

Using Prefixes, Suffixes, and Roots (it's not ALL Greek to me!!)

Some biology terms may be hard to understand the first time you encounter them. However, knowing some Greek and Latin terms will allow you to understand parts of the words. Then you can make an educated guess about the meaning.

Looking at parts of words to help you figure out the meanings of whole words will help you comprehend scientific material. Let's look at the word centrifugation. This word has its roots in two Latin words. They are *centrum*, which means center, and *fugere*, which means to flee. From that, you might guess that centrifugation has something to do with fleeing from the center—and you would be right. Centrifugation separates substances by whirling them in a circle at high speed. The heavier substances are separated from the lighter ones in this process.

You can understand many words, scientific and otherwise, if you understand their parts. Approximately 80 percent of the words in an English dictionary are formed from Greek and Latin parts. Knowledge of these will help you break down unfamiliar words and remember their meanings.

Below is a list of some common prefixes, roots, and suffixes that you may find useful.

a- or an-	no, not, without
ab-	from, away
acu-	needle, sharp
aesthesia	sensation
amphi-	both, two kinds
angio-	encased, closed
annel-	ring
anth-	flower
anti-	against
aqua-	water
arterio-	having to do with arteries
arthro-	jointed
aster	star
auto-	self
bi-	two
bio-	life
calor-	heat
centri-	one-hundredth
centro-	center
cephal-	head
cerato, kerato	horn
chlor-	green
chord	cord, string
chromo-	color
cyto-	cell
deca-	ten

deci-	one-tenth
dent-, -dont	teeth
derm-	skin
di	two
dissect	cut
dys-	ill, bad
echino-	spiny
electro-	referring to electricity
endo-	within, inside
erythro-	red
eu-	true
exo-	outside
-fuge	something that drives away or out
gen	make, birth
geo-	the earth
germ-	sprig, seed
-graph	write or draw
hemi-	half
hemo-	blood
hetero-	other
hexa-	six
homo-	same
hydro-	water
hyper-	above, excessive
hypo-	under, below, less than
ichthy-	fish
inter-	between, among
intra-	within, inside of
-itis	inflammation
kilo-	one thousand
leuco-	white
liga-	to bind
lipo-	fat
-logy	study
-lysis	loosen, break down
macro-	large, enlarged, elongated
magni-	great
mega-	one million
-mer	part
meter	a measure
micro-	small, minute; one-millionth
milli-	one-thousandth
mono-	one, single
morph	form
muta	change
myco-	fungus

myo-	muscle
noto-	back
octo-	eight
oculo-	relating to eyes, vision
-ology	a science or branch of learning; the study of
opti-	relating to vision or sight
ortho-	straight, regular, upright
-osis	condition, state
ovi-, ovo-	egg
para-	abnormal or unusual
patho-	suffer, illness
ped-, pod-	foot
penta-	five
-phile	to love or have a strong affinity for
-phobe	to fear or be averted by
-phoresis	transmission, carrying
photo-	light
platy-	flat, broad
poly-	many
proto-	first form; earliest; primitive
pseudo-	false
psych-, psychomind or mental	
pter	wing or feather
quad-	four
ren-	kidney
reti-	net
rhino-	nose
rhizo-	root
sapro-	rotten
-saur	lizard
sclero-	hard
-scope	an instrument for seeing or observing
semen, semin	seed
soma	body
sperm	seed
stamen	threads
stereo-	solid, firm, three-dimensional
stoma-	mouth
synthesis	putting together
taxi	to move
toxi-	poison
trans-	across, beyond
-tropho, -troph	nutrition, feeding
tri-	three
ultra-	beyond, on the further side of; excessive, extreme
zoo-	animal

Using the prefixes, suffixes, and roots above, define the following terms:

calorimeter _____

echinoderm _____

pathology _____

cephalopod _____

zoology _____

photosynthesis _____

phototaxis _____

ichthyology _____

hypodermic needle _____

hemiptera _____

orthoptera _____

pterosaur _____

hydrolysis _____

electrophoresis _____

arthropod _____

diptera _____

asexual
reproduction _____

cytology _____

mycology _____

arteriosclerosis _____

geotaxis _____

toxicology _____

monochromatic _____

monomer _____

dimer _____

polymer _____

pseudopod _____

somatic cell _____

liposuction _____

acupuncture _____

erythrocytes _____

leucocytes _____

bacteriology _____

amphibian _____

mutation _____

micrograph _____

anaesthesia _____

paraesthesia _____

psychology _____

parapsychology _____

rhizobium _____

rhinoceros _____

oviduct _____

autotroph _____