Sleepy Classes
Awakening Toppers

DAILY TARGET CHECKLIST

Geography

DAY - 4

"Success is the sum of small efforts, repeated day in and day out." — Robert Collier

Topic	Key Revision Points	Done
Rock Basics	Rock = aggregate of 1+ minerals | **no definite structure** | **Feldspar + quartz** commonest | granite hard, soapstone soft | gabbro black, quartzite milky white	☐
Three Families	Classified by **mode of formation** | Igneous - magma / lava | Sedimentary - deposition (exogenous) | Metamorphic - recrystallisation (PVT)	☐
Igneous Rocks	**Ignis = fire** | **primary rocks** | **unfossiliferous** | granite, gabbro, pegmatite, basalt, volcanic breccia, tuff	☐
Intrusive vs Extrusive	**Intrusive / plutonic** - slow cooling, large grains, exposed after denudation - **granite** | **Extrusive / volcanic** - rapid cooling, fine grains - **basalt** | intermediate cooling = intermediate grains	☐
Acid vs Basic	**Acid** - silica **up to 80%** | **SIAL** | cools fast | **high mountains** | **Basic** - silica **about 40%**, magnesia up to 40% | flows far | **plateaus** | basalt, gabbro, dolerite | weathers easily	☐
Sedimentary Rocks	**Sedimentum = settling** | denudation - transport - deposition | **lithification** | strata | **fossils** | **porous** | Indo-Gangetic alluvium	☐
Sedimentary Types	**Mechanical** - sandstone, conglomerate, shale, loess | **Chemical** - stalactites, stalagmites, chert, halite, potash | **Organic** - geyserite, chalk, coal | **limestone in all three**	☐
Metamorphic Rocks	**Change of form** | **Pressure, Volume, Temperature** | recrystallisation and reorganisation | **foliation / lineation** | **banding** | gneiss, slate, schist, marble, quartzite	☐
Dynamic vs Thermal	**Dynamic** (pressure) - **granite - gneiss** | **clay / shale - schist** | pressure + heat = **dynamo-thermal** | **Thermal** (heat) - **sandstone - quartzite** | **limestone - marble**	☐
Rock Cycle	Old rocks become new | magma - igneous | igneous - metamorphic | igneous / metamorphic fragments - sedimentary | sedimentary re-fragmented | melting - magma	☐
Causes of Volcanism	Differential **radioactivity** | mantle **convection** | weak zones | **divergent** - fissure eruptions | **convergent** - subduction, violent eruptions	☐
Magma vs Lava	Origin - **asthenosphere** | **magma** in upper mantle | **lava** on moving up / at surface | ejecta - pyroclastics, bombs, ash, N and S compounds, chlorine, H, argon	☐
Shield Volcano	**Fluid basalt** | **not steep** | low explosivity - explosive if **water enters vent** | largest after flood basalts | **Hawaii**	☐
Composite Volcano	**Cooler, viscous lava** | **explosive** | lava + pyroclastics + ash in **layers**	☐
Caldera	**Most explosive** | collapses on itself | depression = caldera | **huge magma chamber close below**	☐
Flood Basalt	**Highly fluid** | flows **over 50 m** thick | hundreds of km | **Deccan Traps** - Maharashtra plateau | originally larger	☐
Mid-Ocean Ridge	Oceanic | ridge system **over 70,000 km** | central part - **frequent eruptions**	☐
Batholith	Large **granitic dome** at depth | **cooled magma chamber** | exposed after denudation | several km deep	☐
Laccolith	Dome, **level base**, **pipe-like conduit** | localised lava source | **Karnataka plateau** domal granite hills	☐
Lopolith / Phacolith	**Lopolith** - **saucer**, concave to sky | **Phacolith** - **wavy** mass at base of synclines / top of anticlines	☐
Sill / Dyke	**Sill** - **near horizontal** | thin = **sheet** | **Dyke** - **near vertical** wall | **western Maharashtra** | **feeders of Deccan Traps**	☐
Hotspot Volcanism	**Plate interiors** | exceptions - **Iceland, Afar** (divergent) | Hawaiian, Yellowstone, Reunion | anomalous volcanism	☐
Mantle Plume	Abnormally hot rock | origin **core-mantle boundary** | **relatively fixed** | **mushroom** head + tail | **diapir** | few hundred km wide	☐
Hawaiian Chain	Age: **Kauai 5.6-4.9 | Oahu 3.4 | Molokai 1.8 | Maui 1.3 | Hawaii 0.7-0 Ma** | oldest near **Aleutian Trench** | Mauna Loa, Kilauea, Loihi	☐
Plume Applications	**LIPs** - Deccan, Siberian Traps, Ontong Java, Iceland | **rift** - Afar | **crust thinning** - Yellowstone | **supervolcano** over **1,000 cubic km** - Yellowstone, Toba	☐

Positive Effects	New islands, plateaus | **fertile ash** | **metallic ores**, copper in gas cavities | **hot springs, geysers** | **geothermal power** | national parks	☐
Destructive Effects	Cinders, bombs | **tsunamis** | ash - **global cooling**, famines | **lahars** (mudflows) | air travel disruption | super-eruption - extinction	☐
Ring of Fire	Pacific rim | plate tectonics | **about 90% earthquakes** | **75% active volcanoes**	☐
Convergent	Subduction | deep trench | **volcanic arc** | **Andes - Peru-Chile Trench** (Nazca under S American) | **Ojos del Salado** - highest active volcano	☐
Divergent	Plates pull apart | **seafloor spreading** | ocean ridges | **East Pacific Rise** - Pacific, Cocos, Nazca	☐
Transform	Horizontal sliding | stress - **faults** | **San Andreas** - Pacific (north) vs N American (south)	☐
Island Arcs	**Ocean-ocean convergence** | **Philippine** - Philippine Sea Plate under **Sunda** | **Indonesia** - Indo-Australian under **Sunda**	☐
Earthquake Belts	**Circum-Pacific - 81%** (also 70%) | **Mid-continental - 17%** (also 20%) | Europe to Sumatra | ridges, East African rift	☐
Other Volcanic Zones	**Atlantic** - St Helena, Cape Verde, Canaries (dormant / extinct) | **Iceland, Azores active** | **East African Rift** - Kilimanjaro, Mt Kenya	☐
Quake Depth (NCERT)	**Mid-ocean ridges - shallow foci** | **Alpine-Himalayan + Pacific rim - deep-seated** | Pacific rim = rim of fire	☐