since we don't usually measure travel distances in centimeters, we convert this distance into meters (m) or kilometers (km) to make navigating easier. 50,000 centimeters from this map scale equals 500 meters, so when you're using a map scale of 1:50,000, one centimeter between two points means you'll need to travel 500 meters.

Maps with a 1:50,000-scale are the most common maps you will use for land navigation with the Young Marines. Maps that use a 1:250,000-scale cover an area sixteen times larger than maps using a 1:50,000-scale which is more difficult to use with accuracy at this level.

Types of Maps

You will mostly use topographical maps in your land navigation expeditions, but there are many different types of maps that may be useful depending on the circumstances.

- Political maps show countries, providences, states, or other political borders. The most common political maps are globes and atlases. They are also found in your textbooks.
- Street and road maps are also used for navigation but are more likely to assist drivers than those participating in land navigation.
- Statistical maps show statistical information like production levels of crops or minerals throughout a country.
- Relief maps are raised topographical maps. They are built to show a three-dimensional view of the mapped area.
- Orienteering maps are used for the sport of orienteering. They utilize similar features to topographical maps such as the colors and contour lines, but they also include additional features to assist with the sport of orienteering such as labeling the different types of vegetation, forbidden routes, and first aid posts.

Note: See **Appendix A** for Types of Maps

Map Care

It is important to take special care of your maps, especially those you use often or those you are using in the field. Most maps are made of paper and are easily damaged. To ensure a long life for your map, take the following precautions:

- Place your map in a clear, plastic cover or bag or permanently laminate it.
- If it gets wet, be sure to dry it completely on a clean, flat surface before storing it.
- Avoid opening your map fully in a strong wind to prevent tearing.
- Use only pencil to mark your map and erase all markings gently when finished. If your map is protected by plastic, use grease pencils or erasable markers. Be sure your pencil is sharp, or your pen has a fine tip to keep your markings to scale within the map.
- Store maps in a dry place rolled, folded, or laid flat.

If you choose to store or travel with your map folded, follow these steps to fold it properly:

- Lay the map face up and fold it in half by bringing the top of the map sheet down to the bottom of the map sheet.
- Fold the top half of the map sheet down in half again, then turn the map over and fold the bottom half to match the top half.
- Fold the ends of the map in half from left to right.
- Fold each of the open ends back in half again so the map name and index appear on the outside.

