

Roots, Prefixes, and Suffixes in Earth and Space Science

Unit 1: Introduction to Earth Space Science

Root/Prefix/Suffix	Meaning & Examples
-al	relating to: geological, astronomical, terrestrial
carb	carbon: carbon dioxide, carbonic acid, carbon cycle
cent	hundred: centimeter, centigram, percent
cycl	circle, cycle: cyclone, nitrogen cycle, anticyclone
deci	tenth: decibel, decimal, deciliter
graph	writing, drawing: geography, oceanography, photography, topography
hydr, hydr	water: hydroelectric, hydrate, hydrothermal, hydrosphere
-ist	one who studies: meteorologist, geologist, environmentalist
kilo	thousand: kilogram, kilometer
meter	measure: barometer, thermometer, diameter
-ology	study of; seismology, meteorology, climatology
sphere	ball: lithosphere, asthenosphere, geosphere, hydrosphere

Unit 2: Weather

Root/Prefix/Suffix	Meaning & Examples
alt	high: altocumulus, altitude, altostratus
anti	against, opposite: anticline, anticyclone
baro	pressure: barometer, bar, barometric pressure, hyperbaric chamber
calor	heat: calorimeter, calorie, kilocalorie
clud, clus	to close: occluded front, exclude, conclude, cluster
iso	equal: isobar, isotherm, isocline
nimb	rain: nimbus, cumulonimbus
therm	heat: thermal, geothermal, thermometer

Unit 3: Climate

Root/Prefix/Suffix	Meaning & Examples
circ	ring, around: circumference, circular, circulate
eco	environment: ecology, ecosystem, ecocline
halo	salt: halite, halogens, halocline
micro	small: microclimate, microwave
trans	across: transfer, transpiration

Unit 4: Forces that Shape the Earth

Root/Prefix/Suffix	Meaning & Examples
crust	shell: crust, encrusted, crustal
epi	upon, above: epicenter, epicycle
flu, fluc	flowing: fluid, fluctuate, magnetic flux
glaci	ice: glacier, glacial, glaze
-ion	process: erosion, conservation, decomposition
meso	middle, between: mesosphere, Mesozoic
rupt	break: eruption, erupt, disrupt
sub	under, below: subsoil, submerge, subduction
volcan	fire: volcano, volcanologist, volcanism

Unit 5: Surface Features

Root/Prefix/Suffix	Meaning & Examples
aqu	water; aquifer, aqueous, aquarium, aquaculture
benth	bottom of the sea: benthos, benthic, zoobenthos
clin	slope: incline, clinometer, decline, halocline, thermocline
mar	sea: marine, marsh, maritime

Unit 6: Planetary Formation

Root/Prefix/Suffix	Meaning & Examples
cosm	universe, world: cosmic dust, cosmos, cosmic rays
e, ec, ex	out, without, from: eclipse, eccentric, ecliptic, exothermic
equi	equal: equinox, equilateral, equator
-oid	like, form: metalloid, asteroid, meteoroid

Unit 7: Planetary Physics

Root/Prefix/Suffix	Meaning & Examples
acceler	faster: accelerate, centripetal acceleration
dia	through, across: diameter, diagonal, diagram
grav	heavy: gravity, gravitational
kine	motion: kinetic energy, kinetics
nox, noc	night: nocturnal, equinox
ultra	beyond: ultraviolet, ultrasound

Unit 8: The Stars and Our Sun

Root/Prefix/Suffix	Meaning & Examples
bi	two: binary star, bimetallic
fus	melt, join: fusion, fuse, nuclear fusion
helio	Sun: heliograph, heliocentric, heliosphere
lu, lum	light: luminous, translucent, luster
nov	new: nova, supernova, novice
solar	sun: solar wind, solar cell, solar system

Unit 9: Earth's History

Root/Prefix/Suffix	Meaning & Examples
chron	time: geochronology, chronic, synchronize
geo	Earth: geothermal, geology, geography
paleo	ancient: paleontology, Paleozoic, paleomagnetism

Unit 10: Biology Crossover

Root/Prefix/Suffix	Meaning & Examples
bio	life: biology, biome, biosphere
herb	plants: herbivore, herbs, herbarium
macro	large: macromolecule, macroscopic
photo	light: photography, photosynthesis

Adapted from *The Sourcebook for Teaching Science, Grades 6-12* (2008)