Appendix A. Prefix meanings and examples, including alternate spellings.

Prefix	Meaning(s)	Example words
a	*on/in; to; not, without*	abiotic, atheist, among, ahead, about
ab	*away, from*	abuse, abnormal
ad* (ac, ach, af, ag al, ap, ar, as, at)	*toward, in, near*	advantage, accelerate, achieve, affirmative, aggression, alliance, applied, arrangement, assumption, attendance, attraction
anti	*against, opposite*	antithesis, antagonist
bi	*two*	bisect, billion
con* (co, col, com, cor)	*with, joint*	condensation, cohesive, collect, complicate, correspond
de	*away from, down*	decompose, depression
dis* (di, dif)	*not, apart, absence of*	discriminate, diminish, divide, difference
e	*lacking, out*	eliminate
en	*to make something (X)*	enforce, enable, enclose
ex	*out*	expression, expose
in* (il, im, ir)	*(1) in, on, toward (2) not*	(1) information, investigate, illustrate, impressionism, irrigation, (2) independent, illegal, immunity, irregular
inter* (intel)	*between*	intercept, intelligence
intro	*in, inward*	introduction
multi	*many, much*	multiply, multidimensional
non	*not*	nonprofit
ob* (oc, of, op)	*down, facing, against, to*	observation, occupational, official, oppose
out	*out of*	outlaw, outcome
over	*'do too much of X'*	overestimate
per	*through, completely*	permanent, permutation
pre	*before, earlier*	predictable, prejudice
pro	*forward, prior to*	progress, proposal
quadr	*four*	quadrillion
re	*again, back*	react, replicate, respond
se	*apart, without*	segregate, select
sub* (suc, suf, sup, sus)	*under, below, secondary*	suburb, successive, sufficiency supplementary, sustenance
super	*over, above, extreme*	superstition, superlative
trans	*beyond, across*	transport, transfer
tri	*three*	triple, triangle
un	*not, opposite, reverse*	unobtainable
under	*under*	undergo, underestimate
uni	*one*	uniform

Note: *most common spelling.

Appendix B. Suffix meanings and examples, including alternate spellings.

Suffix	Meaning(s) and outcome category	Example words
able* (ible)	*able, can do* – adjective	permeable, invisible
al	*'relating to', 'characterized by'* - adjective, noun	legal, individual
ant	*'action' or 'state'* – noun	stimulant, dominant
ar	*of or pertaining to* -adjective	stellar, similar, polarity
ary	*relating to, place where* – noun, adjective	summary, boundary, voluntary, preliminary
ate	*cause, make* – verb, adjective	accelerate, accurate
ation	*act of, state of* – noun	confirmation, population
ence	*action, state, quality* – noun	sequence, audience, circumference
ent	*referent* – noun, adjective	nutrient, coincident, independent
er	*one who, that which* – noun	computer, cartographer
ial* (cial, tial)	*relating to, characterized by* – adjective	imperial, commercial, special, sequential
ic	*of, pertaining to, like* – adjective	elastic, exothermic
illion	*to the power of a million* -numeral	quadrillion
ion (sion, tion*)	*act of, state of* – noun	opinion, transfusion, distribution
ism	*characteristic, manner, condition* – noun	altruism, nativism
ist	*one who* – noun	tourist, chemist
ity	*state of, quality* – noun	velocity, majority
ive	*causing, making* – adjective	reflexive, consecutive
ize	*to make more like X* – verb	fertilize, civilize
logy	*science or study of* – noun	hydrologic, psychology
ly	*manner or like* – adverb	solely, definitely
ment	*result of, act of* – noun	document, entitlement, harassment
or	*one who, that which* – noun	dictatorship, creditor, monitor
ory	*pertaining to, characterized by* – adjective	memory, transitory
ous	*full of, having* – adjective	coniferous, unambiguous
teen	*ten* -numeral	fifteen
th	*'forms ordinal numbers'* – adjective	fifteenth
ure (ture*)	*state of, process, office, function* – noun	pressure, monoculture, manufacture
y	*inclined to* – adjective *state, condition, quality* - noun	milky, injury, hierarchy

Note: * most common spelling.

Source: Lane, H. B., Gutlohn, L. & van Dijk, W. (2019). Morpheme frequency in academic words: Identifying high-utility morphemes for instruction. *Literacy Research & Instruction, 58*(3), 184-209.

Appendix C. Latin Root meanings and examples, including alternate spellings.

Latin Root	Meaning(s)	Example words
act	*do, act*	active, interact
ang	*angle*	triangular
anim	*living, soul*	animate
cap (cept*, ceive, cip, cup)	*take, seize, hold, receive, contain*	capture, accept, perception, conceive, anticipate, occupant
cede (ceed, cease, cess*)	*yield, go, surrender*	antecedent, exceed, ceaseless, successive
celer	*speed, swift*	decelerate
chart* (cart)	*draw*	flowchart, cartoon,
circ	*round, circle*	circuit
clar	*clear*	clarify, declarative
claus (clos, clud, clus*)	*shut, close*	clause, foreclosure, including, exclusive
commun	*common, together*	commonwealth, communicate
cult	*care, cult*	cultivate, culture
cur* (course)	*run, go*	current, occurrence, discourse
dic (dex, dict*)	*say, tell*	predicate, index, predict
duc (duce, duct*)	*lead*	reproducible, introduce, conduction
electr	*electric*	electromagnet, electron
equ	*equal*	inadequate, equity
estim	*guess*	estimate
fac (fact, fect, fic*)	*do, make*	factory, perfect, simplification, beneficiary
fer	*carry, yield*	aquifer, reference, differentiate
fid (fed*)	*trust*	confidence, federal
fin	*end*	finals, definition
flex* (flect)	*bend, curve*	flexible, reflect
form	*shape*	formulate, transform
gen* (gene)	*race, kind, birth*	genocide, generate, heterogeneous
grad (gress*)	*step, degree, go*	gradient, digressive
jec (jac, ject*)	*throw, lie*	adjacent, object
lat	*carry, bear*	relate, translate
latus (later*)	*side*	multilateral
lect* (lec, leg, lig)	*choose, pick, read*	election, selective, college, legend, intelligence
leg	*law*	privilege, legislature
liter (lit, litera*)	*letter*	illiteracy, literal
migr	*go away, change, depart*	emigrant, migratory
min	*small*	minority, minimal
mob (mot*, mov)	*move*	automobile, unmotivated, promote, remove
mod	*bound, method, manner*	unmodified, accommodate
mol	*mass, pile*	molecule

Appendix C. Latin Root meanings and examples, including alternate spellings. (continued)

Latin Root	Meaning(s)	Example words
mut	*reciprocal, borrowed*	mutual
nat	*people, produce*	native, national
nom	*part*	polynomial
not	*write, mark*	notation
nuc	*core*	nucleus
numer	*number*	numeric, enumerated
org	*tool, instrument*	organize, organism
pend* (pens)	*hang, weigh*	appendix, pendulum, suspension
ple	*fill, fulfill*	supplement, deplete
plic* (plex, ply)	*fold*	duplicate, complexity, multiply
pos* (pon, pound)	*put, place, set, pose*	proposition, exponent, compound
press	*press, pursue*	oppression, expression
radi	*ray, spoke*	radius, radioactive
rect	*straight, right*	director, rectangle
sect	*cut*	insect
sequ* (secu)	*follow*	consequence, persecute, consecutive
serv	*serve, keep*	reservoir, observation, service
solv (solu*)	*loosen, slacken, solve*	dissolve, resolution
son	*sound*	sonar, consonant
spec	*view, sight, kind*	specify, species
sta (sist, stat*, stit)	*stand, set*	establish, overstatement, consistent, assistant, constitutional
struct* (stru)	*build*	restructure, instrument
ten (tain*, tin, tinu)	*hold*	tenant, maintain, continental, continuation
tend (tens*, tent)	*stretch, strain*	tendon, intensity, intent
tract	*draw, pull*	contraction
valu	*give value*	valence, evaluate
vari	*vary*	variable
ven (vent*)	*come*	intervene, revenue, eventual
verbum (verb*)	*word*	proverb, verbal
vert (vers*)	*turn*	vertical, diversity, advertise
vid (vis*)	*see, separate*	evident, revise

Note: * most common spelling.

Source: Lane, H. B., Gutlohn, L. & van Dijk, W. (2019). Morpheme frequency in academic words: Identifying high-utility morphemes for instruction. *Literacy Research & Instruction, 58*(3), 184-209.

Appendix D. Greek Roots meanings and examples, including alternate spellings.

Greek Root	Meaning(s)	Example words
agon	*contest*	protagonist
allel (llel*)	*one another*	allele, parallel
ana	*up, again, on, backwards*	analyze, anagram
apo	*derived from, away*	apothem, apostrophe
arch	*chief, ruler*	anarchy, architect
archae* (arche, archi)	*ancient, primitive*	archaeologist, archetype, archive
arithm	*number, count*	algorithm, arithmetic
astr* (aster)	*star*	astronomy, asteroid
auto	*self*	autonomy, automate
bol	*throw*	parabola, symbol
bio	*life*	biology, symbiosis
chem	*'art of alloying metals'*	chemist, alchemy
chondr	*lump, grain*	mitochondrion
chron	*time*	chronology
clima	*weather*	climagraph, microclimate
cracy* (crat)	*rule, strength*	theocracy, democrat
crit	*judge*	critical, criterion
cryst	*hard, crust, 'clear ice'*	recrystallization
cycl	*circle, wheel*	encyclopedia, cyclic
dec	*ten*	decade, decimal
demo	*people*	democracy, demographic
dia	*through, across, between*	diagonal, dialect
drama	*drama*	dramatist
eco	*house, home, environment*	economy, ecology
epi	*above, in addition to*	epidermis, epilogue
geo	*earth*	geochemical, geoscience
giga	*billion*	gigameter
gon	*angle*	paragon, trigonometry
graph* (gram)	*write, draw*	photograph, anagram
hect	*hundred*	hectare
hedr	*seat, side*	polyhedral
hex	*six*	hexagon
hydro	*water*	hydrogen, carbohydrate
hyper	*over*	hyperbolic
hypo	*under*	hypothesis, hypotonic
iso	*equal*	isotherm
kilo	*thousand*	kiloliter
log* (logue)	*speech, word, reason*	illogical, dialogue
lysis	*breakdown, decomposition*	analysis, catalyst
magn	*magnet*	electromagnetic

Source: Lane, H. B., Gutlohn, L. & van Dijk, W. (2019). Morpheme frequency in academic words: Identifying high-utility morphemes for instruction. *Literacy Research & Instruction, 58*(3), 184-209.

Appendix D. Greek Roots meanings and examples, including alternate spellings. (continued)

Greek Root	Meaning(s)	Example words
meta	*beside, after, later*	metaphor, metamorphosis
metr	*measure*	metric, parameter, millimeter
micro	*small, minute*	microclimate, microwave
mito	*thread*	mitochondrion, mitosis
mon	*one*	monopolize, monohybrid
nano	*dwarf, 'very small'*	nanosecond
nom* (nym)	*name, word*	astronomer, acronym
odo	*path, road*	exodus, periodical
oid	*like, 'having the form of'*	asteroid, trapezoid
oxy	*sharp, concerning oxygen*	oxidize, oxymoron
para	*beside, position*	parasite, paradigm
pent	*five*	pentagon
peri	*around, near*	periscope, periodical
phas	*show, appearance*	emphasis, prophase
phil	*love, respect*	philanthropist, philosophy
phon	*sound, voice*	megaphone, phonology
phor	*carry*	metaphor, anaphora
photo	*light*	photograph
phras	*express*	paraphrase
phys	*nature*	physiographic, physics
pict	*draw*	pictograph
pol	*city, citizen*	politic, police
poly	*many*	polymer, polygon
schema	*form, shape*	schematic, scheming
scope	*watch, see*	endoscope
semi* (hemi)	*half*	semicircle, hemisphere
sphere	*circle*	atmosphere
syn* (syl, sym)	*together*	synonym, syllabic, symmetry
sys	*whole body*	subsystem
techn	*skill, craft, art*	technique, technology
tele	*distant*	telescope
theor	*contemplation*	theorem
therm	*heat*	thermodynamics, thermal
thesis* (theta)	*proposition, statement*	hypothesis, hypothetical
tropo	*turn, change*	troposphere, tropical
typ	*mark, type*	stereotype, typeface

Note: * most common spelling.

Source: Lane, H. B., Gutlohn, L. & van Dijk, W. (2019). Morpheme frequency in academic words: Identifying high-utility morphemes for instruction. *Literacy Research & Instruction, 58*(3), 184-209.