

## Unit: 3. DYNAMIC STRUCTURE OF EARTH

### VOCABULARY

ammonification	process by which certain bacteria convert organic nitrogen into ammonia and ammonium salts during decomposition
assimilation	process by which plants or animals convert nutrients into usable organic compounds, such as proteins
asthenosphere	the layer immediately surrounding the lower mantle; composed of molten rock
atmosphere	the gaseous layer of a planet, usually retained by its gravity
biosphere	the living organisms of Earth
continental crust	the part of Earth's crust that forms landmasses
continental drift	theory proposed by Alfred Wegener that the continents once formed a single supercontinent that broke up and drifted apart
convection	process of heat transfer by the circulation or movement of a gas, liquid, or plastic material
convergent boundary	area where tectonic plates meet and push against each other
core	innermost layer of the earth; divided into an inner and outer core
crust	the outermost layer that forms the surface of the earth; upper part of the lithosphere
decomposers	bacteria and fungi that break down dead matter

denitrification	process by which certain bacteria convert nitrates into nitrogen gas
deposition	process by which sediment flows into a reservoir
divergent boundary	area where tectonic plates are moving away from each other
equilibrium	two opposing forces in balance or when two opposite processes occur at equal rates
fault line	area along plate boundaries and ridges where the crust of the lithosphere is fractured
food chain	line of plants and animals that shows the order in which organisms are eaten
food web	a diagram that shows the connections among food chains in an ecosystem
geosphere	all of the layers of Earth's interior and crust
Glossopteris	ancient, extinct plant species found on the continents of South America, Africa, India, Australia, and Antarctica
hydrologic cycle	a natural and continuous cycle of Earth that recycles and distributes Earth's water; often called the water cycle
hydrosphere	the water system of the earth; solid, liquid, and gas phases
inner core	innermost region of the earth; composed of solid iron
kinetic	related to or possessing motion
lithosphere	the cool, rigid shell that includes the crust and uppermost mantle; composed of plates that move around on the underlying, plastic asthenosphere
lower mantle	innermost layer of the two mantle layers; composed of rock and cooler than the core
mantle	middle layer of the earth; composed of an upper and lower mantle

Mesosaurus	small, extinct land reptile that lived 270 million years ago whose fossil remains have been found in western Africa and eastern South America
metamorphism	process of intense heat and pressure which changes igneous or sedimentary rock into metamorphic rock
nitrification	process by which certain bacteria convert ammonium into nitrates
nitrogen fixation	process by which certain bacteria in the soil convert nitrogen gas into ammonia and ammonium
oceanic crust	the part of Earth's crust located beneath the oceans and seas
outer core	layer immediately outside the inner core; composed of liquid iron and sulfur
Pangaea	meaning "all lands"; name of the supercontinent that is theorized to have contained all of the current continents in a single landmass
Panthalassa	meaning "all seas"; name of the single, large ocean that surrounded Pangaea
photosynthesis	process by which green plants convert carbon dioxide, water, and energy from the Sun into sugars
plasticity	ability of a solid to flow
plate tectonics	the theory that the lithosphere is broken into pieces that float on the asthenosphere
potential	something possible; ability to go into action or perform work
primary consumer	organisms that eat producers
respiration	process by which living cells produce usable energy from food
rock cycle	natural and continuous cycle of Earth that recycles Earth's minerals

seafloor spreading	process by which the Earth's lithospheric plates pull apart from each other, creating gaps that are filled with magma from the asthenosphere
secondary consumer	organisms that eat primary consumers
subduction zone	area where an oceanic plate sinks into the asthenosphere under another plate
tectonic cycle	natural and continuous cycle of Earth that recycles Earth's lithospheric plates
tertiary consumer	predator that eats secondary consumers
thermodynamics	the study of energy and its transformations
transform boundary	area where tectonic plates slide sideways past each other
transpiration	the process by which plants give off water vapor
upper mantle	outermost layer of the two mantle layers; includes the asthenosphere and lower lithosphere; composed of solid rock, most of which flows due to convection currents within the mantle
weathering	process that breaks down rock through physical and chemical changes