

GRADE 9 | 2024

Environmental Geography and Sustainability

Social Sciences: Geography

CAPS ALIGNED

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1. Environmental Issues in South Africa

- Air pollution: from mining, industry, coal power stations, and vehicles
- Water pollution: from sewage, mining runoff, and agricultural chemicals
- Soil degradation: overgrazing, erosion, and desertification
- Deforestation: clearing of indigenous forests
- Loss of biodiversity: habitat destruction threatens species

2. Climate Change

Climate change refers to long-term shifts in global temperatures and weather patterns, mainly caused by human activities since the 1800s.

Causes

- Burning fossil fuels (coal, oil, gas) releases CO₂ and other greenhouse gases
- Greenhouse effect: these gases trap heat in the atmosphere
- Deforestation: trees absorb CO₂; fewer trees means more CO₂

Effects in South Africa

- Longer droughts in the Western Cape
- Increased flooding in KZN
- Sea level rise threatening coastal cities
- More frequent and severe heatwaves
- Threat to agriculture and water supply

3. Sustainable Development

Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. (Brundtland Commission, 1987)

- Renewable energy: solar, wind, hydroelectric
- Conservation of water and soil
- Reduce, Reuse, Recycle
- Sustainable agriculture: organic farming, crop rotation
- Ecotourism: tourism that conserves the environment

TIP: Know the 17 UN Sustainable Development Goals (SDGs). Relevant SDGs for this topic: #13 Climate Action, #15 Life on Land, #6 Clean Water.