

SS1 Geography – Week 8: Mountains (Detailed Lesson Note)

Topic: Mountains

Objectives:

- Define and classify different types of mountains
 - Describe the physical characteristics of various mountain types
 - Explain how different mountains are formed
 - Discuss the importance of mountains to humans and the environment
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1. Meaning of Mountains

- Mountains are large natural elevations of the Earth's surface, typically rising sharply from the surrounding land.
 - They have steep slopes, a noticeable summit, and greater height than hills.
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2. Types of Mountains and Their Formation

a) Volcanic Mountains

- Formed by volcanic activity when magma from inside the Earth erupts and solidifies on the surface.
- Layers of lava and ash build up over time to form these mountains.
- Example: Mount Kilimanjaro in Tanzania, Mount Fuji in Japan.

b) Fold Mountains

- Created when two tectonic plates collide causing the Earth's crust to buckle and fold.
- These folds create high mountain ranges often with many peaks and ridges.
- Example: The Himalayas, The Alps.

c) Block Mountains

- Formed when large blocks of the Earth's crust are pushed up or down between faults.
- Characterized by steep sides and relatively flat tops.

- Example: Sierra Nevada in the USA, Vosges Mountains in France.

d) Residual Mountains

- Result from the erosion of softer surrounding rocks, leaving harder rocks standing as mountains.
 - These are usually isolated and have unusual shapes.
 - Example: The Scottish Highlands.
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3. Characteristics of Mountains

- **Height:** Mountains are usually very high, often thousands of meters above sea level.
 - **Steep Slopes:** They have steep and rugged slopes which can be difficult to climb.
 - **Climate:** The climate changes with altitude; temperatures fall as you go higher.
 - **Vegetation:** Varies with altitude—lush forests at the base, sparse vegetation or snow near the top.
 - **Rocky Terrain:** The surface is often rocky with exposed rocks and cliffs.
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4. Formation Processes

- **Volcanic Activity:** Magma rises from below the Earth's crust and erupts, building layers of lava and ash.
 - **Tectonic Folding:** Compression forces push layers of rock into folds forming mountain ranges.
 - **Faulting:** Movement along faults causes blocks of crust to move up or down.
 - **Erosion:** Weathering and erosion wear away softer rocks, leaving harder rocks as mountains.
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5. Human Importance of Mountains

- **Water Supply:** Mountains are sources of rivers and freshwater.
- **Natural Resources:** Provide minerals, forests, and fertile soils.

- **Tourism & Recreation:** Attract tourists for hiking, climbing, skiing.
 - **Climate Influence:** Affect weather patterns and create microclimates.
 - **Cultural Significance:** Many mountains have spiritual or cultural importance.
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Summary

Mountains vary in type and formation, ranging from volcanic eruptions to tectonic plate collisions and erosion. Their unique characteristics and natural resources make them vital to ecosystems and human livelihoods.