### CANADIAN GEOGRAPHY 1202 Maps

- > One tool of the geographer is the map
- Maps have been used for centuries for such purposes as:
  - exploring
  - finding directions
  - fighting wars
  - describing the shape of the world
- Maps help you visualize the shape of the country and locate features within it
- A <u>map</u> is a representation of the earth's features drawn on a flat surface
- Maps use symbols and colours to represent the features of an area. They also simplify the real world.
- Map Requirements:
  - ✓ title describes the area shown on the map and, if it is not obvious, the topic(s) of the map
  - legend explains the meaning of the symbols and colours used on the map
  - ✓ scale compares the distance between points on the map with the actual distance between the points on the earth's surface. It allows the reader to measure distance and to calculate area.

# **SCALE REPRESENTAION**

- Scale can be represented in three different forms:
- 1. Verbal
- 2. Linear
- 3. Representative fraction
  - 1. <u>Verbal scale</u>: gives the relationship between a distance on the map and a specific distance on the earth's surface.

## Ex: 1cm to 20km

- 2. <u>Linear scale</u>: a line divided into units that represent the actual units on the ground
- ✓ direction north, south, east and west are indicated to allow readers to orient themselves

Direction is recorded in two ways:

- 1. By a direction arrow or symbol
- 2. By the use of latitude and longitude, which show the location on the globe of an area represented by the map
- $\checkmark$  borders set the map apart from other information

## Large-scale and Small-scale map

- <u>Large-scale maps</u> show a large amount of detail of a small area. Maps with scales of 1:50 000 and 1:25 000 or less are large scale maps.
  Used for such things as residential planning, hiking, and military purposes.
- Small-scale maps show a small amount of detail of a large area. Maps with small-scales of 1:250 000 and 1:500 000 or more are small-scale maps. Used for such political, physical, and economic information.
- A large wall map is better suited to show the country of Canada while a small pocket map is better suited for hiking

# TYPES OF MAPS

- There are many types of maps used by geographers and cartographers such as political maps, weather maps, navigational maps, etc.
- Three maps that we will look at are:
  - general-purpose maps
  - thematic maps

- topographic maps
- ✓ <u>General-purpose maps</u> provide many types of information on one map.
  Examples are road maps and atlas maps. Some things shown might be:
  - Water bodies
  - roads
  - railway lines
  - $\cdot$  parks
  - elevations
  - towns and cities

These maps give a broad understanding of the location and features of an area

- ✓ <u>Thematic maps</u> are designed to show information about one particular topic. There is nothing extra on the map to hide or distort this information.
- ✓ <u>Topographic maps</u> allow you to examine the characteristics of a small area of the earth's surface in detail.

They show:

- physical features such as marshes, rivers, lakes, and wooded areas
- human features such as political boundaries, highways, railways, bridges and schools
- direction and location which are conveyed in two ways:

i) latitude and longitude: <u>Parallels</u> of latitude run east - west on a map. <u>Meridians</u> of longitude run north - south on a map.

ii) map grid: a series of blue vertical and horizontal lines is drawn on topographic maps to form a grid, which is used to locate features.

- Elevation: the height of the land above sea-level. It is shown four ways on a topographic map. <u>Contour lines</u> are the most important:
- 1. <u>Contour lines</u>: Imaginary brown lines that join places of the same elevation
- 2. <u>Horizontal control points</u>: locations whose elevation and position have been

accurately measured and plotted by surveyors; often a brass marker in a concrete pillar or in a sidewalk.

3.<u>Bench marks</u>: locations marked only on a map, giving the exact elevations of human-made features

4. <u>Spot heights</u>: locations marked only on a map; usually located on hilltops or roads.

# LOCATING PLACES ON A MAP

## Grid on Road Maps

On most road maps, grid squares are identified by a number along one side of the map and a letter along another side.

Latitude and Longitude

- Parallels or lines of latitude are imaginary lines, which run horizontal on a globe. Latitude is measured north and south from the equator. 0 is the equator;
- Latitude and longitude are measured as angles, with the centre of each angle at the centre of the globe.
- Meridians or lines of longitude are imaginary lines, which run vertical on the globe. Longitude is measured east and west of the prime meridian. 0 is the prime meridian.
- Using latitude and longitude, you can determine the location of any place in the world