

Physical Geography

Plate Tectonics

- **Divergent:** Plates move apart (e.g., Mid-Atlantic Ridge).
- **Convergent:** Plates collide (e.g., Himalayas, trenches).
- **Transform:** Plates slide past each other (e.g., San Andreas Fault).

Rock Cycle

- **Igneous:** Formed from cooling magma/lava (Basalt, Granite).
- **Sedimentary:** Accumulation of mineral/organic particles (Sandstone, Limestone).
- **Metamorphic:** Altered by heat and pressure (Marble, Slate).

Climatology

Atmospheric Layers

1. **Troposphere:** Weather occurs, temp decreases with height.
2. **Stratosphere:** Ozone layer, temp increases.
3. **Mesosphere:** Coldest layer, meteors burn up.
4. **Thermosphere:** Auroras, high temperatures.

Coriolis Effect

Deflects winds to the **right** in the Northern Hemisphere and to the **left** in the Southern Hemisphere due to Earth's rotation.

Human Geography

Demographic Transition Model

- **Stage 1:** High birth / High death (Pre-industrial).
- **Stage 2:** High birth / Falling death (Developing).
- **Stage 3:** Falling birth / Low death (Urbanizing).
- **Stage 4:** Low birth / Low death (Developed).

Key Formulas

$$\text{Population Density} = \frac{\text{Total Population}}{\text{Total Area (km}^2\text{)}}$$

$$\text{Rate of Natural Increase} = \frac{\text{Births} - \text{Deaths}}{10}$$

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