

Name \_\_\_\_\_

Date \_\_\_\_\_ Class \_\_\_\_\_

## 9. Words and Roots

The challenge of understanding a new word can often be simplified by carefully examining the word. Many words can be divided into three parts: a prefix, root, and suffix. A prefix consists of one or more syllables placed in front of a word. The root is the main part of the word. The suffix consists of one or more syllables at the end of a word. Prefixes and suffixes modify or add to the meaning of the root.

A knowledge of common prefixes, roots and suffixes can give you clues to the meaning of an unfamiliar word and help make learning new words easier. For example, each of the word parts in the chart below can be combined with the root *derm* to form another word.

Prefix	Root	Suffix
	derm	-otology
	derm	-otologist
hypo-	derm	-ic
	derm	-atitis
pachy-	derm	

Use the chart above to form five words using the root *derm*. Then use the list of word parts and their definitions below to write what you think is each word's meaning.

Word part	Definition	Word part	Definition
derm (root)	skin	-ic	of or pertaining to
-logy (suffix)	the study of	-itis	inflammation
-ist (suffix)	one who practices or deals with something	pachy-	thick
hypo-	below or under		

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**Words and Roots**

Following is a chart of prefixes, suffixes, and roots commonly found in the study of biology. Each is followed by its usual meaning, an example of a word in which it is used, and a definition of that word. Examine the word-part definition and the example of its usage given. Then go down the first column and mark each word part with a P, an R, or an S for prefix, root, or suffix, depending on how the word part is used in the example given.

Prefix, root or suffix	Definition	Example
1. a-	not, without	asymmetrical, not symmetrical
2. ab-	away, apart	abduct, move away from the middle
3. -able	able	viable, able to live
4. ad-	to, toward	adduct, move toward the middle
5. amphi-	both	amphibian, type of vertebrate, like a frog, that lives both on land and in the water
6. ante-	before	anterior, front of an organism
7. anti-	against	antibiotic, substance, such as penicillin, capable of killing some disease-causing organisms
8. arche-	ancient	<i>Archaeopteryx</i> , earliest known fossil bird
9. arthro-	joint	arthropod, jointed-limbed organism belonging to the phylum Arthropoda
10. auto-	self, same, automatic	autotrophic, able to manufacture its own food; autonomic, self-controlling, functionally independent as the autonomic nervous system
11. bi-	two	bivalve, mollusk with two shells
12. bio-	life	biology, the study of life
13. blast-	embryo	blastula, hollow ball stage in the development of an embryo
14. carcin-	cancer	carcinogenic, causing cancer
15. cereb-	brain	cerebrum, part of the vertebrate brain
16. chloro-	green	chlorophyll, green pigment in plants necessary for photosynthesis
17. chromo-	color	chromosome, structure found in eukaryote cells that contains DNA
18. chondro-	cartilage	Chondrichthyes, cartilaginous fish
19. circ-	around	circulatory, system for moving fluids through the body
20. -cide	kill	insecticide, a substance that kills insects

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Prefix, root or suffix	Definition	Example
21. co, con-	with, together	conjoined twins, identical twins physically joined by a shared portion of anatomy at birth
22. -cycle	circle	pericycle, layer of plant cells
23. cyt-	cell	cytology, the study of cells
24. de-	remove	dehydration, remove water
25. derm-	skin	dermatology, study of the skin
26. di-	two	diploid, full set of chromosomes found in somatic cells
27. dia-	through	dialysis, separating molecules using a membrane
28. ecol-	dwelling, house	ecology, the study of living things and their environments
29. ecto-	outer, outside	ectoderm, outer germ layer of developing embryo
30. -ectomy	removal	appendectomy, removal of the appendix
31. endo-	inner, inside	endoplasm, cytoplasm within the plasma membrane
32. epi-	upon, over	epiphyte, plant growing upon another plant
33. ex-, exo-	outside of	exobiology, the search for life elsewhere in the universe
34. gastro-	stomach	gastropod, type of mollusk
35. -gen	type	genotype, genes in an organism
36. -gram	write or record	climatogram, depicting the annual precipitation and temperature for an area
37. hemi-	half	hemisphere, half of a sphere
38. hetero-	different	heterozygous, different alleles inherited from parents
39. hist-	tissue	histology, the study of tissues
40. homeo-	the same	homeostasis, maintain the same conditions in an organism as the environment changes
41. hydro-	water	hydroponics, growing plants in water instead of soil
42. hyper-	above, over	hypertension, blood pressure consistently higher than normal
43. hypo-	below, under	hypothalamus, part of the brain
44. -ic	of or pertaining to	hypodermic, pertaining to under the skin

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Prefix, root or suffix	Definition	Example
45. inter-	between, among	interbreed, breed within a family or strain
46. intra-	within	intracellular, inside a cell
47. iso-	equal	isogenic, having an identical set of genes
48. -ist	someone who practices or deals with something	biologist, someone who studies life
49. -logy	study of	biology, the study of life
50. macro-	large	macromolecule, large molecule such as DNA or proteins
51. mal-	bad	malnourished, poor nutrition
52. mega-	large	megaspore, larger of two types of spores produced by some ferns and flowering plants
53. meso-	in the middle	mesoglea, jellylike material found between outer and inner layer of coelenterates
54. meta-	change	metamorphosis, change in form in insects
55. micro-	small	microscopic, too small to be seen with unaided eye
56. mono-	one, single	monoploid, one set of alleles
57. morph-	form	morphology, study of form of organisms
58. neo-	new	neonatal, newborn
59. nephr-	kidney	nephron, functional unit of the kidney
60. neur-	nerve	neurotransmitter, chemical released by a neuron to stimulate or inhibit other neurons
61. oo-	egg	oogenesis, gamete formation in female diploid organisms
62. org-	living	organism, living thing
63. -oma	swelling	carcinoma, cancerous tumor
64. orth-	straight	orthodontist, dentist who straightens teeth
65. pachy-	thick	pachyderm, thick-skinned animal such as an elephant
66. para-	near, on	parasite, organism that lives on and gets nutrients from another organism
67. path-	disease	pathogen, disease causing organism
68. peri-	around	pericardium, membrane around the heart

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Prefix, root or suffix	Definition	Example
69. photo-	light	phototropism, bending toward light by plants
70. phyto-	plants	phytoplankton, part of plankton consisting of plant life
71. poly-	many	polypeptide, sequence of amino acids joined together to form a protein
72. -pod	foot	pseudopod, false foot that projects from the main part of an amoeboid cell
73. pre-	before	prediction, a forecast of events before they take place; the outcome, if a hypothesis is accepted
74. -scope	instrument to see something	microscope, instrument to see very small objects; telescope, instrument to see very distant objects
75. semi-	partially	semipermeable, allowing some particles to move through
76. -some	body	chromosome, structure found in eukaryotic cells and that contain DNA
77. sub-	under	substrate, molecule on which an enzyme acts
78. super-, supra-	above	superficial, on or near the surface of a tissue or organ
79. syn-	with	synapse, junction of one neuron with another
80. -tomy	to cut	appendectomy, to cut out the appendix
81. trans-	across	transformation, the transfer of genetic material from one organism to another
82. -ur	referring to urine	urology, study of the urinary tract
83. visc-	organ	viscera, internal organs of the body cavity



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**Basic Skills Worksheets**  
**Words and Roots**

Words that should be formed in the first exercise are:

1. dermatology—the study of skin
2. dermatologist—the one who studies skin
3. hypodermic—below or under the skin
4. dermatitis—inflammation of the skin
5. pachyderm—thick-skinned

