Alfred Wegener discovered the Continental Drift Theory. He suggested that all the continents used to be a supercontinent called Pangaea, but he did not have enough proof to prove this. J. Tuzo Wilson proved this with his Plate Tectonics Theory, which explains the geologic processes by saying the Earth, is made up of 20 plates and the use of convection currents for the heat distribution inside the Earth.

Convection currents: uneven temperatures inside the Earth that force the plates to move
Erosion: forces that change the Earth’s landscape

Creating Canada’s Landforms
- land is made of tectonic forces
- land is worn away by erosion
- eroded sediments will become sedimentary rock
- igneous and sedimentary rock will change into metamorphic rock when exposed to heat and pressure

Chapter 12: Canada’s Landform Connections

1) Canadian Shield
- geologic foundation of Canada
- made mostly of igneous and metamorphic rock
- Canada’s metallic mineral storehouse
- drainage of Shield affected by glaciers, which has formed depressions in the bedrock that have made it impervious

2) Highlands
   - Appalachian Mountains:
     - oldest highland region in North America
     - deposits of non-metallic minerals
     - formed of plateaus, rolling mountains, and long bays
- Innuitian Mountains
  - very barren areas of land with bad climate with many minerals
- Western Cordillera
  - Extremely mountainous region with many fjords and river valleys

3) Lowlands

- Interior Plains
  - made up mostly of sedimentary rocks
  - covered by shallow inlands seas
- Great Lakes- St. Lawrence Lowlands
  - bedrock composed mostly of sedimentary rocks
  - has a rolling landscape with deep river valley
  - most Southern Canadian region is the most densely populated and has 70% of the manufacturing industry
- Hudson Bay-Artic Lowlands
  - flat, low, swampy forest area
  - bedrock composed mostly of sedimentary and unfertile land due to being frozen over most of the year

**Differential Erosion**: Process when softer sedimentary rocks erode quicker than harder ones, forming an escarpment

**Glaciation**: The state of being covered by glaciers or massive ice sheets

**Rift Valley**: A valley created when the portion of land between 2 faults drops down

**Plateau**: Elevated flat areas

**Fjords**: Long, narrow inlet of the sea with steep sides (created by glaciers)

**Escarpsment**: A sharp rise

**Arêtes**: the smooth sides of a mountain point

**Moraines**: U shaped hills created by the remnants of dirt and rocks left by ice
- Lateral moraines are to the side
- Medial moraines in the middle
- Terminal moraines are as far as the ice sheet has ever gone
- Recessional moraines show the pause and retreat in the glacier’s movement

**Drumlins**: Hills that are wide at one end and narrow at the other (ice moves around them)

**Misfit Streams**: streams that are oddly placed

**Striations**: scratches on a rock that can be parallel, straight, or multiple and tell scientist which way the ice is moving

**Finger Lakes**: melting ice trying to escape but cannot because it is blocked by a terminal moraine

**Erratic**: rejected rock from a glacier

**Eskers**: long snake like depressions created by glaciers

**Chapter 13: Canada’s Climate Connections**
Famine
- Low population and life expectancy
Receding Pandemics
- Mortality declines
- Life expectancy rises
- Population starts to grow
Degenerative and Man Made diseases
- Mortality continues to decline
- Life expectancy very high

Population Projections
Population Projection Formula: \( P = p \times (1+i)^n \)
P is new population, \( p \) is old population, \( i \) is growth rate of the region and \( n \) is the number of years in the future.

Geography: Chapter 17: Canada’s Aboriginal Population in the 21st Century

Aboriginals (First Nation’s people): Indians (Status and Non status), Inuit, and Metis
Status Indians: Indians who signed treaties with the Canadian government and got special rights to live on reserves
Non-status Indians: Indians who are not covered because they did not sign any treaties and cannot live on reserves
Treaty making dates back to 1665, and the French made the first treaties with the Aboriginals. At this time, the Aboriginals dominated North America, and were treated as equals. As more Europeans settled in Canada, they took over, and the treaties no longer treated the Indians as equals, and they lost a lot of land, culture, food, and jobs.

The British Royal Proclamation of 1763:
1) Land ownership rights of the First nations were to be respected
2) First Nations received fair reimbursement for the land they gave up.

Indian Act, 1876: A treaty that required Aboriginals to give up their land forever and move to reserves and receive cash and goods.

Problems Caused by Treaties:
1) Aboriginals lost the most fertile parts of their land
2) Reserves not big enough to accommodate all the First Nations
3) lost the right to self-govern
   - cannot carry out traditional hunting and fishing due to wildlife protection laws
   - loss of economic basis due to developments they have no control over
   - residential schools to assimilate Aboriginal children

Self-government will help the Aboriginals protect their culture, established a sound economic base and control their own destinies.

Comprehensive claims: non-status Indians can file comprehensive claims today to discuss fishing,
**TRADE.**

**Sport Fishing:** Sport fishing industry wanted to catch more salmon due to economic benefit.

**First Nations:** The First Nations have precedence over any other considerations other than conservation. Salmon is a big part of their ceremonies and livelihoods.

**Chapter 24: The Business of Farming**

**Growing degree days (GDD):** Determined by number of degrees the average temp exceeds 6 degree C on a given day. Knowledge of GDD helps farmer in deciding type of crop selection, best stage for applying fertilizer, herbicides and pesticides. In addition to GDD, farmers also consider growing season, frost free period.

**Moisture:** Evapotranspiration occurs more in warm areas than in cool areas, and needs more irrigation or precipitation for good plant growth.

**Soil:** A complex substance composed of minerals, water, air, bacteria and humus. HUMUS is decaying organic material such as leaves, twigs, and grass and pine cones. The amount of humus is determined by amount of moisture and plant growth.

**Biology:** Earthworms, bees beneficial while weeds and insect pests are destructive.

**Topography:** Best farming land: Level, well drained land. Less fertile: Mountain tops and hilly areas (loose top soil that is prone to erosion) and flat, sandy areas with high water table.

Land is a renewable resource (same like fisheries) – if properly used it can support new crop year after year. It also can be considered a non-renewable resource as only limited amount of good farm land is available and it cannot be produced.

Land suitability: Divided land in 7 classes. Only 13% land (class 1 to 6) is suitable for agriculture.

**Changing farm:** In 1880, Canada had a mainly agriculture based economy. Now, due to increased mechanization, limited number of people can manage large farms.

**Intensive farming:** Densely populated areas such as Saskatchewan, Ontario and Quebec. Small farm lands, invest in machinery and labor, and produce fruits, vegetables, poultry, dairy products and hogs>Perishable items, that need to be moved to market quickly.

**Extensive farming:** Low population densities, with plentiful inexpensive land are highly mechanized and require less labor. They are found in the Prairie Provinces and involve cattle farming, ranching, grain and oilseed.

Issues facing Canadian farmers today:
1) Loss of farmland (cities growing outwards)
2) Decline of family farm and growth of agribusiness
3) Sustainable agriculture (farming that can be carried on indefinitely without harming the soil or the environment)
4) Organic farming (production of crops and animals without the use of chemical fertilizers and pesticides, radiation and GMO)