

Guide to Mapmaking



Maps are drawings or pictures of places that use point, line, and area symbols, as well as color, to show how selected human and physical features are located and relate to one another. No single map can show everything, so the features shown on each map are chosen for a special reason. It is impossible to show the spherical Earth on a flat surface without changing its shape (try peeling an orange and flattening it out!), so cartographers, or mapmakers, use different *projections* to show certain important parts of the map, even if it means that other parts are not correct.



Map: A drawn picture of a place, usually drawn to *scale* on a flat surface.

Cartographer: A person who makes maps.

Map projection: The process of taking information from a three-dimensional (globe) surface and putting it into a two-dimensional (flat) surface. Learn more about map projections by visiting the National Geographic feature "Round Earth, Flat Maps" (<http://www.nationalgeographic.com/2000/projections>).

Key Map Elements

A good map should tell you what it is about (title), which direction north is (orientation), when the map was made or updated (date), who made the map (author), what the symbols mean (legend or key), how distances on the map relate to distances on the ground (scale), where to find selected places on the map (index), how to find places on the map (grid), and where the map's information comes from (sources or credits).

However, not every map will identify all of this information. The more information provided, the better you will be able to evaluate it.

The acronym **DOGSTAILS** makes it easy to remember the important parts of a map:

- | | |
|--------------------|------------------------------------|
| Date | D When the map was made |
| Orientation | O Directions (north arrow) |
| Grid | G Locates places on the map |
| Scale | S What the map distance is |
| Title | T What, where, and when |
| Author | A Who made the map |
| Index | I Map address of places |
| Legend | L What the symbols mean |
| Sources | S Basis for map information |

Title: This explains what the map shows.



Orientation: In most cases, "north" is at the top of a map. A **north arrow** is a symbol showing the direction in which north lies; a **compass rose** shows all four directions (N, S, E, W).



Date: This shows when the map was made.

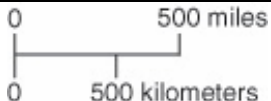
Author: Text identifying the cartographer or organization responsible for making the map.

Legend or Key: A guide showing what the map's symbols and colors mean.



Scale: This shows distance on the map. An inch on a map may show a mile, 100 miles or 1,000 miles. You should look at the scale key to see how much it equals.

Types of Scale

Verbal	words	one inch equals one mile
Number	ratio or fraction	1:63,360
Graphic	divided line (like a ruler), usually showing miles or kilometers	

Index: Just like an index in a book, a map index tells you where to find certain places on a map.



Grid: Most maps have "grids" over them. This helps you to pinpoint different sections on the map. Grids can just be crossing lines, or they can be lines of longitude and latitude.

Sources: This tells where the information on the map came from.