



Lesson 1: Climate Change and Pakistan (1.3.1 What are the natural and human causes of climate change?)

Learning objective	To gain knowledge and understanding of the natural causes of climate change
Lesson objectives	By the end of the lesson, learners will be able to: <ul style="list-style-type: none"> • Define the term climate change • Describe orbital changes, sunspot activity and volcanic activity • Explain how these natural factors contribute to climate change
Vocabulary	<p>Climate change: long-term changes in temperature and weather patterns over time</p> <p>Orbital changes: variations in the Earth’s orbit and tilt that affect the amount of solar energy reaching the Earth</p> <p>Sunspots: dark patches on the Sun’s surface that indicate changes in solar activity, affecting the amount of energy emitted</p> <p>Volcanoes: eruptions that release ash and gases into the atmosphere, which can influence global temperatures</p>
Previous learning	Learners have been introduced to the concept of climate and weather and have explored basic factors affecting climate in previous lessons.

Plan

Activities	Resources
Beginning (5 mins)	<p>The role of orbital cycles in climate change: https://science.nasa.gov/science-research/earth-science/milankovitch-orbital-cycles-and-their-role-in-earths-climate/</p> <p>How do sunspots affect climate: https://www.weather.gov/fsd/sunspots</p>
Middle (50 mins)	

	<ul style="list-style-type: none"> Present an example of a volcanic eruption and its impact on climate. Learners identify how ash and gases in the atmosphere can lead to short-term cooling. 	https://youtu.be/R0ScYSuFggU?si=Nr34ZG7Nj-QYjVOv
End (5 mins)	Learners reinforce their understanding by completing a short review activity. They complete a table comparing the three natural causes, outlining how each affects climate.	How volcanoes influence climate: https://scied.ucar.edu/learning-zone/how-climate-works/how-volcanoes-influence-climate

Reflection and evaluation

Reflection:

Summary evaluation:

What two things went really well? (Consider both teaching and learning.)

- 1.
- 2.

What two things would have improved the lesson? (Consider both teaching and learning.)

- 1.
- 2.

What have I learned from this lesson about the class or individuals that will inform my next lesson?

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