

## Unit 1: Mapping Skills

### Geography:

Geography is the study of the Earth, people who thrive on it, and places. Being one of the oldest sciences, ancient civilizations used geography to explore new lands, delight curiosity, observe, and understand why places were different.

### TWO MAJOR STUDIES OF GEOGRAPHY

- Human Geography, which includes: movement of people, urban vs. rural, land-use patterns, location of industries, cultural diversity, natural resources, work in fields such as urban planning, transportation, real estate, and tourism
- Physical Geography, which includes: landforms/physical regions, movement of the Earth, climate, natural vegetations, natural disasters, rock formation, forecast, forecast the weather, manage water resources and land, GIS

### Five Components of a Map:

1. Title:
  - Every map must have a title
  - Title should be located at the top of the map in a central position
  - Title must be underlined or boxed in
  - Title should refer to the information on the map
2. Border:
  - Keeps all the information about the map inside and easy to read
  - Must be around the entire map
  - Must be of equal proportions
  - The title, legend, and labelling must be within the border
3. Legend:
  - A legend is a listing of the various symbols and colours used on a map
  - Usually located at the right hand corner of a map
  - Place a border around the legend info
  - All legends must have an underlined title
4. Scales:
  - Scale is the distance on a map representing a certain distance in the real world
  - There are 3 different types that can be used
  - Example: 1cm:1km
5. Direction (Compass Rose):

- It is very important to inform the reader of the map which direction is north
- Should be at the top of the map
- This can be done using a compass

**Scales:**

A scale shows the relationship between the distance on a map and the actual distance on the Earth's surface.

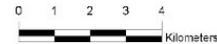
There are three different types of scales:

**1. Direct Statement Scale:**

- Uses words to describe the relationship between a distance on a map and a specific distance on the Earth's surface, for example: (1cm:1cm)

**2. Linear Scale:**

- A ruler that is divided into units of distance, for example:

**3. Representative Fraction:**

- Usually shown as a ratio.
- First term is always "1:", which represents the distance on the map
- Second term represents the actual distance on the Earth's surface
- Represent the same unit of measurement on both terms of the ratio
- For example: 1:10,000

**Timezones:**

There are six (6) timezones in Canada.

In the world, there are twenty-four (24) timezones.

**Canada's Location:**

Canada is located in the Western Hemisphere.

**Great Lakes:**

Ontario touches four lakes: Lake Ontario, Lake Huron, Lake Erie, and Lake Superior.

### **Lines of Latitude and Longitude:**

#### Latitude:

- Imaginary lines that run east to west (left to right) around the globe
- Think FAT=LAT
- Run parallel to one another, meaning they never meet
- Maximum is 90°N (North Pole) or 90°S (South Pole)
- Main line of latitude is the equator (0°)
  - Two other important lines include Tropic of Cancer (23.5°N) and Tropic of Capricorn (23.5°S)
- Divides globe into northern or southern hemisphere

#### Longitude:

- Imaginary lines that run north to south (up and down) around the globe
- Think long
- Meet at the poles
- Nickname: Meridians.
- Max is 180°W or 180°E
- 0° is at the prime meridian - main line
- Divides the globe into the eastern and western hemisphere
- P.M runs through Greenwich, England -> used for timezones

Latitude always comes first.

### **International Dateline:**

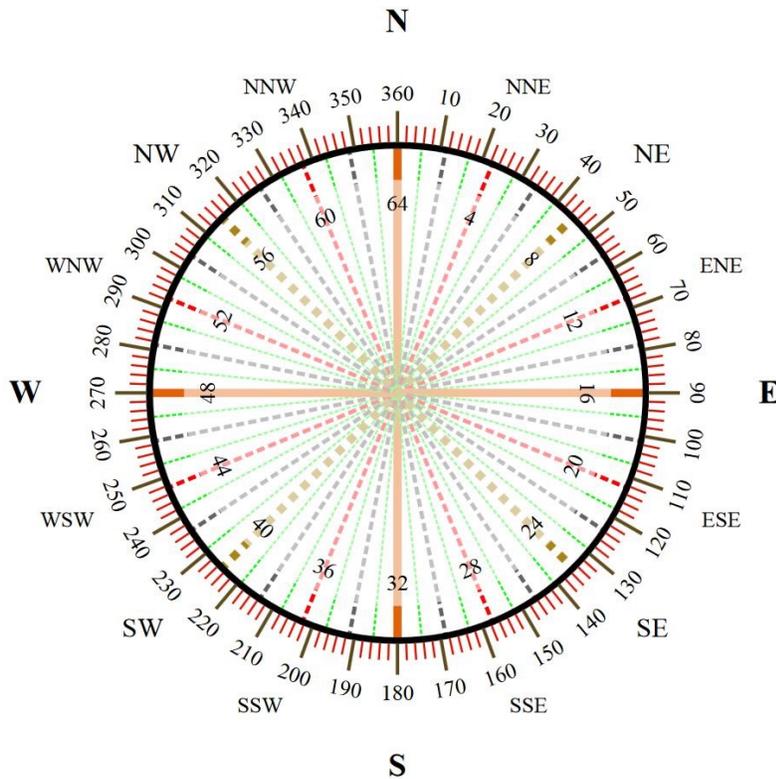
- Follows the 180° Longitude
- If you cross the date line moving eastward, you add a day. If you cross moving westward, you lose a day.

### **Rotation:**

When the earth spins on its axis, it's called rotation.

**Compass:**

A method of finding direction. It is found in the shape of a circle.



**Map of Canada:**

Provinces, follow by their capitals:

- |  |                                      |
|--|--------------------------------------|
| Alberta - Edmonton                     | Nova Scotia - Halifax                |
| British Columbia - Victoria            | Ontario - Toronto                    |
| Manitoba - Winnipeg                    | Prince Edward Island - Charlottetown |
| New Brunswick - Fredericton            | Quebec - Quebec City                 |
| Newfoundland and Labrador - St. John's | Saskatchewan - Regina                |

Territories, followed by their capitals:

- |                    |                                     |
|--------------------|-------------------------------------|
| Yukon - Whitehorse | Northwest Territories - Yellowknife |
| Nunavut - Iqaluit  |                                     |

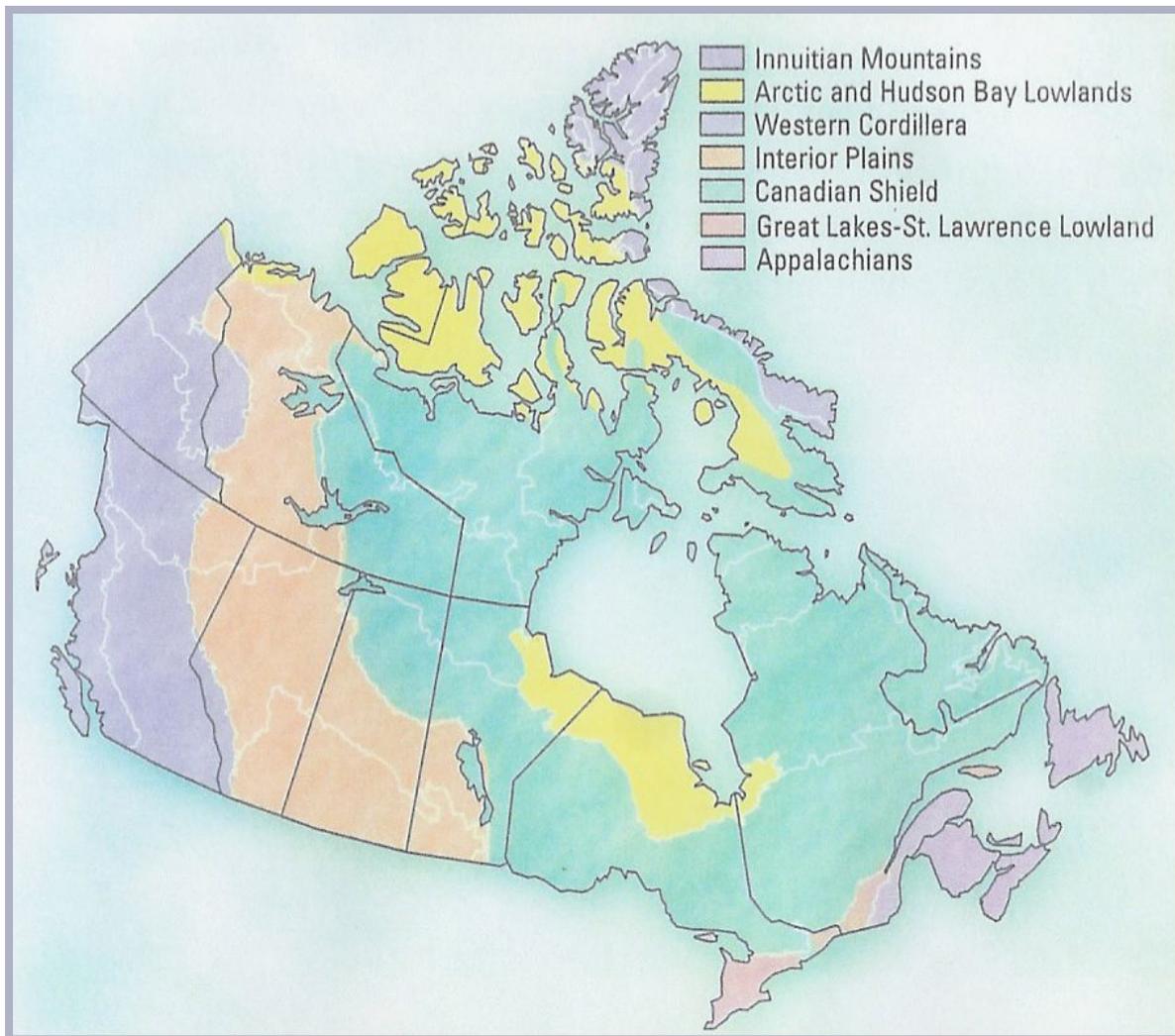
Canada's five great lakes are: Lake Ontario, Lake Huron, Lake Michigan, Lake Erie, and Lake Superior.

Canada's three oceans are: Atlantic, Pacific, and Arctic.

**^ KNOW THE LOCATION OF ALL THESE ON A MAP OF CANADA. ^**

### Unit 2: Physical Geography

#### Landform Regions:



**The Six Factors that Affect Climate:**

Latitude, ocean currents, winds and air masses, elevations, relief, near water.

These can be remembered by using the nemonic: **L O W E R Near Water.**

**Geological Areas:**

Earth is 4.55 billion years old. Earth's history has been divided into four time periods called eras — Cenozoic, Mesozoic, Paleozoic, and Precambrian.

Precambrian (Earliest Life):

- Major Geological Event:
  - Formation of Canadian Shield Mountains
- Major Biological Event:
  - 1st living multicellular organism

Paleozoic (Ancient Life):

- Major Geological Events:
  - The Appalachian Mountains formed
  - Parts of North America covered by seas
- Major Biological Event:
  - Organisms such as fish, insects, and amphibians evolved

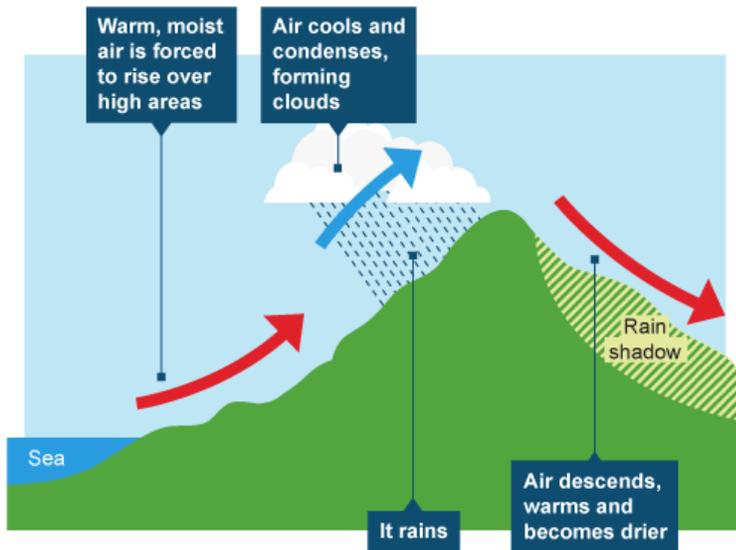
Mesozoic (Middle Life):

- Major Geological Events:
  - Formation of Rockies
  - Marks the beginning of the break up of Pangaea
- Major Biological Events:
  - Dinosaurs and other reptiles roamed about
  - First known flowering plants, birds, and mammals evolved

Cenozoic (Recent Life):

- Major Geological Events:
  - Ice age due to glaciers developed as a result of a slight cooling of the Earth's climate
  - Completion of Rocky Mountains
- Major Biological Events:
  - Shaping of continents
  - Humans and mammals develop

**Relief Precipitation Model:**



In Canada, relief precipitation commonly happens in British Columbia, and Alberta. Anywhere near mountains usually.

**Maritime and Continental Climates:**

Maritime — Influenced by closeness of an ocean or other large water bodies. Temperature range tends to be small and precipitation is high. For example: Halifax, Nova Scotia.

Continental — Develops away from the influence of the ocean. The annual temperature range tends to be large and precipitation is low. For example: Winnipeg, Manitoba.

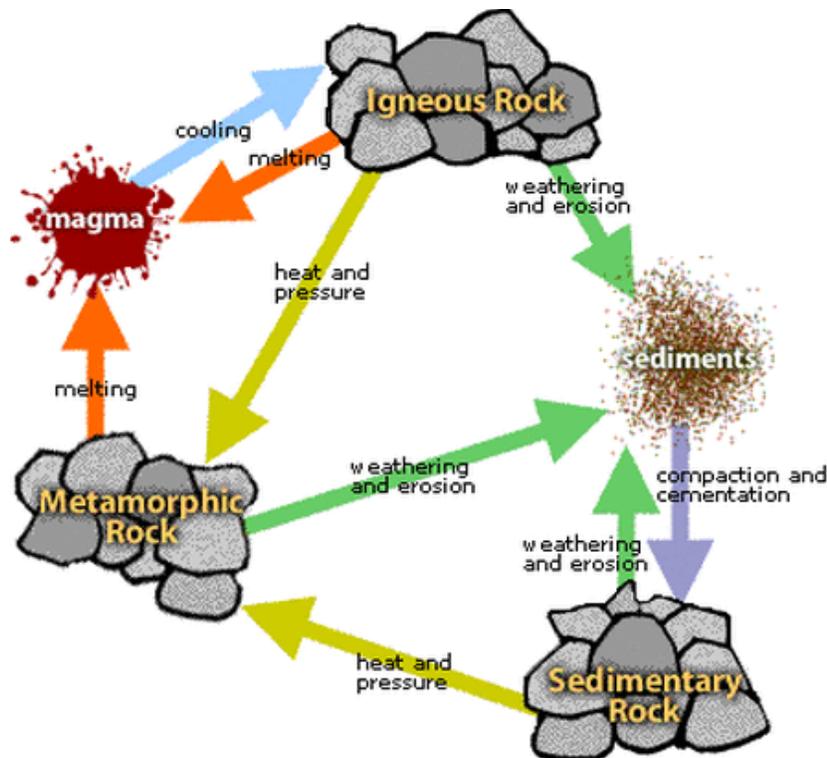
Maritime climate is much cooler than continental.

**Canada’s Rocks:**

Types of Rock:

1. Igneous Rock “Fire Rocks”
  - It is formed directly from cooling and solidification of molten rock (magma)
  - It is found in British Columbia, Manitoba, Yukon, Northern Quebec, Newfoundland
  - Types:
    - Intrusive (Plutonic) — Underground
    - Extrusive (Volcanic) — Surface

- Examples:
  - Extrusive — Lava, pumice
  - Intrusive — Granite
- 2. Sedimentary Rocks
  - It is formed from igneous rock that was eroded by wind, water, and ice
  - Tiny pieces of igneous was carried into the sea by running water
  - Mixed with sand/silt on ocean floor
  - Pressure from overlying sediments transforms the fragments into solid rock
  - It is found in Edmonton, Regina, Toronto, London
  - Examples:
    - Coal, Natural Gas, Oil
- 3. Metamorphic Rock
  - It is formed when heat and pressure increase with depth below the Earth's crust
  - Rock undergoes metamorphosis (to change properties, to transform, to become something else)
  - These rocks may contain deposits of metallic minerals
  - It is found in the Canadian Shield
  - Examples:
    - Gold, silver, copper

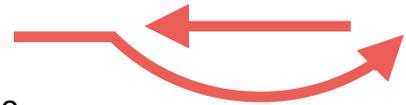


**Plate Tectonics:**

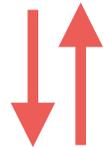
1. Divergent — These are zones where 2 plates move away from each-other, allowing magma from the mantle to rise up and solidify as a new crust.



2. Convergent — 1 plate is pulled beneath another (subduction), forming a deep trench. The long, narrow zone where the 2 plates meet is called a subduction zone.



3. Transform — At this plate, boundaries plates grind past each-other side by side. They are responsible for causing many of California's earthquakes.



All these contribute to continental drift:

- J. Tuzo Wilson, a Canadian helped develop the theory of Plate Tectonics
- This theory states that the Earth's outer shell is made up of about 20 plates consisting of Continent and Ocean
- Movement causes earthquakes, mountains, tsunamis, volcanoes

Pangaea — About 300 million years ago the plates were situated in a certain way so that all the continents came together. This land formed a supercontinent called Pangaea.

Continental Drift:

- In 1915, Alfred Wegner, a German scientist developed the theory of how Pangaea broke up and the continents drifted in different directions.
- His evidence for this was the following:
  1. He saw a jigsaw fit between South America and Africa
  2. He found fossils of the same plants and animals on different continents
  3. There are mountains with similar age and structure on both sides of the Atlantic Ocean
  4. Ice sheets covered South Africa, India, Australia, and South Africa (places that are warm today). His reasoning was that these places were closer to the South Pole.

**Natural Vegetation:**

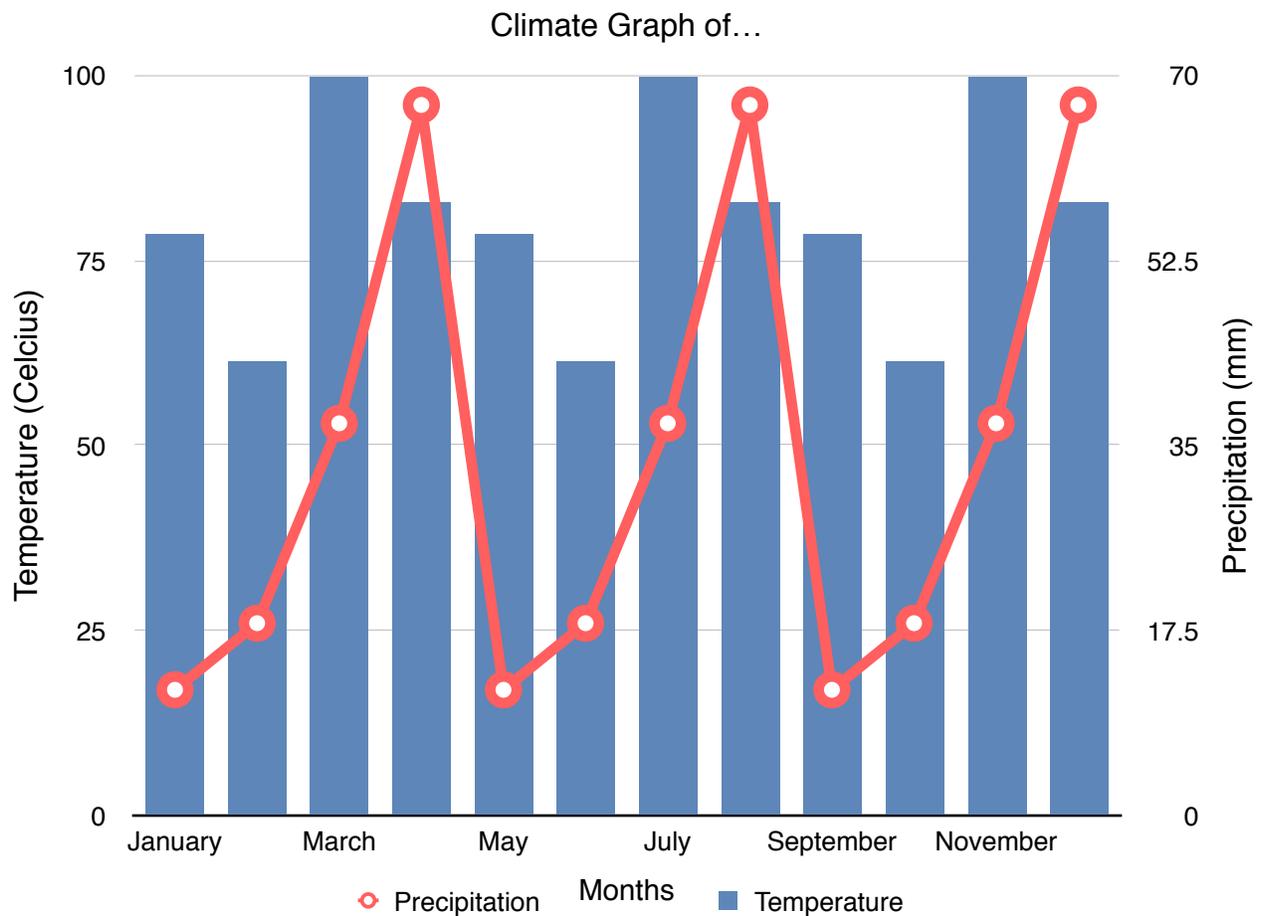
The part of plant life which grows in wild without without direct or indirect help of humans, and which easily adapts to the constraints of natural environment in size, structure, and requirements.

**Leaching and Calcification:**

Leaching — Removes minerals from soil by water as it moves downward through the soil.

Calcification — Water carries dissolved minerals upward through the soil.

**Climate Graph:**



**Climate Statistic Table:**

High Temperature (HT) — Month and temperature with the highest degree; for ex. July, 18°C

Low Temperature (LT) — Month and temperature with the lowest degree; for ex. January, -15°C

Temperature Range (TR) —  $HT - LT$  /or/  $HT - (LT)$

Average Temperature (AT) — The monthly average temperature for a year added together, then divided by 12.

Season of Heaviest Precipitation (SHP) — Season when precipitation is the highest. Add all the Winter mm, add all the Summer mm and select the season with the larger value. Winter = October to March, Summer = April to September

Climate Type (CT) — Continental or Maritime. Add Winter + Summer precipitation. If  $>1000\text{mm}$  = Maritime, If  $<1000\text{mm}$  = Continental

**Unit Three: Culture****Migration:**

Immigration — Movement of people into a region or country. For example: A man from Germany enters Canada.

Emigration: Movement of people out of a region or country. For example: A man leaves Germany.

Migration: Movement of people from one place to another.

Push Factors: These push people away and make them want to leave. For example: pollution, war, weather, dull social life, natural disasters, and famine.

Pull Factors: People move to a place because there are things that are attractive, these are called *Pull Factors*. For example: great weather, good housing, lively social life, promise of freedom.

Intervening Obstacles: Factors that discourage/or stop people from following their decision to leave. For example: fear of unknown, family left behind, high cost of travel, cost of immigration.

Some problems immigrants might have adjusting to their new country, include: cultural shock, stereotyping, language barriers, prejudice/discrimination, getting around the city, education, making friends, adjusting to new cuisine.

They are attracted to Canada for the following reasons: multiculturalism, religion, stores, entertainment.

Three Types of Immigrants:

1. Independent Immigrant
  - Awarded based on education, skills, and experience.
2. Family Immigrants
  - To allow families to reunite.
3. Refugees
  - Someone who fears persecution in his/her home country.
  - Must arise for reasons of race, religion, nationality, political opinion, or membership.

### **Canada's Point System:**

The system was designed to test future immigrants to see if they were "good enough" to live in Canada. We have it to keep us safe from criminals, and make sure most citizens of Canada can communicate with one-another. It is fairly effective, but not 100%.

### **Population Pyramids:**

1. Stable Pyramid: A population pyramid showing an unchanging pattern of births and deaths.
  - Steady birth rate with an equally large workforce
  - Babies are being born at the same rate as people are aging
  - Need good health care to accommodate births and deaths
  - Need steady employment for the large workforce

2. **Increasing Pyramid:** A population pyramid showing a broad base, indicating a high proportion of children, a rapid rate of population growth and a low proportion of lower people.
  - Elderly are dying off
  - Large population growth at the base
  - High birth and death rates
  - Majority of population is below 14 years old
  - Need to build more schools, recreation centres, health care buildings, day care buildings
  
3. **Decreasing Pyramid:** A population pyramid showing lower numbers of percentages of younger people.
  - Low birth rate and a large work force (15-44 years old)
  - The population is aging (high death rate), therefore decreasing with time
  - With fewer babies being born, the population is decreasing
  - Need for more nursing homes, retirement homes, hospitals/pharmaceuticals

### **Population Density and Population Distribution:**

Population Density — The number of people living per km<sup>2</sup> of an area.

Population Distribution — The arrangement or spread of people living in a given area.

### **Urban Growth:**

The rate of growth of an urban population.

### **Population Settlement Patterns:**

There are three main types of settlement patterns:

1. **Dispersed:** Spread out, agricultural areas, activity based.
2. **Concentrated:** Where people are focused on small areas, resources support people, people live close together.
3. **Linear:** Arranged along a line, groups located along transportation routes (highway), water, mountains, borders.

**Canada's Immigration History:**

In the past, Canada has experienced both periods of high immigration and periods of low immigration.

**Periods of High Immigration**

- 1905-1914 Europeans came to Canada because the Canadian government promised free land in the prairies.
- People come to Canada when times are good: jobs, solid opportunities

**Periods of Low Immigration**

- 1930-1945 World War 2
- People don't come to Canada when times are bad: war, lack of jobs

**Demography:**

All per 1000 people, except Doubling Time, and Population Density.

Birth Rate = (Number of Births Per Year / Total Population) x 1000

Death Rate = (Number of Deaths Per Year / Total Population) x 1000

Natural Increase Rate = (Birth Rate - Death Rate)

Immigration Rate = (Number of Immigrants Per Year / Total Population) x 1000

Emigration Rate = (Number of Emigrants Per Year / Total Population) x 1000

Net Migration Rate = (Immigration Rate - Emigration Rate)

Population Growth Rate = (Natural Increase Rate + Net Migration Rate)

Doubling Time = 70 / Population Growth Rate

Population Density = Total Population / Total Area (km)

**Rural Settlement Patterns:**

Factors that influence rural settlement: resources, transportation, government policy.

There are three rural settlement patterns:

**1. The Long Lot of Southern Quebec**

- Influences:
  - Resource: Agriculture
  - Transportation: St. Lawrence River = Boat
  - Government Policy: Each settler receives a piece of land along the waterfront.
- Long thin farms built along the river and stretched back long distances from the water.

**2. Concession System of Southern Ontario**

- Influences:
  - Resource: Rich Agriculture
  - Transportation: Roads → Later railway, each settlement access to a road.
  - Government Policy: Survey system already in place.
- Concession system: Land is divided equally by concessions roads – farms 40 to 80ha in size.

**3. Section System of the Southern Prairies**

- Influences:
  - Resource: Agriculture
  - Transportation: Roads, later railway
  - Government Policy: Didn't want the U.S. to have the land. Lots were too small; families needed large lots for a larger harvest.
- Land was divided into blocks (9.6km by 9.6km). Each block was divided into 36 sections – each section was divided into four quarter sections.

**Ontario's Population:**

Is commonly referred to as a salad, or cultural mosaic.

**Canada's Society:**

Is known to be a multicultural society.

### **Land Use Patterns:**

1. Residential (40%): Where people live, land used to build homes.
2. Transportation (32%): Land used to transport goods/people.
3. Institutional (10%): Land used to build schools, hospitals, office buildings, etc.
4. Open Space (7%): Land used for leisure, vacant unused land, public/private.
5. Industrial (6%): Land used for factories/wholesale. Where products are made large buildings close to highway, people work here.
6. Commercial (5%): Land used for buildings that sell services.

### **Country with the Largest Population:**

China, with 1.4 billion as of 2013.

## **Unit 4: Natural Resources**

### **Industries:**

1. Primary Industries: Extracting raw materials from the ground or water — mining, forestry, farming, fishing.
2. Secondary Industries: Manufacturing products by putting things together — auto assembly plants, factories, construction.
3. Tertiary Industries: Providing services to others, supports society — doctors, lawyers, teachers. **MOST CANADIANS WORK IN THIS INDUSTRY**
4. Quaternary Industries: Sub-sector of tertiary, requires scientific research.

### **Fish:**

In the east coast, the main type of fish caught is cod.

In the west coast, salmon is the main type of fish caught.

### **Canada's Oil Province:**

Alberta, with over 95%.

### **Ecological Footprint:**

Measure of land area, to suggest the ecological pressure created by residents of a country.

### **Basic and Non-Basic Activities:**

Basic Industries — Selling goods or services to people outside of the local community. This brings new money into the local economy.

Non-Basic Industries — Selling goods or services to people within the local community. This recycles existing money in the local economy.

### **Location Factors:**

#### Tertiary Industry Sector

- This is the largest sector in the Canadian economy.
- Over 70% of Canadian workers are employed in this service.

#### Availability of Raw Materials

- Manufacturers need a raw reliable source of raw materials.
- May be extremely important to locate near the raw materials.

#### Location of Markets

- Companies want to be located near their customers.
- Products can be delivered faster; delivery costs can be minimized.

#### Labour Supply

- A company must consider the availability/cost of labour.
- Manufacturers in Canada are likely to employ skilled workers.

#### Availability of Freshwater/Power

- A basic need of most kinds of manufactures is an abundant supply of fresh water and power.

#### Transportation

- Depending on the type of product being made, companies will rely on different sources of transportation.

#### Political Factors

- Governments can make decisions that will help to attract new business to a city, province, or country.

## **Unit 5: Global Connections**

### **Imports and Exports:**

Import — Bring (goods or services) into a country from abroad for sale.

Export — Send (goods or services) to another country for sale.

### **Protectionism:**

Government's policy of using tariffs and having rules that limits imports.

### **Major Canadian Imports and Exports:**

Canada's largest imports are vehicles.

Canada's largest exports is oil.

### **NAFTA and the UN:**

North American Free Trade (NAFTA) — Agreement which promotes free trade with the United States and other countries.

United Nations (UN) — An international organization formed in 1945 to increase political and economic cooperation among member countries.

### **Tariffs:**

Tax on an import.

### **Types of Countries:**

1. Developed
  - High income
  - Good housing
  - Lots of food
  - Can afford many luxuries (cars, electronics, etc.)
  - Excellent healthcare
  - Access to education

2. Newly Institutionalized

- Going through the process of being developed
- Economics are related to factories
- Improving healthcare
- Need to work on their incomes, services, and quality of life

3. Developing

- Lowest levels of economics and social growth
- Most people live in poverty
- Don't have enough food and freshwater
- Lack of good housing
- Don't have basic necessities of life

**Peacekeeping and Peacemaking:**

Peacekeeping — Where the parties in a conflict have agreed to work toward peace.

Peacemaking — Where there has been no peace agreement and military operations may be necessary to create peace.

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