

Name _____
Date _____

Pre-AP Biology Summer Assignment

Language of Science

Learning the language of science is a lot like learning a new language. Scientists often use scientific words for common words that most of us already know. For example, a scientist will say “neo” instead of “new” or “pseudo” instead of “fake”. To learn science, you need to also learn this new language. Don’t worry, though. This list will help you. Just remember that most words can be broken up into a **PREFIX** (the beginning of the word) and a **SUFFIX** (the end of the word).

The following tables contain 99 prefixes and their meanings, as well as 13 suffixes and what they mean. You will be **quizzed** over this list **the second Friday** of school.

You will also need to complete the following assignment that is **due on the first day of class**. This assignment should take an hour or so to complete.

Look at the example on the next page for help on how to use this list.

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Prefix List = Beginnings

PREFIX	MEANING	PREFIX	MEANING	PREFIX	MEANING
a-	without, lacking	e-/ef-/ex-	out, out of, from	oculo-	eye
ab-	away from	echin-	spiny	odont-	tooth
adipo-	fat	ect-	outside	olf-	smell
alb-	white	en-	in	omni-	all
amphi-/amp-	of both kinds	encephal-	brain	opthal-	eye
andr-	male	epi-	on, above	oss-/ost-	bone
angio-	vessel (blood)	extra-	outside, beyond	phag-	eat
ante-	before	gastro-	stomach	photo-	light
anthropo-	humans	gene-	origin, birth	plasm-	form
anti-	against	geo-	earth	pneumo-	lungs
aqua-	water	glottis-	mouth of windpipe	pre-	before
arbor-	tree	gymno-	uncovered	prot-/proto-	first
arthro-	jointed	hepato-	liver	pseudo-	fake, false
aster-	star	hetero-	different	retro-	backward, back
audi-	hear, sound	hiber-	winter	rota-	turn, wheel
auto-	self	homo-	same, alike	rupt-	break, burst
bi-	two, twice	hydro-	water	sub-	under, beneath
bio-	life, living	hyper-	over, above	super-/sur-	above, upon
bronch-	windpipe (lungs)	hypo-	below, under, less	tele-	at a distance
card-	heart	inter-	between	therm-	temperature
carn-	meat	intra-	within, during, inside	trans-	across, beyond
cell-	storeroom	ichty-	fish	tri-	three
cephalo-	head	immunis-	free	trop-	turning
chlor-	green	leuc-	white	ventr-	belly
chrom-	color	lith-	stone	uni-	one
chron-	time	luna-	moon	zo-	animal
coel-	hollow	macro-	large		
com-/con-/co-	with, together	meta-	change		
contra-	against	micro-	small		
cran-	head	mono-	single		
cyt-	cell	multi-	many		
de-	from, away	morph-	form		
deca-	ten	neo-	new		
derm-	skin	non-	not		
den-	tooth	neur-	nerve		
di-	two, double				
dia-	through, across				
dis-/dif-	apart from, deprive				

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Suffix List = Endings

SUFFIX	MEANING
-able/ -ible	able to, capable of
-algia	pain
-ectomy	cut out
-graph	instrument for making
-ism	records
-itis	act of, condition
-meter	inflammation (swelling)
-ology/ -logy	or disease
-phyll	measure
-pod/ -ped	study of, science of
-scope	leaf
-sect	foot, feet
-sperm	look, observe
	cut
	seed

Example of how to use this list

Word: **TELESCOPE**

Step 1. Look up the first part of the word under the PREFIX LIST

tele = at a distance

Step 2. Look for the rest of the word under the SUFFIX LIST

scope = look or observe

So, the whole word means “distance-look” or to look at something at a distance.

Note

- The order of the words may not always seem right; don’t worry about that.
- Sometimes you can only find one part of a word but that can be a good clue about the meaning
- You may have extra letters like **o** or **a** or **i** between two parts of a word—they don’t mean anything
- If you don’t see a word in the suffix list, check the prefix list. Sometimes, words can be both a prefix and a suffix.

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Using the Language of Science prefix and suffix lists, figure out the meanings of the following words:

Example: cardiology - heart study or science (study of the heart)

1. phototropism –
2. arthropod –
3. echinoderm –
4. epiglottis –
5. multicellular –
6. hypodermic –
7. anthropology –
8. hypothermic –
9. gymnosperm –
10. pseudopod –
11. photograph –
12. autograph –
13. neuralgia –
14. decapod –
15. hepatitis –
16. cytology –
17. zoology –
18. microbiology –
19. geology –
20. biology –

Notice that several prefixes can mean the same thing:

21. What are **two** prefixes that mean ONE or SINGLE? _____
22. What are **two** suffixes that mean CUT or CUT OUT? _____
23. What are **two** prefixes that mean ABOVE or ON? _____
24. What are **two** prefixes that mean TWO? _____

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Just knowing one part of a word gives you a clue to the whole word:

25. Would you want to be careful when touching an animal called an ECHINDNA? Yes No

26. What does a CARNIVORE eat? _____

27. Is a NEONATE a tiny baby or an old person? _____

28. Is a CRANIOTOMY a serious surgery? Yes No

29. An ALBINO rabbit is what color? _____

30. Does an AMPHIBIAN live on land or water? _____

31. If a medicine is CONTRAINDICATED for you, should you take it? Yes No

32. A DERMATOLOGIST works with what part of the body? _____

33. How does a tiny animal called a ROTIFER travel through the water? _____

(hint: look up rota)

34. If you visited the Elysian Park ARBORETUM, what would you expect to see? _____

35. In 1969, where did the LUNAR mission land? _____

36. What is another name for a CHRONOMETER? _____

37. Why do they call this symbol (*) an ASTERISK? _____