

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

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		
ante-	before			phag-	eat
anthropo-	humans	gastro-	stomach	photo-	light
anti-	against	gene-	origin, birth	plasm-	form
aqua-	water	geo-	earth	pneumo-	lungs
arbor-	tree	glottis-	mouth of windpipe	pre-	before
arthro-	jointed	gymno-	uncovered	prot-/proto-	first
aster-	star			pseudo-	fake, false
audi-	hear, sound	hepato-	liver		
auto-	self	hetero-	different	retro-	backward, back
		hiber-	winter	rota-	turn, wheel
bi-	two, twice	homo-	same, alike	rupt-	break, burst
bio-	life, living	hydro-	water		
bronch-	windpipe (lungs)	hyper-	over, above	sub-	under, beneath
		hypo-	below, under, less	super-/sur-	above, upon
card-	heart				
carn-	meat	inter-	between	tele-	at a distance
cell-	storeroom	intra-	within, during, inside	therm-	temperature
cephalo-	head	ichty-	fish	trans-	across, beyond
chlor-	green	immunis-	free	tri-	three
chrom-	color			trop-	turning
chron-	time	leuc-	white		
coel-	hollow	lith-	stone	ventr-	belly
com-/con-/co-	with, together	luna-	moon		
contra-	against			uni-	one
cran-	head	macro-	large		
cyt-	cell	meta-	change	zo-	animal
		micro-	small		
de-	from, away	mono-	single		
deca-	ten	multi-	many		
derm-	skin	morph-	form		
den-	tooth				
di-	two, double	neo-	new		
dia-	through, across	non-	not		
dis-/dif-	apart from, deprive	neur-	nerve		

SUFFIX LIST = endings

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

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? _____

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? _____