These Slides Accompany the YouTube Video Tutorial:
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NCERT Class 11 Geography

Chapter 3: Interior of the Earth

- Dr. Manishika Jain, NTSE Scholar, UGC NET JRF, CSIR NET JRF
Gold Medalist, Jawaharlal Nehru University, Delhi
Planner, City of Hillsboro, Oregon, USA

Only Indirect Evidences

- Exogenic +Endogenic forces = Shaping of landform
- Earth radius = 6730 km (centre can't be reached)
- Knowledge of interior based on estimate and inference (direct observation & analysis)
- Matter from mining (temp., pressure & density ↑)
- Meteors reaching earth
- Gravitation (more near poles), magnetic field (magnetic material in crust), and seismic activity

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Direct Sources

- Deep mines (gold mines – 3 to 4 km)
- "Deep Ocean Drilling Project" and "Integrated Ocean Drilling Project"
- Deepest drill – Kola, Arctic Ocean 12 km deep
- Volcanic eruptions - magma

Earthquakes - www.youtube.com/watch?v=qpfhpGV_gtk

- Shaking of earth
- Natural event
- Release of energy from waves
- Along faults – break in crustal rocks, move in opposite direction
- Seismograph – record waves reaching surface
- Body waves – through body & interact with surface – are P & S waves
- Surface waves – move along surface

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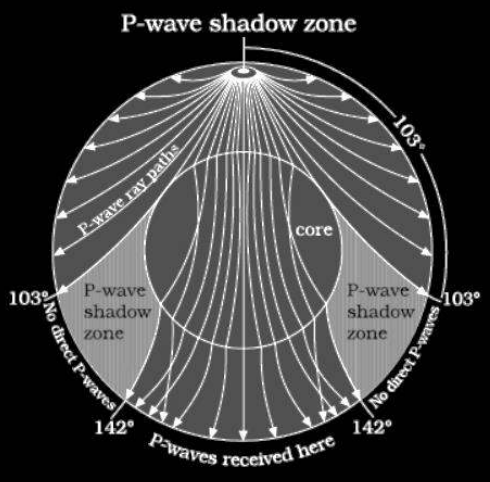
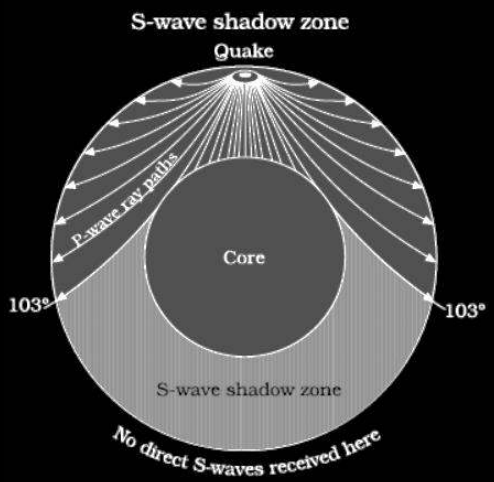
Earthquakes Shadow Zones





Types of Earthquakes

- Tectonic – Sliding of rocks
- Volcanic – near volcanoes
- Collapse – intense mining activity
- Explosion – explosion of chemical or nuclear device
- Reduced induced – in areas of large reservoir

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Measurement of Earthquakes

- Richter Scale – magnitude (energy released during earthquake 0-10)
- Mercalli – intensity (visible damage 1-12)

Effects of Earthquakes

- Ground Shaking
- Differential ground settlement
- Land and mud slides
- Soil liquefaction
- Ground lurching
- Avalanches
- Ground displacement
- Floods from dam and levee failures
- Fires
- Structural collapse
- Falling objects
- Tsunami

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Structure of Earth - www.youtube.com/watch?v=eJ5e7fhRP1M

- Crust: Outermost (oceanic is thinner 5 km & continental is 30 km) - mean density of oceanic crust is 2.7 g/cm^3
- Mantle: from Moho till 2900 km; upper part is asthenosphere, higher density; lower mantle is solid
- Core: Outer is liquid & inner is solid. Density is 5 g/cm^3 and at centre it is 13g/cm^{3,} NIFE

Volcanoes - www.youtube.com/watch?v=hLF0IPv7vUU

- Gas, ash & lava escape to ground
- From asthenosphere – molten magma arises - lava

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Types of Volcanoes

- Shield: Largest, Hawaiian, Basalt & fluid, not steep, low explosivity
- Composite: Eruption of cool & viscous lava, pyroclastic material and ashes, explosive eruption
- Caldera: most explosive, collapse themselves and form calderas
- Flood basalt province: Fluid lava to long distances (kms), Deccan Trap covers Maharashtra Plateau
- Mid-Oceanic Ridge volcano: oceanic area, central fissure with frequent eruption

Intrusive Volcanic Landforms

- Volcanic: Cool at surface
- Plutonic: Cool in crust
- Batholith
- Laccolith
- Lapolith
- Phacolith
- Sill
- Sheet
- Dyke