

The Greek Alphabet

Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω
α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ ς τ υ φ χ ψ ω
σ

Αα = Aa, *alpha*

Ββ = Bb, *beta*

Γγ = Gg, *gamma*

Δδ = Dd, *delta*

Εε = Ee (short “e” like ‘pet’), *epsilon*

Ζζ = Zz (an ‘sd’ sound), *zeta*

Ηη = Ee (long “e”, pronounce like “eh”), *eta*

Θθ = Th, th, *theta*

Ιι = Ii, *iota*

Κκ = Kk/Cc, *kappa* (usually transliterated as a “c”)

Λλ = Ll, *lambda*

Μμ = Mm, *mu*

Νν = Nn, *nu*

Ξξ = Xx (a ‘ks’ sound), *xi*

Οο = Oo (short ‘o’ sound like ‘bought’), *omicron*

Ππ = Pp, *pi*

Ρρ = Rr/rh/rrh (usually “rh” at the beginning of a word, “rrh” within a word), *rho*

Σσς = Ss (first letter capital, second lowercase, third lowercase at the end of words), *sigma*

Ττ = Tt, *tau*

Υυ = Uu/Yy (pronounced “u”), *upsilon*

Φφ = Ph, ph, *phi*

Χχ = Ch, ch (pronounced like a soft “k”), *chi*

Ψψ = Ps, ps (“p” not usually pronounced in modern spelling), *Psi*

Ωω = Oo (long “o”), *omega*

Diphthongs (i.e. combinations of vowels) and Double Consonants

αι = e/ae (like ‘eye’)

ου = u/ou (like ‘boot’)

αυ = au (like ‘plow’)

γγ = ng (like ‘anger’)

ει = i/ei (like ‘wait’)

γκ = nk (like ‘banker’)

ευ = eu (like ‘ew, gros!’)

γχ = nch (properly like ‘sinkhole’ or, fudged, ‘lunch’)

οι = e/oe (like ‘boy’)

γξ = nx (like Sphinx)

Vocabulary List 1

Each class you will be given a vocabulary list like this one. They contain the word-elements, grouped into prefixes, suffixes, and roots, you are responsible for in this class. Each element is **bolded** and accompanied by the Greek/Latin word(s) from which it derives. Its meaning(s) is then set out with ‘ ’ and examples of its use are given in bullet points (•). These examples are there for illustration, and NOT necessarily the words you will encounter on a quiz/test.

Greek Prefixes

Note: bracketed vowels, like ant(i), indicate that the final vowel of said prefix trends to drop out when it connects to an element starting with a vowel or h. Alternate spelling changes are also noted.

a- (an- before vowels or h) (ἀ-)

‘not’, ‘without’

- atheist, anaesthetic (*inducing a lack of sensation*)

amphi-, ampho- (ἀμφί)

‘both’, ‘on both sides of’, ‘around’

- amphibious, amphitheatre

ana- (ἀνα)

‘up’, ‘back’, ‘again’

- analysis, anatomy, anachronism

ant(i)- (ἀντί)

‘against’, ‘opposite’

- antidote, antagonist, antarctic

ap(o)- (ἀπο)

‘from’, ‘off’, ‘away’

- apology, apostle, apheliotropism (*the habit in plants of bending away from the light*)

cat(a)- (κατά)

‘down’, ‘against’, ‘according to’

- catalyst, catastrophe, category, catholic (*universal, i.e. ‘in respect of the whole’*)

di(a)- (διά)

‘through’, ‘across’, ‘between’, ‘apart’

- diameter, diagnosis, diocese

NOTE: not to be confused with DI- ‘twice’ of List 4 or the Latin prefix dis-/di- ‘apart’ of List 6.

dys- (δυσ-)

‘bad’, ‘disordered’, ‘difficult’

- dysentery, dystrophy

es-, eis- (εἰς)

‘inward’, ‘into’

- esoteric, esodic (or eisodic)

ec- (ex- before vowels or h) (ἐκ, ἐξ)

‘out’, ‘out of’, ‘outside’

- exodus, exodontist

NOTE: not to be confused with the root EC ‘house’ below.

en- (em-, el- depending on letter it connects with) (έν)

‘in’, ‘into’, ‘inward’

- energy, embryo, emphatic

enanti- (= en- + anti-) (έναντι-)

‘opposite’

- enantiopathy (*the treatment of disease by contraries*), enantiobiosis (*the condition in which associated organisms are antagonistic to each other*)

end(o)-, ent(o)- (ἔνδον, ἐντός)

‘within’, ‘inner’

- endocrine, entophyte, endarteritis, entoptic

ep(i)- (ἐπί)

‘upon’, ‘on’, ‘to’, ‘in addition to’

- epidemic, epidermis, epitaph

eu- (εὖ)

‘well’, ‘good’, ‘normal’

- eugenics, eulogy

exo-, ecto- (ἐξο-, ἐκτός)

‘outside’, ‘external’

- exoskeleton, ectoparasite

hyper- (ὑπέρ)

‘over’, ‘excessive’, ‘more than normal’

- hypercritical, hypertension

hyp(o)- (ὑπό)

‘under’, ‘below normal’, ‘slightly’

- hypodermic, hypothesis, hyphen, hypaesthesia

met(a)- (μετά)

‘after’, ‘change’, ‘transfer’

- metamorphosis, metencephalon

par(a)- (παρά)

‘beside’, ‘resembling’, ‘disordered’

- parasite, paratyphoid, parenthesis, paramedical

peri- (περί)

‘around’, ‘near’

- periscope, perimeter

pro- (πρό)

‘before’, ‘in front of’, ‘forward’

- program, prologue, prostate

pros- (πρός)

‘toward’, ‘in addition’, ‘fronting’

- proselyte, prosthetic, prosencephalon

syn- (sym-, syl-, sy-, sys- depending on letter it connects with) (σύν)

‘with’, ‘together’

- synthetic, symphony, systole, synonym

Greek Adjective-Forming Suffixes

-al (-*alis*)

‘pertaining to’, ‘like’, ‘belonging to’,
‘having the character of’

- Biological

NOTE: this is technically derived from a Latin adjective ending, though Latin used it to form adjectives out of Greek words.

-an, -ian (-*anus*)

‘pertaining to’, ‘like’, ‘one connected with’

- Amphibian, protozoan, theologian

NOTE: Same deal as with **-al** above.

-ous, -ious (-*osus*)

‘full of’, ‘having’, ‘pertaining to’, ‘like’

- Amphibious, synonymous,
homogeneous

NOTE: Same deal as with **-al** above.

-ic, -tic, (-ac after -i) (-*ikos*)

‘pertaining to’, ‘like’

- Gastric, static, cardiac

-ics, -tics (-*ikos*)

‘art, science or study of’

- Physics, genetics, pediatrics =

-oid, -ode (-*oidēs, -oideēs*)

‘like’, ‘having the shape of’

- Spheroid, adenoid, nematode,
phyllode

Greek Compound Suffixes I (Adjective Forming)

-genous, -genic (GEN- + -ous/-ic)

‘producing’, ‘produced’

- photogenic, endogenous, cytogenous

NOTE: the root GEN- is Latin, and will be learned in Unit 10.

-oecious (OEC- + -ious)

‘having a house or dwelling’

- monoecious (*having male and female sex organs in the same individual*), androdioecious
(*having perfect and staminate flowers on different plants*)

-philous, -philic (PHIL- + -ous/-ic)

‘loving’, ‘thriving in’

- necrophilic, anemophilous

Greek Roots I

ACOU-, (ACU-) (ἀκούω)

‘to hear’

- ACOU-smat-a-GNO-sis; inability to recognize spoken words;
- an-ACU-sia, complete deafness

AESTHE-, (ESTHE-) (αἶσθημα)

‘to feel’, ‘to perceive’

- syn-AESTHE-sia, a secondary sensation accompanying an actual perception;
- ACANTH-AESTHE-sia, a sensation as of pricking with a needle

ALG- (ἄλγος)

‘pain’ (-*algisia*, ‘sense of pain’)

- an-ALG-esic, a drug acting to relieve pain;
- nost-ALG-ia, a sentimental longing or wistful affection for a period in the past

AMBLY- (ἀμβλύς)

‘dull’

- AMBLY-CEPHAL-idae, a genus of broad-headed, nonpoisonous snakes, bluntheads;
- AMBLY-ACU-sia

ANTH- (ἄνθος)

‘flower’

- ANTHO-philous, attracted by flowers, feeding on flowers;
- ex-ANTH-ema, an eruption on the skin

ARTHR- (ἄρθρον)

‘joint’, ‘speech sound’, ‘articulation’

- dys-ARTHR-ia, impairment of speech articulation

BI- (βίος)

‘life’

- sym-BIO-sis, living together for mutual benefit

NOTE: Not to be confused with the homonymous Latin root BI- ‘two’ of List 10.

BALL-, BOL-, BLE- (βάλλω)

‘to throw’, ‘to put’

- BALL-ist-ics;
- sym-BOL;
- em-BOL-ism, destruction of a blood vessel by foreign matter lodged in it;
- em-BOLO-LAL-ia, insertion of meaningless words into speech

BRADY- (βραδύς)

‘slow’

- BRADY-LEX-ia, slowness in reading;
- BRADY-CARD-ia, slowness of the heart

BUL- (BOUL-) (βούλομαι)

‘will’, ‘volition’

- a-BUL-ia, loss of ability to make decisions

NOTE: Not to be confused with the similar Latin root BULL- ‘bubble’ of List 7

CARDI- (καρδιά)

‘heart’

- MYO-CARDI-al, pertaining to the muscular tissue of the heart

CEPHAL- (κεφαλή)

‘head’ (enCEPHAL-, ‘brain’)

- CEPHALO-POD;
- pros-ENCEPHAL-on, forebrain or anterior brain vesicle of the embryo;
- met-ENCEPHAL-on

CHONDR-, CHONDRI- (χόνδρος)

‘cartilage’, ‘granule’ (orig, ‘groat (hulled grain) of wheat’)

- peri-CHONDRI-um; fibrous connective tissue covering cartilage

CHROM-, CHROMAT-, CHRO- (χρῶμα, χρώματα)

‘colour’

- meta-CHRO-sis, the change or play of colours seen in the squid, chameleon, etc.

CRYPT- (κρυπτός)

‘hidden’

- CRYPT; CRYPTO-GRAPH-y;
- CRYPT-ic;
- CRYPTO-PHYTE, a plant the produces buds underground or underwater;
- CRYPT-ORCH-ism; condition wherein the testes do not descend

DACTYL- (δάκτυλος)

‘finger’, ‘toe’

- DACTYLO-lysis, a tropical disease in which a toe is slowly and

spontaneously amputated by a fibrous ring

DE-, DESM- (δέω; δεσμός)

‘to bind’; ‘binding’, ‘ligament’

- amphi-DESM-ic, furnished with a double ligament;
- syn-DESMO-logy, the study of ligaments;
- syn-DE-sis, state of being bound together

NOTE: not to be confused with the Latin prefix de- of List 6.

DEM- (δημος)

‘people’, ‘country’

- apo-DEMI-ALG-ia, morbid dislike of home life and a desire to wander;
- epi-DEM-ic, occurring widely within a certain geographic area;
- ec-DEM-ic, of foreign origin, opp. of en-DEM-ic

DERM- (δέρμα)

‘skin’

- PODO-DERM a hoof’s dermal layer;
- the DERM-is lays between the epi- DERM-is and the subcutaneous tissues

DROM- (δρόμος)

‘running’, ‘course’

- syn-DROME, symptoms that occur together and characterize a particular disease;
- a-DROM-ia; failure of impulse conduction in muscles or nerves

ENTER- (έντερον)

‘intestine’

- an-ENTER-ous, having no alimentary tract;
- MY-ENTER-ic, relating to the muscular coat of the intestine;
- dys-ENTER-y

ERG- (ἔργον)

‘work’

- endo-ERG-ic; relating to the absorption of heat, endothermic;
- ADREN-ERG-ic, activated by adrenaline

GAM- (γάμος)

‘marriage’, ‘union’

- a-GAMO-GENE-sis, asexual reproduction;
- GAM-ete, a sexual cell capable of uniting with another to form a new individual, such as sperms and eggs

GE- (γῆ)

‘earth’

- amphi-GE-an; living around the world;
- GEO-CARP-y, ripening of fruits underground (peanuts, for instance)

GEN(E), GON- (γίγνομαι --) ἐγενόμην; γένος; γονή)

‘to be produced’, ‘to produce’; ‘seed’

- GENE-sis;
- eu-GEN-ics (i.e. ‘producing well’);
- COCCO-GONE, a reproductive cell in certain algae;
- GON-ad, an organ that produces gametes; a testis or ovary

NOTE: not to be confused with the Latin roots GEN(U)- ‘knee’ and GEN- ‘produce’ of List 10

GER-, GERONT- (γέρων, γέροντος)

‘old person’, ‘old age’

- GERONTO-phobia, morbid fear of old age;
- GER-ODONT-ia, dentistry for the aged;
- GERONTO-logy

NOTE: not to be confused with the Latin root GER- ‘carry’ of List 7.

GNATH- (γνάθος)

‘jaw’

- dys-GNATH-ic, pertaining to improperly developed jaws;
- GNATHO-THECA, the horny outer covering of a bird’s lower jaw

GNO- (γνώμα; γινώσκω)

‘to know’

- BAR-a-GNO-sis; loss of perception of weight;
- AUTO-TOP-a-GNO-sia, loss of ability to orient parts of one’s own body

GRAPH-, GRAM- (γράφω; γράμμα)

‘to write’; ‘thing written’

- DROMO-GRAPH, instrument for registering the velocity of blood current

HEPAT-, HEPAR- (ήπαρ, ήπατος)

‘liver’

- HEPAR-in, a substance or mixture of substances occurring in liver and other tissues having the property of prolonging the clotting time of blood;
- HEPAT-itis, inflammation of the liver

HOD-, OD- (ὁδός)

‘road’, ‘way’

- HODO-phobia, fear of travel;
- UR-OD-eum, a tract for carrying urine

KINE- (CINE-) (κινέω)

‘to move’

- a-KIN-AESTHE-sia, loss of muscle sense or sense of movement;
- eu-KINE-sia; normal power of movement;
- TELE-KINE-sis; the alleged ability to move objects without touching them

LEX- (λέξις)

‘to read’

- BRADY-LEX-ia, abnormal slowness in reading;
- dys-LEX-ia, impairment of the ability to read

LECITH- (λέκιθος)

‘yolk’

- CENTRO-LECITH-al, having the yolk aggregated in the centre;
- LECITH-in describes a group of yellow-brown fatty substances first isolated in egg yolks

MNE- (μνήμα; μμνήσκω)

‘to remember’

- a-MNE-sia, loss of memory;
- ACOU-st-a-MNE-sia, inability to remember sound;
- AUTO-ana-MNE-sia; history related by the patient

MORPH- (μορφώω)

‘form’

- meta-MORPHO-sis; changing form;
- PHYLLO-MORPHO-sis; variation of leaves in different seasons

MY-, MYS-, MYOS- (μῦς, μύος)

‘muscle’

- MYO-CHROME, any muscle pigment;
- MY-ENTER-ic;
- MYO-CARDI-al

NEPHR- (νεφρός)

‘kidney’

- peri-NEPHR-ium, the connective or adipose tissue surrounding a kidney

ODONT- (ὀδοῦς, ὀδόντος)

‘tooth’

- ex-ODONT-ist, a specialist in tooth extraction;
- pros-TH-ODONT-ia; the replacement of teeth by artificial means, a branch of dentistry

OPHTHALM- (ὀφθαλμος)

‘eye’

- MEGAL-OPHTHALM-us or MEG-OPHTHALM-us, excessive largeness of the eyes

OSM- (ὀσμή)

‘smell’

- an-OSM-ia, absence of sense of smell;
- MACR-OSM-atic, possessing a highly developed sense of smell

OST(E)- (ὀστέον)

‘bone’

- OSTEO-DERM-ia, bony formations in the skin;
- OSTE-ana-GENE-sis, regeneration of bone

NOTE: don’t confuse with Latin root OST- ‘door’ of List 8.

EC-, (OEC-, OEK-), OIK-, OIC- (οἶκος)

‘house’

- ECO-nomy;
- ECO-logy, that part of biology which deals with the relationship between organisms and their surroundings;
- GYN-OEC-ium, pistils, carpels and female organs of a flower

NOTE: not to be confused with the prefix ec- ‘out’ above.

PHIL- (φίλος)

‘to love’, ‘have an affinity for’

- GEO-philous, living on or around earth;
- POLY-CHROMATO-PHIL-ism, capacity to be stained with more than one dye

PHOR-, PHER- (φέρω; φορά)

‘to bear’, ‘to go’

- eu-PHOR-ia, exaggerated feeling of well-being;
- meta-PHER-y, displacement of organs

PHYLL- (φύλλον)

‘leaf’

- PHYLLO-POD-ous, having leaflike swimming feet, as in branchiopods, (some shrimp, for instance)

PHYT- (φυτόν)

‘plant’, ‘growth’

- endo-PHYTE, a plant growing within another;
- ZOO-PHYTE, an animal resembling a plant, such as a sponge

PLAS(T)- (πλαστός)

‘to form’, ‘to mould’

- hyper-PLAS-ia, excessive formation of tissue;
- meta-PLAS-ia, transformation of one form of adult tissue to another

PLEX-, PLEG- (πληγή; πλήσσω--)
ἐπλεξα)

‘to strike’, ‘to paralyse’

- apo-PLEX-y, sudden paralysis with loss of consciousness, when a blood vessel in the brain breaks or is blocked

NOTE: don’t confuse with Latin root PLEX- ‘braid’ of List 9

POD-, -PUS (πούς, ποδός)

‘foot’

- CEPHALO-POD; mollusc with sucker-bearing arms on its head, such as an octopus

PROCT- (πρωκτός)

‘anus’, ‘rectum’

- PROCTO-logy; medical specialty concerned with the anus, the rectum and the sigmoid colon

SOM-, SOMAT- (σῶμα, σώματα)

‘body’

- SOM-AESTHE-sia, sensibility to bodily sensations;
- GYMNO-SOMAT-ous, having no shell or mantle, as certain molluscs

STOL-, STAL-, -STLE (στάλσις; στέλλειν)

‘to send’, ‘to contract’

- peri-STAL-sis, rhythmic contraction of the alimentary canal that sends its contents downward;
- ana-STAL-sis, its opposite, the same as anti-peri-STAL-sis;
- sy-STOLE, contraction of the heart

STOM-, STOMAT- (στόμα, στόματα)

‘mouth’, ‘opening’

- STOMAT-itis; inflammation of the mouth, not the stomach;
- ENTERO-stomy; operation to form an opening into the intestine;
- MICRO-STOME, a small opening or orifice

THE- (τίθημι)

‘to put’, ‘to place’

- ALL-en-THE-sis, introduction of foreign substance into the body;
- meta-THE-sis, a chemical reaction with an exchange of radicals

THEC- (θήκη)

‘case’, ‘sheath’

- THECA, spore or pollen case;
- THECA-PHORE, a structure on which a theca is borne;
- THEC-ODONT, having teeth in sockets

THERM- (θερμός)

‘heat’

- a-dia-THERM-ancy, imperviousness to heat waves;
- hyper-THERM-algesia, abnormal sensitivity to heat

TOM- (τομή)

‘cut’, ‘section’ (enTOM-, ‘insect’)

- LITHO-TOM-ous, stone-boring, as certain molluscs

TOP- (τόπος)

‘place’

- a-TOPO-GNO-sia, lack of ability to locate a sensation accurately;
- OST-ec-TOP-y, displacement of a bone

TROP-, TREP- (τροπή; τρέπω)

‘to turn’, ‘response to stimulus’

- apo-TROP-aic; intended to avert evil;
- ap-HELIO-TROP-ism, turning away from the sun;
- TREP-omena, a genus of spiral bacteria, including *Trepomena pallidum*, which causes syphilis.

TROPH- (τροφή)

‘nourishment’, ‘development’

- AUTO-TROPH, organism capable of self-nourishment;
- TROPHO-TROP-ism, tendency of an organism to turn towards its food supply;
- dys-TROPH-y; deficiency of nourishment

UR- (ούρον)

‘urine’, ‘urinary system’

- UR-EM-ic, describes the presence of urine in the blood;
- UR-OD-eum, a tract for carrying urine;
- URE-ter, the duct by which urine passes from the kidney to the bladder or cloaca (URE-, ‘to urinate’)

NOTE: don’t confuse this one with the homonymous UR- ‘tail’ to be learned in List 3

ZO- (ζῷον)

‘animal’, ‘living being’

- ZOO-GAM-y, sexual reproduction in animals;
- ZOO-PHYTE
- ZOO-logy

Vocabulary List 2

Greek Noun-Forming Suffixes

-ter (or -re, after a root ending in -t, from French influence) (-τηρ)

‘means of’, ‘place of’

- Ureter, sceptor, sphincter, crater, theatre

-ist, -ast (-ιστης)

‘one who’

- Antagonist, gymnast, psychiatrist, bacteriologist

-te, -t (pl. -tes) (-της)

‘one who’, ‘that which’,

- Prophet, gemete, antidote, diabetes

-ician (from French -icien)

‘specialist in’, ‘practitioner of’

- Pediatrician, dietician, musician

-ia, -y (-ια)

‘state of’, ‘condition of’, ‘quality of’

- Hysteria, neuralgia, agony, philosophy

-ism, -ismus (-ισμος)

‘condition of’ (‘belief in’)

- Alcoholism, botulism, metabolism, laryngismus, strabism

-sis, -sia, -sy, -se (-σις)

‘act of’, ‘process of’ (sometimes the result of the process)

- Synthesis, diagnosis, amnesia, anaesthesia, ecstasy,

NOTE: nouns created with this suffix often also form adjectives with the -tic, -stic, suffix
‘pertaining to the act or process of’,
e.g. synthetic, analytic

-ma, -m, -me, -mat- (-μα, -ματος)

‘result of the act of’

- Cinema, drama, stigma, schism, theme

-oma, -omat- (-ομα, -οματος)

denoting tumours and other abnormal growths

- Melanoma, carcinoma, haematoma, glaucoma,
- NOTE: When followed by another element, the form is -omat-, e.g. melanomatous.

NOTE: this ending originally in Greek (-ωμα) was just a way to make any noun. In the 16th and 17th centuries, it was favoured by doctors for describing different medical conditions, and in the 19th century it began being used for cancers especially.

-osis (-ωσις)

‘diseased condition of’, ‘act of’, ‘process of’

- Psychosis, neurosis, hypnosis

-itis (-ιτις)

‘inflammation of’, ‘inflammatory disease of’

- Appendicitis, arthritis, tonsillitis

-in (-inus)

‘chemical substance’

- antitoxin, insulin, epinephrine

NOTE: Originally a Latin suffix, it was brought into German and then specially used in chemistry, where it was combined with many Greek roots.

-ium (-ιον → -ium)

‘part’, ‘lining or enveloping tissue’, ‘region’

- Perinephrium (*the connective and fatty tissue about the kidney*),

epigastrium (*the upper and middle region of the abdomen*)

-us (-ος → -us)

‘condition’, ‘person’

- anotus (*a Sphenomorphus anotus is a lizard without external ears*);
Hydrocephalus (*a condition in which fluid accumulates in the brain*)

-idae, -ida, -id (-ιδ-)

‘descended from’, ‘related to’

- Acaridae, arachnida/arachnid

Greek Compound Suffixes II (Noun-Forming)

-aemia, (-emia) (= (H)AEM/(H)EM- + -ia)

‘condition of the blood’, ‘congestion of blood’

- anaemia, leukaemia, anoxaemia

-logy (= LOG- + -y)

‘science of’

- physiology, cardiology, psychology

-lysis (= LY- + -sis)

‘dissolution of or by’ (‘surgical division or separation’)

- hydrolysis, nephrolysis, electrolysis

-mania (= MAIN- + -ia)

‘madness for or about’

- kleptomania, dipsomania, egomania, monomania

NOTE: the Greek root MAIN- used here means ‘fury, anger.’ It is not learned as a separate root in this class since it is mainly either used in this compound suffix today, or as the stand-alone noun ‘mania.’

-pathy (= PATH- + -y)

‘disease of’, ‘treatment of disease of or by’

- osteopathy, neuropathy, hydrotherapy

-phobia (= PHOB- + -ia)

‘abnormal fear of’

- claustrophobia, agoraphobia, hydrophobia

NOTE: the Greek root PHOB- used here means ‘fear.’ It is not learned as a separate root in this class since it is mainly used in this compound suffix today.

-therapy (= THERAP- + -y)

‘treatment of or by’

- chemotherapy, psychotherapy, heliotherapy

NOTE: This one is taken straight from the Greek noun *θεραπεία*, which means ‘service, healing-service.’ It is, of course, used as a stand-alone noun in English today.

-tomy (= TOM + -y)

‘surgical operation on’, ‘surgical cutting of’

- glossotomy, gastrotomy, lobotomy

-ectomy (= ec- + TOM- + -y)

‘surgical operation’, ‘surgical removal of’

- appendectomy, tonsillectomy

-uria (= UR- + -ia)

‘condition of the urine’

- haematuria, acetonuria, noctambulminuria

-hedron

‘solid figure having a (specified) number of faces’

- icosahedron, dodecahedron

NOTE: This suffix is taken directly from Greek, where the suffix *-εδρον*, derived from the noun *ἔδρα* (‘seat, position’), was used in geometry to denote figures.

-iasis (= -ia + -sis) (-ασις)

‘diseased condition’; often refers to an infestation by parasites

- psoriasis, amebiasis, elephantiasis

NOTE: Greek especially used the suffix *-ασις* for nouns describing infestation, hence its modern usage.

-meter and -metry (= METR- + -re / METR- + -y)

‘instrument for measuring’, ‘measure’ and ‘art or science of measuring’;

- thermometer, anemometer, perimeter, telemetry, optometry, photometry

NOTE: the root METR- ‘measure’ is basically only used today within one of these compound suffixes. Don’t confuse it with the homonymous root METR- ‘uterus’ of List 3. The difference in Greek is the vowel length: *μετρ-* + *μητρ-* respectively.

-nomy (= NOM- + -y)

‘science of’, ‘system of laws governing’, ‘rules for the direction of’

- agronomy, astronomy, economy, autonomy

NOTE: the root NOM- ‘law’ is basically only used today within this compound suffix and so is not learned separately. Don’t confuse it with the homonymous Latin root NOM- ‘name’ of List 6.

-plasty (PLAST- + -y)

‘formation’, ‘plastic surgical operation’

- arthroplasty, anaplasty, hysteroplasty

NOTE: the root PLAST- ‘mold, form’ is basically only used today within this compound suffix.

-rrhoea (RRH- + -ia)

‘flux’, ‘abnormal flow or discharge of’

- diarrhoea, gonorrhoea, logorrhoea

NOTE: the spelling is so because the whole Greek word *ῥοία*, “a flowing” is used, not the root alone.

-stomy- (STOM- + -y)

‘the making of a surgical opening’

- gastrostomy, arthroscopy, hepaticocenterostomy

Greek Diminutive Suffixes (Noun-Forming)

-ium, -ion (-ιον)

‘little’

- BACTER-ium, ‘little rod’ (pl. *bacteria*)
- POD-ium, ‘little foot’ (tube foot of echinoderm);
- THEC-ium, ‘little case’ (the spore-bearing layer in fungi);
- STOM-ion, ‘little mouth’ (the midpoint of the oral fissure determined with the lips closed)

-idium, -idion (-ιδιον)

‘little’

- CONI, ‘dust’ + -idium = conidium, a spore produced asexually by various fungi;
- BAS-, ‘base’ + -idium = basidium, a microscopic club-shaped spore-bearing structure produced by certain fungi;
- PLAST-, ‘to mould’ + -idion = plastidion, any of various small

bodies of specialized protoplasm lying in the cytoplasm of cells

-arium, -arion (-αριον)

‘little’

- CON-, ‘cone’ + -arium = conarium, pineal body;
- HIPPI-, ‘horse’ + -arion = Hipparion, a genus of extinct three-toed mammals related to horses

-isk, -iscus (-ισκος)

‘little’

- ASTER-, ‘star’ + -isk = asterisk;
- LEMN-, ‘ribbon’ + -iscus = lemniscus, a secondary sensory pathway of the central nervous system;
- MEN-, ‘moon’ + -iscus = meniscus, a crescent or crescentic body

Greek Verb-Forming Suffixes

-ize (-ιζειν)

‘to make’, ‘to treat’, ‘to do something with’

- Carbonize =
CARBON-, ‘coal’ + -ize
- Synchronize =
syn- + CHRON-, ‘time’ + -ize
- Antagonize =
ant(i) + AGON-, ‘to struggle’ + -ize

-ate (-atus, Latin, used with Greek roots)

‘to make’, ‘to treat’, ‘to do something with’

- Gyrate =
GYR-, ‘circle’ + -ate = gyrate;
- Aerate =
AER-, ‘air’ + -ate = aerate;
- Dehydrate =
de- + HYDR- + -ate = dehydrate

Greek Roots II

ACANTH- (ἄκανθος)

‘thorn’, ‘prickle’

- ACANTH-AESTHE-sia, a sensation as of pricking with needles;
- ACANTHO-CLAD-ous, having spiny branches

ACR- (ἄκρα)

‘extremity’, ‘summit’

- ACRO-MICR-ia, underdevelopment of the extremities and of the skull as contrasted with visceral development;
- ACRO-GER-ia, premature aging of skin of the hands and feet

ACTIN- (ἄκτις, ἄκτινος)

‘ray’

- ACTINO-GEN-ic, producing radiation;
- ACTINO-STOME, mouth of the sea anemone, or five-rayed oral aperture of the starfish

AER- (ἄήρ)

‘air’, ‘gas’

- AERO-CYST, an air vesicle of algae;
- AERO-CYSTO-SCOP-y, examination of the interior of the urinary bladder with a cystoscope, with the bladder distended with air;
- AERO-PHYTE, a plant which grows attached to an aerial portion of another plant

AGON- (ἄγών)

‘contest’, ‘to struggle’

- AGON-y;
- AGON-ize;
- AGON-ist, (in anatomy) a muscle whose contraction moves a part of the body directly, (in biochemistry) a substance which initiates a physiological response when combined with a receptor

AMYGDAL- (ἀμυγδάλη)

‘almond’, ‘tonsil’

- AMYGDAL-itis; inflammation of the tonsils, tonsillitis;
- AMYGDALAE, almond-shaped structures in the medial temporal lobes of the brain, responsible for memory and emotional reactions

AMYL- (ἄμυλον)

‘starch’

- AMYLO-LYSIS, the digestion of starch or its conversion to maltose;
- AMYLO-PLAST, a leucoplast or colourless, starch-forming granule

ANDR- (ἀνήρ, ἀνδρός)

‘man’, ‘male’

- ANDRO-GYN-y, hermaphroditism;
- ERG-at-ANDR-ous, having worker-like males

ANTHROP- (ἄνθρωπος)

‘human being’

- ANTHROPO-logy;
- ANTHROPO-MORPH-ism;
- ANTHROPO-philic, showing a preference for human beings over other animals

ARGYR- (ἄργυρος)

‘silver’

- ARGYR-ia, the dusty grey or bluish discolouration of skin and mucous membrane produced by the prolonged administration or application of silver preparations;
- HYDR-ARGYR-OPHTALMIA, ophthalmia due to mercurial poisoning

AUT- (αὐτός)

‘self’

- AUT-OPS-y;
- AUTO-CYTO-TOX-in, a cell toxin produced against the cells of one’s own body;
- AUT-ODONT, designating or pertaining to teeth not directly attached to jaws, as in cartilaginous fish;
- AUTO-PHAG-ia, self-consumption, emaciation; biting of one’s own flesh, as in dementia

BA- (βαίνω)

‘to step’, ‘to go’, ‘to walk’

- BASO-phobia, morbid fear of walking or of standing erect; basis; acrobat

BAR-; BARY- (βαρύς)

‘weight’, ‘pressure’; ‘heavy’

- BAR-AESTHE-sia, perception of weight or pressure;
- BAR-ODONT-ALG-ia, dental pain occurring in individuals exposed to decreased barometric pressures such as occur in high-altitude flying, also called
- AER-ODONT-ALG-ia

BLENN- (βλέννα)

‘mucus’

- BLENN-OPHTHALM-ia, catarrhal conjunctivitis;
- OLIGO-BLENN-ia, a deficient secretion of mucus

BLEPHAR- (βλέφαρον)

‘eyelid’

- a-BLEPHAR-y, congenital absence of the eyelids;
- BLEPHARO-plasty, operation for the restoration of the eyelids; sym-
- BLEPHAR-osis, adhesion of the eyelids to the globe of the eye or to each other

BROM- (βρῶμος)

‘stench’, ‘bromine’

- BROMO-DERM-a; skin eruption due to ingestion of bromides;
- BROM-in-ism, bromine poisoning; bromide

CARCIN- (καρκίνος)

‘cancer’

- CARCINO-GEN, any cancer-producing substance;
- MASTO-CARCIN-oma, malignant mammary tumour

CHEIL-, CHIL- (χεῖλος)

‘lip’

- a-CHEIL-ia, congenital absence of the lips

CHOL(E)- (χολή)

‘bile’, ‘gall’

- CHOL-AGOGUE, agent which stimulates the flow of bile from the liver;
- CHOLO-CHROME, any bile pigment; EU-CHOLIA, normal condition of the bile; choleric; melancholy

CHRON- (χρόνος)

‘time’

- HETERO-CHRON-ism, departure from typical sequence in time of formation of organs;
- ana-CHRON-ism

CLAD- (κλάδος)

‘branch’

- HETERO-CLAD-ic, describing a communication between branches of different arteries;
- PHYLLO-CLAD (or CLADO-PHYLL), a green, flattened or round stem that functions as a leaf, as in cacti.

CLAS- (κλάσις; κλάω)

‘to break’

- ARTHRO-CLAS-ia, breaking down of ankylosis of a joint;
- CARDIO-CLAS-is, rupture of the heart; iconoclast

COL- (κόλον)

‘colon’

- COLO-PROCTO-stomy, formation of a new passage between the colon and the rectum;
- para-COL-itis; inflammation of the tissue adjacent to the colon;
- PHREN-ico-COL-ic or PHRENO-COL-ic, pertaining to the diaphragm and the colon

NOTE: not to be confused with the similar COLL(A)- ‘glue of List 5 or the homonymous Latin roots COL- ‘inhabit’ and COLL- ‘neck’ of List 7.

COPR- (κόπρος)

‘excrement’

- COPR-OD-aeum, the division of the cloaca which receives the rectum (cf. UR-OD-aeum);
- COPRO-LITH, a hard mass of faecal matter in the bowels

CRANI- (κράνιον)

‘cranium’

- amphi-CRAN-ia, headache affecting both sides of the head, as opposed to hemi-CRAN-ia;
- CHONDRO-CRANI-um, the embryonic cartilaginous cranium;
- peri-CRANI-um, the periosteum on the outer surface of the cranial bones

CRI-; CRIN- (κρίνω)

‘to separate’, ‘to distinguish’; ‘to secrete’

- epi-CRIT-ic, of sensory nerve fibres permitting very fine distinctions of temperature or touch; endo-CRINE, secreting internally;
- ENTERO-CRIN-in, a hormone produced by the intestinal mucosa stimulating the glands of the small intestine; critic; criterion

CRY-, CRYM- (κρύος; κρυμός)

‘cold’, ‘ice’

- CRY-AESTHE-sia, abnormal sensitiveness to cold

CYST- (κύστις)

‘bladder’, ‘cyst’, ‘sac’

- CYST-itis, inflammation of the urinary bladder;
- HAEMATO-CYST; a cyst containing blood;
- POLY-CYST-ic, containing many cysts

CYT- (κύτος)

‘cell’

- CHROMO-CYTE, any coloured cell;
- CYTO-DERM, in botany, a cell wall;
- CYTO-STOME, the oral aperture of a unicellular organism

DACRY- (δάκρυον)

‘tear’ (i.e. from crying, etc.)

- DACRYO-CYST-itis, inflammation of the lacrimal sac

DIPS- (δίψα)

‘thirst’

- a-DIPS-ia, absence of thirst, avoidance of drinking;
- DIPSO-phobia, a fear of drinking

DREPAN- (δρεπάνη)

‘sickle’

- DREPANO-CYTE, a crescent-shaped cell

DYNAM-, DYN- (δύναμις)

‘power’

- a-DYNAM-ia, loss of vital strength or muscular power, weakness;
- DYNAMO-meter, an instrument for the measurement of muscular strength

EME- (έμέω)

‘to vomit’

- hyper-EME-sis, excessive vomiting;
- EME-tic, having the power to evoke vomiting

ERYTHR- (έρυθρός)

‘red’

- an-ERYTHRO-BLEPS-ia or an-ERYTH-OPS-ia, impaired colour perception of red, red blindness;
- ERYTHRO-PHYLL, a red colouring matter in some leaves and red algae

EURY(S)- (εὐρύς)

‘wide’

- EURY-PHAG-ous, subsisting on a wide variety of foods;
- PROCT-EURY-nter, an instrument for dilating the anus or rectum

GASTR-, GASTER- (γαστήρ, γαστρός)

‘stomach’, ‘belly of a muscle’

- GASTRO-POD, a mollusc with ventral muscular disc adapted for creeping;
- meta-GASTR-ic, pertaining to posterior gastric regions

GLYC-, GLYCOS- (γλυκός; γλεῦκος)

‘sugar’, ‘glucose’

- GLYCO-LYSIS, the process of conversion of carbohydrate in tissue into pyruvic acid or lactic acid;
- hyper-GLYCOS-uria, the presence of excessive amounts of sugar in the urine

GYMN- (γυμνάς)

‘naked’, ‘uncovered’

- GYMNO-SOMAT-ous;
- GYMNO-CARP-ous, with naked fruit (applicable to lichens with uncovered apothecia);
- GYMNO-RHIN-al, having nostril region not covered by feathers, as some birds

GYN(E), GYNAEC- (GYNEC-) (γυνή, γυναικός)

‘female’

- GYNAECO-logy;
- ERG-ato-GYNE, female ant resembling a worker;
- GYN-ANDR-ous, having stamens fused with pistils, as some orchids;
- GYNAECO-MAST-ia, enlargement of the mammary gland in the male

HAEM-, HAEMAT-, (HEM-, HEMAT-) (αἷμα, αἷματος)

‘blood’

- a-CARDIO-HAEM-ia, lack of blood in the heart;
- HAEMATO-BI-c, living in blood;
- HAEMATO-PHAG-ous, pertaining to a blood-sucking insect

HELIC-, HELIX (ἑλιξ, ἑλικος)

‘spiral’

- HELIX, the rounded, convex margin of the ear;
- ant-HELIX, the curved ridge of the pinna just anterior to the helix

HELMINTH- (ἑλμινς, ἑλμινθος)

‘worm’

- ant-HELMINT-ic, destructive to worms;
- HELMINTHO-logy, the study of parasitic worms;
- HELMINTH-oma, a tumour caused by the presence of a parasitic worm

HETER- (ἕτερος)

‘other’, ‘different’

- HETERO-CHROM-ia, a difference in coloration in two parts or structures that are normally alike, as the the irises of the eyes;
- HETERO-PHOR-ia, any tendency of the eyes to turn away from the position correct for binocular vision;
- HERTERO-PHOR-ALG-ia, pain caused by heterophoria

HIDRO(S)- (ιδρώς)

‘sweat’

- syn-HIDROS-is, concurrent sweating; the association of perspiration with some other condition;
- ACRO-hyper-HIDROS-is, increased perspiration of the hands and feet;
- CHROM-HIDROS-is, a rare condition in which the sweat is coloured

HIST-, HISTI- (ιστός)

‘tissue’

- HISTO-KINE-sis, movement that takes place in the minute structural elements of the body;
- HISTO-meta-PLAS-tic, causing the transformation of one tissue into another type

HYDR- (ὑδωρ, ὕδρος)

‘water’, ‘fluid’

- HYDR-ARTHRO-sis, accumulation of fluid in a joint;
- HYDRO-TROP-ism, response to the stimulus of water

HYGR- (ὕγρως)

‘moisture’

- HYGRO-KINE-sis, movement in response to changes in humidity;
- HYGRO-STOM-ia, chronic salivation

HYSTER- (ὕστέρα)

‘uterus’, ‘hysteria’

- HYSTER-ia;
- HYSTERO-tomy, incision of the uterus

IATR- (ιατρός)

‘physician’, ‘medical treatment’

- PSYCH-IATR-y;
- POD-IATR-ist;
- IATRO-GEN-ic, induced by a physician; effect of physician’s words or actions upon a patient

ICHTHY- (ιχθύς)

‘fish’

- ICTHY-ODONT, a fossil fish tooth;
- ICTHYO-TOX-ismus, food poisoning from fish

IRID-, IRIS- (ἶρις, ἱριδος)

‘iris’, ‘rainbow’

- IRIDO-CYTE, a special cell responsible for the iridescence (!) of many fishes;
- IRIDO-dia-lysis, the separation of the iris from its attachments;
- IRIDO-KINE-sia, any movement of the iris;
- IRIDO-PLEG-ia, paralysis of the sphincter pupillae of the iris

ISCH- (ἴσχω)

‘to suppress’

- ISCHO-MEN-ia, suppression of the menstrual flow;
- ISCH-uria, retention or suppression of the urine

NOTE: careful not to confuse with similar ISCHI- ‘hip’ of List 3.

LAPAR- (λαπάρη)

‘abdomen’, ‘soft part of the body between the ribs and abdomen’

- LAPARO-TRACHELO-tomy; low caesarian section

LIP- (λίπος)

‘fat’

- LIPO-CHROME or CHROMO-LIPO-id, any one of the group of fat-like substances containing a pigment or colouring matter and occurring in natural fats such as egg yolks

LITH-, -LITE (λίθος)

‘stone’

- CRYO-LITE, sodium-aluminium fluoride, named from its icy appearance;
- DACRYO-LITH, a calcareous concretion in the lacrimal passages;
- LITHO-PHYLL, a fossil leaf or leaf impression

LOG- (λόγος)

‘word’, ‘speech’, ‘reason’

- ana-LOG-ous; dys-LOG-ia, difficulty in expression of words by speech;
- LOGO-PLEG-ia, loss of power of uttering articulate speech

LY- (λύω)

‘to loosen’, ‘to dissolve’, ‘to break up’

- DERMATO-LY-sis, abnormal laxation of the skin;
- LITHO-dia-lysis, solution of calculi in the urinary bladder; breaking up of a vesical calculus before its removal;
- LY-sin, a cell-dissolving substance

MAST-, MAZ- (μαστός; μαζός)

‘breast’

- ACRO-MAST-itis, inflammation of a nipple;

- hyper-MAST-ia, overgrowth of the mammary gland;
- a-MAST-ia, congenital absence of the mammae

MELAN- (μέλας, μέλανος)

‘black’, ‘dark’

- MELAN-CHOL-y;
- MELAN-in, a dark brown or black animal or plant pigment;
- MELAN-IDR-osis, a form of chromhidrosis in which the sweat is dark coloured or black

MEN- (μήνη)

‘moon’, ‘menstruation’

- MENO-PAUSE; ISCHO-MEN-ia

MYI- (μύια)

‘fly (the insect)’

- MYI-[i]asis, a disease caused by the invasion of fly larvae;
- OPHTHALMO-MYI-[i]asis, disease due to the presence of the larvae of flies in the eye

NECR- (νεκρός)

‘corpse’, ‘dead tissue’

- NECRO-TOX-in, a toxin produced by the death of cells;
- NECRO-PHAG-ous, eating carrion

OLIG- (ὀλίγος)

‘few’, ‘scanty’

- OLIG-ANDR-ous, having few stamens;
- OLIGO-HYDR-uria, urine with a relative diminution of water, highly concentrated urine

OP-, OPT- (ὄψις; ὀπτικά)

‘to see’

- CHROMATO-PSEUD-OP-sis, colour blindness;
- em-METR-OP-sia, normal or perfect vision, wherein parallel rays are focussed exactly on the retina without the effect of accommodation;
- PROSOP-a-GNO-sia, inability to recognize faces (PROSOP-, ‘face’)

ORTH- (ὀρθός)

‘straight’, ‘correct’

- an-ORTH-ite, feldspar not at right angles in cleavage, oblique cleavage;
- ORTH-optic, pertaining to normal binocular vision

OT- (ὄτις, ὠτός)

‘ear’

- di-OT-ic, binaural, pertaining to both ears;
- OTO-CYST, in invertebrates, an auditory vesicle, otocell or otidium, or in vertebrates, an embryonic auditory vesicle;
- OTO-LITH, calcareous particles or platelike structures found in the auditory organ of many mammals

PAED- (PED-) (παῖς, παιδός)

‘child’ (-pedia, ‘instruction’)

- PED-AGOG-y;
- PAED-IATR-ics;
- PAEDO-MORPH-ic, pertaining to retention in the adult of youthful and juvenile characteristics

PATH- (πάθος)

‘disease’, ‘suffering’, ‘feeling’

- sym-PATH-y;
- IDIO-PATH-ic, pertaining to a primary disease, i.e., one not the result of any other disease, but of spontaneous origin, or a disease for which no cause is known;
- PATHO-MIME-sis, imitation of the symptoms and signs of a disease

PHA-, PHAN- (φαίνω)

‘to appear’, ‘to show’

- dia-PHANE, transparent investing membrane of an organ or a cell;
- MYO-PHAN, muscle-like, applies to striation of protozoa;
- MENO-PHAN-ia, first appearance of the menses

NOTE: don’t confuse with PHA- ‘speak’ of List 4.

PHAG- (φαγεῖν)

‘to eat’

- PHAGO-CYTE, colourless blood corpuscle which tends to ingest foreign particles;
- PHYLLO-PHAG-ous, feeding on leaves

PHREN- (φρήν)

‘mind’, ‘diaphragm’

- PHREN-ic, pertaining to the mind or the diaphragm;
- GASTRO-PHREN-ic, pertaining to the stomach and the diaphragm, as the gastrophrenic ligament;
- HEBE-PHREN-ia, a type of schizophrenia characterized by extreme mannerisms, often caricaturing adolescent behaviour

POLY- (πολύς)

‘many’, ‘much’

- POLY-AESTHE-sia, an abnormality of sensation in which a single touch is felt in two or more places at the same time;
- POLY-PHAG-ous, eating various kinds of food; POLY-POD, furnished with many feet or legs

PSYCH- (ψυχή)

‘mind’, ‘soul’

- PSYCHO-logy;
- PSYCH-IATR-y

PY- (πύον)

‘pus’

- HYDRO-PYO-NEPHRO-sis, distention of the pelvis of the kidney with urine and pus;
- PYO-RRHE-a, a purulent discharge

RHE-, -RRH (ρέω)

‘to flow’, ‘current’

- dia-RRHOE-a;
- CRYPTO-RHE-tic, secreting internally, endocrine;
- RHEO-CARDIO-GRAPH-y, recording of differences of electrical conductivity of the body synchronous with the cardiac cycle;
- RHEO-PHORE, an electrode

RHIN-, -RRHIN- (ρίς, ρινός)

‘nose’

- amphi-RHIN-al, having or pertaining to two nostrils;
- GYMNO-RHIN-al, with nostril region not covered by feathers, as in some birds;

- RHIN-ENCEPHAL-on, that portion of the cerebrum concerned with olfactory impulses;
- RHINO-THECA, the sheath of the upper jaw of a bird

SCOP- (σκοπός; σκοπέω)

‘to view’

- CRYO-SCOPE, device for determining the freezing point of any liquid; endo-SCOPE, instrument used to examine an internal body cavity or viscus through its natural opening;
- SCOPO-phobia, morbid dread of being seen

NOTE: don’t confuse with Latin root SCOP- ‘broom’ of List 10

STA- (στάσις; ἵστημι --> ἕστην)

‘to stand’, ‘to stop’, ‘to fix’, ‘to regulate’

- a-cata-STA-sia, irregularity, nonconforming to type;
- BLEPHARO-dia-STA-sis, excessive separation of the eyelids, inability to close the eyelids completely;
- HAEMO-STA-sis, the stopping of a flow of blood

NOTE: Very similar to the Latin root STA- “stand” of List 9.

STYL- (στῦλος)

‘pillar’

- STYLE, the slender upper part of the pistil;
- sy-STYL-ous, in botany, with coherent styles

TAC-, TAX- (τάξις; τάττω)

‘to arrange’, ‘to put in order’

- ANTHO-TAX-is, arrangement of flowers on an axis;
- PHYLLO-TAX-is, arrangement of leaves on an axis or stem;
- a-MYO-TAX-ia, muscular ataxia or incoordination of spinal or cerebellar origin

TARS- (ταρσός)

‘instep’, ‘edge of the eye’

- TARS-ALG-ia, pain, especially of neuralgic character, in the tarsus of the foot;
- TARSO-plasty, plastic surgery of the eyelid

THANAT- (θάνατος)

‘death’

- THANTO-id, resembling death;
- THANATO-logy, the study of the phenomenon of organic death;
- THANATO-phobia, a morbid fear of death

Vocabulary List 3

Greek Roots III

ADEN- (ἀδὴν)

‘gland’

- ADENO-PHORE, the stalk of a nectar gland;
- HETER-ADEN-ia, an abnormality in the formation or location of gland tissue

AGOG(UE)- (ἀγωγός)

‘inducing the flowing’, ‘expelling’ (orig. ‘to lead’ or ‘to drive’)

- CHOL-AGOGUE, agent promoting the flow of bile;
- GALACT-AGOGUE, an agent that promotes the flow of milk;
- HELMINTH-AGOGUE, agent expelling worms from the body, an ant-HELMINT-ic

-AGRA (ἄγρα; ἀγρέω)

‘painful seizure’

- ARTH-AGRA, muscular pain in the joints;
- MEL-AGRA, muscular pain in the limbs

ANGI- (ἄγγειον)

‘vessel’

- ANGIO-STOMAT-ous, narrow-mouthed (applicable to molluscs and snakes with nondistensible mouths);
- GAMET-ANGI-um, a structure producing sexual cells

ARACHN- (ἀράχνης)

‘spider’ (occasionally ‘arachnoid membrane’)

- ARACHN-ida, a large class of ARTHRO-POD-a which includes spiders and mites;
- ARACHN-idium, device by which a spider web is produced

ARCH(E)- (ἀρχή)

‘ancient’, ‘beginning’, ‘primitive’

- ARCH-ENTER-on, embryonic alimentary cavity

ASC- (ἄσκός)

‘bag’

- ASC-us (pl. asci), a sac, typically cylindrical in shape, in which the spores of ascomycete fungi develop;
- ASCO-genous, producing asci;
- ASCO-MYCETE, a fungus whose spores develop within asci

ASTR-, ASTER- (ἀστήρ, ἀστέρος)

‘star’

- ASTER, the radiating structure surrounding the centrosome of a cell, seen at the beginning of mitosis;
- CYT-ASTER, the starlike system of cytoplasmic radiations surrounding the central body during mitosis;
- ASTER-oid, one of the small ‘planets’ between Jupiter and Mars

AUX(E)- (αύξησης)

‘increase’

- AUXE-sis, increase in size or bulk;
- AUX-in, a plant hormone which governs cell extension or growth;
- AUXO-BAR-ic, increasing pressure, denoting development of pressure in the cardiac ventricle

BLAST- (βλαστός)

‘bud’, ‘germ’, ‘embryonic cell’

- ASTRO-BLAST, a primitive cell which develops into an ASTRO-CYTE;
- LIPO-BLAST, a formative fat cell

BLEP- (βλέπω)

‘to see’

- a-BLEP-sia, loss or absence of vision;
- MONO-BLEP-sia, a condition in which either eye is stronger than both together, or a form of colour blindness in which only one colour can be perceived

BRACHI- (βραχίων)

‘arm’

- BRACHI-al, relating to the arm;
- MACRO-BRACH-ia, excessive development of the arms;
- MONO-BRACHI-us, an individual congenitally lacking one arm;
- BRACHIO-SAUR-us, a dinosaur with forelegs much longer than the hind legs

NOTE: Not to be confused with the similar BRACHY- ‘short’ of List 4

BRANCHI- (βράγχιον)

‘gills’

- BRANCHI-a, the gills of fish and some invertebrate animals;
- meta-BRANCHI-al, pertaining to or in the posterior gill region;
- PHYLLO-BRANCHI-a a gill consisting of numbers of lamellae or thin plates

CARP- (καρπός)

‘fruit’

- ACTINO-CARP-ous, of plants with flowers and fruit radially arranged;
- ANGIO-CARP-ic, having or being fruit enclosed within an external covering, opposite of GYMNO-CARP-ic

NOTE: not to be confused with the homonymous CARP- ‘wrist’ of List 5

-CELE (κήλη)

‘hernia’, ‘swelling’

- ENTERO-CELE, hernia containing a loop of intestine;
- HYDRO-MYELO-CELE, excessive accumulation of a fluid in the central canal of the spinal cord;
- GALACTO-CELE, a cystic tumour in the ducts of the breast;
- VARICO-cele, a mass of varicose veins in the spermatic cord

CENTE- (κεντέω)

‘to puncture’, ‘to prick’

- ENTERO-CENTE-sis, surgical puncture of the intestine;
- PNEUMONO-CENTE-sis, surgical puncturing of a lung;
- centre is also from this root (via *kentron*, ‘sharp point, stationary point of a pair of compasses’)

NOTE: not to be confused with the similar Latin root CENT- ‘100’t of List 10

CHIR-, CHEIR (χείρ)

‘hand’

- CHIRO-PRACT-ic;
- CHIRO-GRAPH-y, handwriting;
- MEGALO-CHIR-ous, large-handed;
- POLY-CHEIR-ia state of having a supernumerary hand

CHLOR- (χλωρός)

‘green’, ‘chlorine’

- CHLORO-PLAST, a minute granule or plastid containing chlorophyll;
- CHLOR-osis, green sickness, a type of anemia;
- hypo-CHLOR-uria, diminution in the amount of chloride in the urine

COCC- (κόκκος)

‘berry-shaped organism’

- CYTO-COCC-us, nucleus of a fertilized egg;
- PYO-COCC-us, any pus-producing coccus;
- STREPTO-COCC-us, a genus of gram-positive, chain-forming bacteria

COEL(I)-, (CEL-), -COEL (κοιλία)

‘cavity’, ‘abdominal cavity’, ‘belly’

- COELI-ac, relating to the abdomen;
- COELIO-tomy, opening of the abdominal cavity;
- ENCEPHALO-COEL, cavity within the brain, cerebral ventricle (cf. encephalocele, a hernia of the brain)

COLP- (κόλπος)

‘vagina’, ‘womb’

- COLPO-SCOPE, a surgical instrument used to examine the vagina and the cervix of the womb;
- PYO-COLPO-CELE, a suppurating cyst of the vagina

CONI- (κόνις)

‘dust’

- CON-idio-PHORE, bearing condia, a fungal spore;
- OTO-CONI-um, one of minute crystals of calcium carbonate found in membranous labyrinth of the ear, or ear dust

COR(E)- (κόρη)

‘pupil of the eye’

- CORE-dia-STA-sis, dilatation of the pupil;
- CORE-LY-sis, the detachment of iritic adhesions to the lens or cornea;
- POLY-COR-ia, the existence of more than one pupil in an iris

CRA- (κράσις; κεράννυμι --) ἔκρησα)

‘to mix’

- CRA-sis, constitution, make-up;
- HAEMATO-dys-CRA-sia, diseased state of the blood;
- hypo-CRA-ter-iform, saucer-shaped

CYAN- (κύανος)

‘blue’

- CYANO-PHYLL, a bluish-green colouring matter in plants;
- CYAN-OP-ia *or* CYAN-OP-sia, a condition in which all objects seen are rendered blue

CYE- (κυέω)

‘to be pregnant’

- CYO-PHOR-ia, pregnancy, gestation;
- pseduo-CYE-sis, false or phantom pregnancy

DENDR- (δένδρον)

‘tree’

- RHODO-DENDR-on (RHODO-, rose-coloured);
- DENDR-ite or DENDR-on, a short branched extension of a nerve cell

DIDYM- (δίδυμος)

‘twin’, ‘testicle’

- ISCHIO-DIDYM-us, twins conjoined at the hip;
- DIDYMO-SPORE, a two-celled spore;
- DIDYM-itis, same as ORCH-itis

EO(S)- (ἠώς)

‘dawn or early age’, ‘rosy’

- EO-LITH-ic, relating to the earliest period of the Stone Age;
- EOS-in, red crystalline fluorescent dye

GALACT-, GALA- (γάλα, γάλακτος)

‘milk’

- GALACT-in, an amorphous substance derived from milk, a potent hormone stimulating lactation;
- GALACTO-RRHE-a, excessive flow of milk

GEU- (γεύω)

‘to taste’

- dys-GEU-sia, morbidity or distortion of the sense of taste;
- hyper-GEU-sia, abnormal acuteness of the sense of taste

GLOSS-, GLOT(T)- (γλῶσσα/γλῶττα)

‘tongue’, ‘language’

- BRADY-GLOSS-ia, slow speech due to difficulty in tongue movements;
- PHRENO-GLOTT-ismus, spasm of the glottis caused by disease of the diaphragm

GYR- (γῦρος)

‘circle’, ‘ring’

- GYR-oid-al, spiral in arrangement;
- GYR-ose, with undulating lines, sinuous;
- OPHTHALMO-GYR-ic, pertaining to or causing movements of the eye

HELI- (ἥλιος)

‘sun’

- HELIO-CENTR-ic;
- HELI-um;
- HELIO-TAX-is, locomotor or other response to stimulus of sunlight;
- HELIO-LITH-ic, marked by sun worship and erection of megaliths

HIPP- (ἵππος)

‘horse’

- HIPPO-POTAM-us;
- HIPPO-DROME;
- EO-HIPP-us, a genus of small, primitive horses;
- HIPP-UR-ic acid, an acid found in high concentration in the urine of herbivorous animals

HYAL- (ὑαλος)

‘glass’, ‘vitreous body of the eye’

- HYAL-in, a clear substance produced especially by the degeneration of epithelial or connective tissues;
- HYAL-oid, glassy or transparent (e.g. hyaloid membrane);
- HYLALO-MERE, clear, homogeneous part of the blood

IDI- (ἴδιος)

‘one’s own’, ‘peculiar’, ‘distinct’

- IDIO-BIO-logy, the branch of biology concerned with the study of organisms as individuals;
- IDIO-CHROM-atic, having a distinctive and constant coloration, used especially of minerals;
- IDIO-TYPE, individual genotype, set of all hereditary determinants of an individual

IS- (ἴσος)

‘equal’, ‘same’

- ISO-ZO-ic, inhabited by similar forms of life;
- ISO-metr-ic, pertaining to equality of measure

ISCHI- (ἰσχίον)

‘hip’

- ISCHIO-ALG-ia, pain in the hip or lower back, sciatica;
- SAUR-ISCH-ia, an order of class Reptilia distinguished by a pelvis;
- ISCHIO-DIDYM-us, twins conjoined at the hip

NOTE: careful not to confuse with similar ISCH- ‘suppress’ of List 2.

LAL- (λαλιά)

‘to talk’

- BRADY-LAL-ia, slowness of utterance;
- ENANTIO-LAL-ia, a disturbance in mental and speech function which prompts ideas and words opposite those presented as stimuli;
- RHINO-LAL-ia, a nasal tone in the voice due to undue closure or patulousness of the choanae

LARYNG- (λάρυγξ, λάρυγγος)

‘larynx’

- LARYNG-itis, inflammation of the larynx;
- LARYNGE-al, relating to the larynx;
- LARYNGO-logy, the branch of medicine that deals with the larynx and its diseases;
- LARYNGO-tomy, surgical incision into the larynx

LEI- (λεῖος)

‘smooth’

- LEIO-DERM-ia, condition of abnormal smoothness and glossiness of skin;
- LEIO-THRIX, an Asian bird of the babbler family

LEP-, LEPS- (λείπω; λήψις)

‘to seize’

- epi-LEP-sy;
- NARCO-LEP-sy, a condition characterized by a transient compulsive tendency to attacks of deep sleep;
- NYMPHO-LEP-sy, ecstasy of an erotic type, supposed to be caused by nymphs

MACR- (μακρός)

‘large’, ‘long’

- MACRO-CARP-ous, producing large fruit;
- MACRO-GLOSS-ia, enlargement of the tongue;
- MACR-OPS-ia, disturbance of vision in which objects seem larger than they are

MALAC- (μαλακός)

‘soft’

- MALACO-logy, study of molluscs;
- MALACO-philous, adapted to pollination by snails

MASTIG- (μάστιξ, μάστιγος)

‘whip’, ‘flagellum’

- MASTIG-ium, defensive posterior lash of certain larvae;
- HETERO-MASTIG-ate, having two different types of flagella (a *flagellum* is a slender thread-like structure, especially a microscopic whip-like appendage which enables many protozoa, bacteria, spermatozoa, etc. to swim)

MEGA-, MEGAL- (μέγας, μεγάλου)

‘large’, ‘one million’

- HYDRO-MEGA-THERM, a plant which must have much heat and moisture to develop fully;
- MEGAL-OP-ic, belonging to the megalops stage, i.e. a larval stage of certain crustaceans, conspicuous by large, stalked eyes;
- MEGA-PHYLL-ous, having relatively large leaves

MEL- (μέλος)

‘limb’

- GASTRO-MEL-us an individual with an accessory limb attached to the abdomen;
- a-MEL-us, person minus a limb or limbs

MENING- (μήνιγξ, μήνιγγος)

‘membrane’, especially ‘meninges, membranes enveloping the brain and spinal cord’ (‘MENINX’)

- MENING-uria, presence or passage of membranous shreds in the urine;
- MENING-itis, inflammation of the membranes of the brain or spinal cord

MER- (μέρος)

‘part’

- MER-ONYM, a term which denotes part of something but which is used to refer to the whole of it;
- ADENO-MERE, that portion of a developing gland which will be responsible for its functioning;
- dys-MERO-GENE-sis, segmentation resulting in unlike parts

METR- (μήτρα)

‘uterus’

- HAEMATO-METR-a, an accumulation of blood or menstrual fluid in the uterus

NOTE: Don’t confuse it with the similar sounding compound Suffixes -meter and -metry of List 2. The difference in Greek is the vowel length: μετρ- (measure) + μητρ- (uterus).

MICR- (μικρός)

‘small’, ‘one millionth’

- hypo-MICRO-GNATH-us, an individual having an abnormally small lower jaw;
- MICRO-LITH-iasis, formation of very minute calculi;
- MICRO-MEL-ia, abnormal smallness of the limbs

MIS- (μῖσος)

‘hate’

- MIS-ANTHROP-y, a dislike of humankind;
- MISO-GYN-ist, a person who hates women;
- MISO-GAM-y, hatred of marriage

NOTE: not to be confused with the Latin Root MIS- ‘send’ of List 9

MOGI- (μόγις)

‘difficult’

- MOGI-LAL-ia, difficulty in speech, such as stuttering or stammering;
- MOGI-GRAPH-ia, writer’s cramp

MYC-, MYCET- (μύκης, μύκητος)

‘fungus’

- ACTINO-MYC-osis, a parasitic, infections, inoculable disease, affecting cows, pigs and sometimes humans;
- MYCO-DERM, a bacterial film formed during fermentation

MYEL- (μυελός)

‘spinal cord’, ‘marrow’

- HYDRO-MYEL-ia, a dilatation of the central canal of the spinal cord containing an increased quantity of cerebrospinal fluid;
- MENINGO-ENCEPHALO-MYEL-itis; inflammation of the meninges, brain and spinal cord

NARC- (νάρκη)

‘stupor’, ‘make numb’

- NARCO-LEP-sy;
- NARCO-tic, drug which produces a stupor, complete insensibility or sleep

NE- (νέος)

‘new’, ‘new and different form of’

- GLYCO-NEO-GENE-sis, the formation of carbohydrates from substances which are not carbohydrates;
- NEO-PLAS-m, any new growth, usually applied to a tumour, an aberrant new growth;
- NEO-phobia, dread of new scenes or novelties

NEUR- (νεῦρον)

‘nerve’, ‘nervous system’, ‘tendon’

- ARGYRO-NEUR-ous, with silver-coloured nerves or veins;
- CRYPT-NEUR-ous, with no definite or distinct nervous system;
- NEURO-ana-TOMY, the nervous system;
- NEURO-TOMY, the division of a nerve

NYCT- (νύξ, νυκτός)

‘night’

- NYCTI-TROP-ism, tendency of certain leaves to curl upward at night;
- NYCT-ALOP-ia, a condition characterized by an abnormal inability to see in dim light or at night;
- NYCTO-phobia, extreme or irrational fear of the night or of darkness

ODYN- (ὀδύνη)

‘pain’

- an-ODYNE;
- GLOSS-ODYN-ia, pain in the tongue;
- MY-ODYN-ia, muscular pain

OMPHAL- (ὀμφαλός)

‘navel’

- ACR-OMPHAL-us, centre of the umbilicus, or unusual prominence of the navel;
- OMPHALO-GENE-sis, development of the umbilical vesicle and cord

ONYCH- (ὄνυξ, ὄνυχος)

‘finger or toenail’, ‘claw’

- ACR-ONYCH-ous, having claws, nails or hoofs;
- ONYCHO-HETERO-TOP-ia, an anomaly consisting of the presence of abnormally situated nails

ONYM- (ὄνομα/ὄνυμα)

‘name’

- an-ONYM-ous;
- PSEUD-ONYM;
- hyp-ONYM, a generic name not based on a type species

OO- (ὄόν)

‘egg’

- OO-CYTE, a cell in an ovary which may undergo meiotic division to form an ovum;
- OO-CYST, a cyst containing a zygote formed by a parasitic protozoan such as the malaria parasite

ORCH(I)-, ORCHID- (ὄρχις; ὄρχιδιον)

‘testicle’

- syn-ORCH-ism, partial or complete fusion of the testes within the abdomen or scrotum;
- CRYPT-ORCH-ism, failure of the testes to descend;
- ORCHID-ectomy, surgical removal of the testicles, castration

PACHY- (παχύς)

‘thick’

- PACHY-DERM, a very large mammal with thick skin;
- PACHY-ACR-ia, condition marked by clubbing fingers and toes;
- PACHY-CLAD-ous, thick-branched;
- PACHY-SANDR-a, an evergreen creeping shrubby plant of the box family

PAN-, PANT- (πᾶς, πάντος)

‘all’, ‘complete’

- PAN-GAM-ic, pertaining to indiscriminate mating, or found in all seeds;
- PAN-GE-a, term for the earth when all the continents were still connected
- PAN-ZOO-tic, in veterinary medicine, affecting many kinds of animals

PEN- (πένομαι)

‘deficiency’, ‘want’

- PEN-ury, extreme poverty;
- GLYCO-PEN-ia, tendency towards hypoglycaemia

PEP(S)-, PEPT- (πέψις; πέπτω)

‘to digest’

- PEPS-in, a substance containing a proteolytic enzyme obtained from the glandular layer of a hog’s stomach;
- PEPT-ic, pertaining to pepsin; pertaining to digestion, as peptic ulcer

PEX-, PAG- (πήγγνυμι; πήξις)

‘to fasten’; ‘united’

- ISCHIO-PAG-us, same as ISCHIO-DIDYM-us;
- CRANIO-PAG-us, conjoined twins united by their heads;
- HYSTERO-PEX-y, surgical procedure used for a prolapsed uterus

PHLEB- (φλέψ, φλεβός)

‘vein’

- PHLEB-itis, inflammation of the walls of a vein; phlebotomy;
- METRO-PHLEB-itis, inflammation of the veins of the uterus;
- PHLEBO-tomy, the surgical opening or puncture of a vein in order to withdraw blood, to introduce a fluid, or (historically) when letting blood

PHYC- (φύκος)

‘seaweed’, ‘algae’

- PHYCO-logy, the branch of botany concerned with seaweeds and other algae;
- CHLORO-PHYC-eae, algae having clear, green colour;
- DREPANO-PHYC-us, genus of fossil plants

PLATY(S)- (πλατύς)

‘broad’, ‘flat’

- PLATY-PUS (flat-footed);
- PLATY-CEPHAL-ic, characterizing a person with a flat skull

PNEUMON-, PNEUM- (πνεῦμα; πνεύμων)

‘lung’

- PNEUMO-LITH, a calculus or concretion in a lung;
- PARA-PNEUMO-ia, a disease presenting the symptoms of lobar pneumonia but not caused by the PNEUMO-COCC-us

POLI- (πολίς)

‘grey’

- POLI-ENCEPHALO-MYEL-itis, inflammation of the grey matter of the brain and spinal cord;
- POLIO-MYEL-itis, polio;
- POLIO-ENCEPHALO-pathy, any disease of the grey matter of the brain

PSEUD- (ψεῦδος)

‘false’

- PSEUDO-NYM;
- CHROMATO-PSEUD-OPS-is, colour blindness;
- PSEUDO-BLEPS-ia, a visual hallucination, a distorted visual image;
- PSEUDO-CYE-sis, phantom pregnancy

PTER-, PTERYG- (πτέρυξ, πτέρυγος)

‘wing’

- HELICO-PTER;
- PTERO-DACTYL;
- an-ISO-PTER-ous, unequally winged, applies to seeds;
- HYALO-PTER-ous, having transparent wings

PTO- (πίπτω; πτώμα)

‘to fall’

- PTO-sis, drooping of the upper eyelid;
- pro-PTO-sis, falling downward, prolapse (e.g. abnormal protrusion of the eyeball);
- PTO-ma-ine, an amino compound which results from decomposition of protein or dead animal matter by micro-organisms

SALPING- (σάλπιγξ, σάλπιγγος)

‘tube’; specifically relating to the fallopian tubes (orig. ‘trumpet’)

- SALPING-ectomy, surgical removal of the fallopian tubes; SALPINGO-CYE-sis, tubal pregnancy

SAPR- (σαπρός)

‘rotten’

- SAPRO-BI-c, living on decaying organic matter;
- SAPRO-PHYT-ic, pertaining to a plant that lives on decaying organic matter

SAUR- (σαύρα)

‘lizard’

- DINO-SAUR;
- SAURO-POD, a dinosaur with massive limbs;
- BRANCHIO-SAUR, small, prehistoric amphibian, similar to a salamander; SAUR-ian, like a lizard;
- SAURO-GNATH-us, with saurian arrangement of jaw bones

SCHIZ-, SCHIS(T)- (σχίζω; σχίσις)

‘to split’

- SCHIZO-PHREN-ia, lit. having a split mind; ana-SCHIS-tic, applied to a type of tetrads which divides twice longitudinally in meiosis;
- SCHISTO-GLOSS-ia, condition of having a cleft tongue

SIAL- (σίαλον)

‘saliva’

- GLYCO-SIAL-ia, presence of glucose in saliva;
- SIALO-LITH-iasis, presence of salivary calculi

SPLANCHN- (σπλάγχνα)

‘entrails’, ‘viscera’

- SPLANCHN-ic, relating to the viscera or internal organs, especially those of the abdomen;
- SPLANCHNO-dia-STA-sis, displacement or separation of the viscera;
- SPLANCHNO-PLEURE, a layer of tissue in a vertebrate embryo comprising the endoderm and the inner layer of mesoderm (cf. somatopleure; *pleura*, ‘side’)

STHEN- (σθένος)

‘strength’

- ADEN-a-STHEN-ia, functional deficiency of a gland;
- an-ISO-STHEN-ia, not of equal power, said of pairs of muscles

TACH(Y)- (ταχύς)

‘swift’

- TACHY-PHAG-ia, rapid eating;
- TACH-inidae, a large family of rapid-flying, two-winged insects

TELE- (τῆλε)

‘afar’, ‘operating at a distance’

- TELE-PHONE;
- TELE-therapy, treatment at a distance, e.g. by a source or radiation at a distance from the patient

NOTE: not to be confused with TEL(E)- ‘end’ of list 5

THI- (θειον)

‘sulphur’

- THIO-BACTER-ia, bacteria which grow where decaying organic matter releases hydrogen sulphide;
- THIO-GEN-ic, applies to sulphur-producing bacteria

THORAC- (θώραξ, θώρακος)

‘chest’, ‘thorax’

- THORAC-ic, relating to the thorax;
- THORACO-tomy, surgical incision into the chest wall; HAEMO-
- THORAX, accumulation of blood in the pleural cavity;
- THORACO-MEL-us, parasitic limb attached to the thorax of a host

THROMB- (θρόμβος)

‘clot’

- THROMBO-CYTE, blood platelet;
- THROBO-CYTO-CRIT, a glass tube for counting blood platelets;
- THROMBO-PLAST-in, extracts which promotes clotting

TOX- (τόξον)

‘poison’

- TOX-ico-DERMAT-itis, skin inflammation due to poison;
- TOX-ico-DENDR-on, genus of plants including poison ivy and oak;
- TOX-ico-GNATH, poison fangs of the centipede

TRICH-, (THRIX-) (θρίξ, τριχός)

‘hair’; ‘be hairy’

- TRICH-iasis, ingrowth or introversion of the eyelashes;
- amphi-TRICH-ous, with flagellum at each pole;
- SCHIZO-TRICH-ia, splitting of the hair;
- TRICHO-logy, the branch of medical and cosmetic study and practice concerned with the hair and scalp

UR- (οὐρά)

‘tail’

- URO-STHEN-ic, having tail strongly developed for propulsion;
- URO-STYLE, posterior part of vertebral column in anurous amphibians

NOTE: don’t confuse this one with the homonymous UR- ‘urine’ learned in List 1.

XANTH- (ξανθός)

‘yellow’

- XANTH-ic, yellowish;
- XANTH-OP-sia, visual disturbance in which objects look yellow;

XANTHO-CHROM-ia, a yellowish discolouration of the skin

XER- (ξηρός)

‘dry’

- XER-ic, containing little moisture;
- XERO-PHYTE, a plant which needs very little water;
- XERO-PHOB-ous, having little capacity to resist drought;
- XERO-THERM, a plant which survives drought and heat

Vocabulary List 4

Greek Numeral Roots

HEMI- (ἡμι-)

‘half’

- HEMI-SPHERE, a half of a sphere; HEMI-BRANCH, a gill having filaments on one side only, a half-gill;
- HEMI-NEPHR-ectomy, removal of part of a kidney;
- HEMI-an-OP-ia or HEMI-an-OP-sia, blindness over half the field of vision;
- HEMI-ALG-ia, pain affecting one half of the body.

MON- (μόνος)

‘single’, ‘one’

- MON-ARCH;
- MONO-GRAPH, a detailed written study of a single specialized subject or an aspect of it;
- MONO-CARP-ic, a plant flowering only once and then dying;
- MONO-TRICH-ous, having only one flagellum at one pole (opp. amphi-TRICH-ous)

PROT- (πρῶτος)

‘first’, ‘original’, ‘primitive’

- PROTO-CEPHAL-on, first of six segments composing an insect’s head;
- PROTO-PHYTE, any plant of the lowest and most primitive type;
- PROTO-ZO-an, a unicellular or noncellular animal organism

DI- (δι-)

‘twice’, ‘double’

- DI-LEM-ma, a situation in which a difficult choice has to be made between two or more alternatives;
- DI-PLO-ma (‘folded paper’);
- DI-ARTHR-osis, a freely movable articulation;
- DI-oecious, having sexes separate, usually refers to plants which have male and female flowers on different individuals
- NOTE: not to be confused with prefix dia- ‘through’ of List 1 or the Latin prefix dis-/di- ‘apart’ of List 6.

DICH- (δίχα)

‘in two’

- DICH-otomy, a division or contrast between two things (in botany, repeated branching into two equal parts);
- DICH-OP-tic, having the borders of the compound eyes separate, or having the eyes wide apart (of an insect)

DEUT-, DEUTER- (δεύτερος)

‘second’

- DEUTER-AGON-ist, the person second in importance to the protagonist in a drama;
- DEUTERO-nomy (‘second law’); DEUTERO-GENE-sis, second phase of embryonic development

TRI- (τρεῖς)

‘three’

- TRI-POD;
- TRI-CYCLE;
- TRI-CHROMAT-ic, able to perceive the three primary colours;
- TRI-DACTYL, having three digits;
- TRI-COCC-us, a three-carpel fruit

TETR(A)- (τετράς)

‘four’

- TETRA-meter;
- TETRA-CHEIR-ous, having four hands;
- TETRA-CYCL-ic, with four whorls

PENT(A)- (πέντε)

‘five’

- PENTA-GON;
- PENTA-meter;
- PENTA-DACTYL, having all four limbs normally terminating in five digits

HEXA- (ἑξ)

‘six’

- HEXA-GON-al;
- HEXA-meter;
- HEXA-GYN-ous, having six pistils;
- HEXA-hedron, a POLY-hedron having six faces;
- HEX-ose, any monosaccharide containing six carbon atoms

HEPT(A)- (ἑπτά)

‘seven’

- HEPTA-GYN-ous, having seven pistils;

- HEPTA-HYDR-ate, a compound with seven molecules of water

OCT(A)- (ὀκτώ)

‘eight’

- OCTO-PUS;
- OCT-ODONT, having eight teeth;
- OCT-OPHTHALM-us, having eight eyes

ENNE(A)- (ἐννέα)

‘nine’

- ENNE-ad, a group of nine;
- ENNEA-GON, a nine-sided polyhedron;
- ENNE-ANDR-ous, having nine stamens

DEC(A)- (δέκα)

‘ten’

- DECA-LOGUE, the Ten Commandments;
- DECA-HYDR-ate, compound with ten molecules of water;
- DECA-hedron, a ten-sided polyhedron;
- DECA-POD, having ten legs

HECT- (ἑκατόν)

‘hundred’

- HECT-ARE, one hundred ares (10,000 square metres);
- HECTO-GRAM, one hundred grams

KILO- (χίλιοι)

‘one thousand’

- KILO-CALOR-ie, one thousand calories (equal to one large calorie);
- KILO-GRAM, one thousand grams

Greek Roots IV

ALL- (ἄλλος)

‘other’, ‘different’

- ALLE-GOR-y, a story, poem, or picture which can be interpreted to reveal a hidden meaning, typically a moral or political one;
- ALLO-plasty, a plastic operation in which material outside the human body is used;
- ALLO-PATR-ic, animals or plants occurring in separate non-overlapping geographical areas

ANKYL- (ἀγκύλος)

‘bent’, ‘stiff’, ‘adhesion of parts’

- ANKYLO-CHEIL-ia, adhesion of the lips;
- ANKYL-osis, abnormal stiffening and immobility of a joint due to fusion of the bones;
- ANKYLO-SAUR, a heavily built dinosaur

BRACHY- (βραχύς)

‘short’

- BRACHY-ODONT or BRACHY-DONT, a molar tooth with a low crown;
- BRACHY-PODUS;
- BRACHY-logy, concise or shortened expression

NOTE: Not to be confused with the similar
BRACHI- ‘arm of List 3

CAC-, (KAK-) (κακός)

‘bad’

- CACO-PHON-y;
- CAC-AESTHE-sia, any morbid sensation;
- CAC-OSM-ia, imaginary odours, particularly putrefactive odours

CAU-, CAUS- (καίω; καῦμα)

‘to burn’

- CAUS-tic;
- en-CAUS-tic;
- CAUM-AESTHE-sia, experience of a sense of heat when temperature is not high;
- CRYO-CAUT-ery, the destruction of tissues by application of extreme cold;
- CAUT-er-ize to apply an agent capable of burning or destroying tissue

CLI-, CLEI-, CLEIST- (κλείω; κλειστός)

‘to close’; ‘closed’

- CLEISTO-GAM-y, state of having small, inconspicuous, self-fertilizing flowers; fertilization without opening of florets;
- CORE-CLI-sis, pathologic closure or obliteration of the pupil

CLY(S)- (κλύζω)

‘to wash’

- cata-CLYSM;
- ENTERO-CLY-sis, injection of a fluid preparation into the rectum; hypo-
- DERMO-CLY-sis, introduction of large quantities of fluids into subcutaneous tissues

CROT- (κρότος)

‘pulse beat’

- TRI-CROT-ism, the condition of having three waves corresponding to one pulse beat

CYCL- (κύκλος)

‘circle’, ‘wheel’

- BI-CYCLE;
- en-CYCLO-PED-ia;
- a-CYCL-ia, state of arrested circulation of bodily fluids;
- CYCLO-COEL-ic, with intestines coiled in one or more distinct spirals

CYN- (κύων, κυνός)

‘dog’

- CYN-ic;
- CYNO-CEPHAL-ous, with the head shaped like a dog’s;
- CYNO-POD-ous, with non-retractile claws

DOLICH- (δολιχός)

‘long’

- DOLICHO-PLATY-CEPHAL-us, a person having a long skull which is unusually broad;
- DOLICHO-RRHINE, having a long nose

ER-, EROT- (ἔρως, ἔρωτος)

‘love’, ‘sexual love’

- AUTO-EROT-ic, relating to sexual excitement generated by stimulating or fantasizing about one’s own body;
- ALLO-EROT-ism, sexual excitement induced by and directed toward another

GENY-; GENI- (γένυς; γένειον)

‘jaw’, ‘cheek’; ‘chin’

- GENY-plasty, surgical reconstruction of the jaw;
- GENIO-GLOSS-us, muscle of the tongue arising from the mandible

GLAUC- (γλαυκός)

‘silvery’, ‘grey-green’

- a-GLAUC-OP-sia, green-blindness

GON(Y)-, GONAT- (γόνυ, γόνατος)

‘knee’

- GON-ALG-ia, pain in the knee joint;
- GON-ARTHR-itis, inflammation of the knee joint;
- GONATO-CELE, knee tumour

NOTE: not to be confused with root GON(I)- ‘angle’ of List 5

HAPL- (ἁπλός)

‘single’, ‘simple’

- HAPLO-id, have the number of chromosomes characteristic of mature germ cells for the organism in question;
- HAPL-OP-ia, single vision, as opposed to DIPL-OP-ia

(H)APT-; (H)APH-; APS- (ἅπτω --) ἅψω, ἑάφθη)

‘to touch’; ‘sense of touch’

- HAPH-ALGE-sia, a sensation of pain experience on the mere touching of an object;
- HAPT-ics, the branch of psychology dealing with the tactile sense;
- syn-APSE, the region of connection between two neurons

HOL- (ὅλος)

‘whole’, ‘entire’

- CAT-HOL-ic (in respect of the whole);
- HOLO-CAUST (burning of the whole);
- HOLO-GASTRO-SCHIS-is, fissure involving the whole length of the abdomen

HOM-, HOME- (ὁμός)

‘same’, ‘similar’

- HOMO-CHROM-ous, of one colour;
- HOMO-PHONE, pronounced alike but different in meaning or derivation or spelling;
- HOMO-PTER-ous, having wings alike

HYPN- (ὑπνος)

‘sleep’

- HYPN-AGOG-ic, inducing sleep, pertaining to inception of sleep, applies to visions seen just before complete sleep

IDE- (ιδέα)

‘idea’, ‘mental image’

- MONO-IDE-ism, absorption in a single idea, as in mental depression, hypnosis or trance;
- IDEO-phobia, morbid fear of ideas

KARY-, CARY- (κάρυον)

‘nucleus’, ‘nut’

- CARYO-CLAS-tic, agent which splits the cell nucleus;
- KARYO-GAM-y, the fusion of cell nuclei, as in fertilization

KERAT-, CERAT-, KER-, CER- (κέρας, κέρατος)

‘horn’, ‘horny tissue’, ‘cornea’

- RHINO-CER-os;
- BRACHY-CER-ous, short-horned, or with short antennae;
- KERAT-oma, a horny thickening of the skin;
- KERATO-MALAC-ia, softening of the cornea

KYM-, CYM- (κύμα)

‘wave’

- KYMO-GRAPH, an instrument for recording physiologic cycles or actions in a patient;
- MYO-KYM-ia, constant quivering of a muscle;
- CYMO-TRICH-ous, having wavy hair

LEMM(A)- (λέμμα)

‘sheath’, ‘husk’

- MYO-LEMMA or SARCO-LEMMA, the sheath of muscular fibre;
- NEURO-LEMMA, delicate elastic membrane outside medullary sheath of nerve fibre;
- LEMMO-CYTE, a formative cell for the neurolemma

LEPID- (λεπίς, λεπίδος)

‘scale (as in on lizards, fish, etc.)’

- HOMO-LEPID-ous, having one kind of scales;
- LEPIDO-SAUR-ia, reptiles with scaly skin, including lizards and snakes

LEPT- (λεπτός)

‘thin’, ‘delicate’

- DOLICHO-LEPTO-CEPHAL-us, a person whose skull, in addition to being long, is also high and narrow;
- LEPTO-DERMAT-ous, thin-skinned

LEUK-, (LEUC-) (λευκός)

‘white’

- LEUK-AEM-ia;
- LEUKO-CYTE, a colourless cell which circulates in the blood;
- LEUKO-ENCEPHAL-itis, inflammation of the white substance of the brain

LYMPH- (Lat. *lympa* from Greek νύμφη)

‘water’, ‘lymph’

- CYTO-LYMPH, cell-sap, the fluid part of protoplasm;
- KARYO-LYMPH, nuclear sap;
- LYMPHO-CYTE, a small mononuclear cell of blood or lymph;
- LYMPH-ADEN-oma, tumourlike enlargement of a lymph gland

MES- (μέσος)

‘middle’

- MESO-POTAM-ia; MESO-PHYTE, plant thriving in a temperate climate with a normal amount of moisture;
- MESO-POD-ium; middle part of the molluscan foot

MIT- (μίτος)

‘thread’

- MITO-sis, indirect or karyokinetic cell division, with chromosome formation, etc.;
- MITO-GENE-sis, formation as a result of mitosis;
- MITO-CHONDR-ion, an organelle found in large numbers in most cells
- NOTE: not to be confused with the Latin Root MIT- ‘send’ of List 9

MYX- (μύξα)

‘mucus’, ‘slime’

- MYX-oma, connective tissue tumour composed of cells of stellate and spindle form with processes separated by mucoid material;
- MYXO-POD-ium, a slimy PSEUDO-POD-ium

NEM-, NEMAT- (νήμα, νήματος)

‘thread’

- MICRO-NEM-ous, furnished with short filaments;
- NEMAT-ode, roundworm

NOS- (νόσος)

‘disease’

- NOSO-GEO-GRAPH-y, the geography of endemic diseases;
- NOSO-PHYTE, any pathogenic vegetable organism;
- PHOTO-NOS-us, disease from intense or glaring light, such as snow blindness

OEDE- (EDE-) (οἰδέω)

‘to swell’

- OEDE-ma, excessive accumulation of fluid in tissue spaces;
- ARTHR-OEDE-ma, oedema affecting the joints;
- TROPH-OEDE-ma, oedema due to damaged nourishment or nerve supply

ONC-, -ONCUS (ὄγκος)

‘tumour’, ‘swelling’

- ONCO-logy;
- ADEN-ONCUS, an enlargement or tumour of a gland;
- par-OPHTHALM-ONC-osis, development of tumour near the eye

ONT- (εἰμί --) ὄντος)

‘being’, ‘individual’

- ONTO-logy, the branch of metaphysics dealing with the nature of being;
- SCHIZ-ONT, a cell that divides by schizogony to form daughter cells (in biology, -ont denotes an individual or cell of a specified type)

ORNIS-, ORNITH- (ὄρνις, ὄρνιθος)

‘bird’

- ORNITHO-logy;
- HELI-ORNITH-idae, a family of tropical aquatic birds comprising the sun grebes;
- ORNITHO-philous, of flowers pollinated through the agency of birds

OXY-, OX- (ὀξύς)

‘sharp’, ‘acid’, ‘oxygen’

- PAR-OXY-sm;
- OXY-GEN;
- OXY-BLEP-sia, acuteness of vision;
- OXY-DACTYL, having slender, tapering digits;
- OXY-philous, tolerating only *acidic* soils or substrates

PALAE- (PALE-) (παλαιός)

‘old’, ‘ancient’

- PALAE-ONTO-logy;
- PALAEO-GRAPH-y;
- PALAEO-ENCEPHAL-on, the phylogenetically old part of the brain

PETR- (πέτρα)

‘rock’

- PETR-OL-eum;
- PETER;
- PETRO-philous, attached to or living on rocks, especially used of marine life

PHA-, PHEM- (φήμι; φάσις)

‘to speak’, ‘voice’

- a-PHEM-ia an inability to articulate words or sentences due to a central lesion;
- HETERO-PHEM-ia, the unconscious saying of one thing while another is meant

NOTE: don’t confuse with PHA- ‘appear’ of List 2.

PHON- (φωνή)

‘sound’, ‘voice’

- TELE-PHONE;
- BARY-PHON-ia a heavy or deep quality of voice;
- RHINO-PHON-ia, nasal tone in the speaking voice

PHOT- (φῶς, φωτός)

‘light’

- PHOTO-GRAPH;
- PHOTO-LY-tic, of a substance which is decomposed by action of light;
- PHOTO-TROPH-ic, requiring light as a source of energy in nutrition

PHRA- (φράζω)

‘to speak’

- PHRA-se;
- para-PHRA-se;
- peri-PHRA-sis;
- a-PHRA-sia, loss of power to utter connected phrases;
- em-BOLO-PHRA-sia, insertion of meaningless words into speech, embololalia

PHRAG- (φραγμός; φράγνυμι)

‘to block up’, ‘to wall in’

- dia-PHRAG-m;
- em-PHRAC-tic, any agent that obstructs the function of an organ, especially the excretory function of the skin

PHYL- (φυλή)

‘race’

- PHYL-um, (in zoology) a principal taxonomic category that ranks above class and below kingdom;
- POLY-PHYL-etic, a group of organisms derived from more than one common evolutionary ancestor or ancestral group and therefore not suitable for placing in the same taxon

PHYLAC(T)- (φύλαξ, φύλακος; φυλάκτωρ)

‘to guard’, ‘to protect’

- pro-PHYLACT-ic;
- cata-PHYLAX-is, movement and transportation of phylactic agents, such as leukocytes, to the site of an infection (X=c+s)

PLAN- (πλάνος)

‘wandering’

- PLAN-et;
- ANGIO-PLAN-ia, irregularity or abnormality in the course of a vessel (ANGI-ec-TOP-ia);
- a-PLANO-GAM-ete, a nonmotile, conjugating germ cell of various plants and animals;
- PLANO-mania, a morbid desire for wandering

NOTE: don’t confuse with Latin root PLAN- ‘flat’ of List 7.

PLEUR- (πλευρόν)

‘side’, ‘rib’, ‘pleura’

- an-ISO-PLEUR-al, bilaterally asymmetrical;
- eu-DI-PLEUR-al, symmetrical about a median plane, bilaterally symmetrical;
- PLEUR-ODYN-ia, pain in the abdominal wall;
- PLEURO-SOMATO-SCHIS-is, lateral abdominal fissure

-PLO- (-πλόος)

‘folded’, ‘fold’ (as in ‘threefold’)

- DI-PLO-ma;
- DI-PLO-m-at;
- DI-PLO-CEPHAL-us, an organism with two heads;
- HETERO-PLO-id, not having a multiple of the basic HAPLO-id number of chromosomes;
- TETRA-PLO-id, with four times the normal haploid number of chromosomes

PNE(A)-, PNEUST- (πνέω; πνευστικός)

‘breathing’

- amphi-PNEUST-ic, having both gills and lungs throughout life history;
- HOLO-PNEUST-ic, with all spiracles open for respiration;
- hyper-PNEA, increase in depth of inspiration

PNEUM-, PNEUMAT- (πνεῦμα, πνεύματα)

‘air’, ‘gas’

- PNEUMAT-iz-ation, progressive development of, or state of having, air-filled cavities in the bone

NOTE: related to root PNEUMON-, ‘lung’ of List 3

POIE- (ποιέω)

‘to make’

- PO-et;
- ONOMATO-POE-ia;
- ANGIO-POIE-sis, the process by which certain cells cause the formation of blood vessels in new tissue;
- HIDRO-POIE-sis, formation of sweat

PORPHYR- (πορφύρα)

‘purple’

- PORPHYR-in, a heterocyclic ring derived from porhin, named for its deep-red or purple colour;
- PORPHYR-in-uria, the excretion in the urine of an abnormal amount of porphyrin

PRESBY- (πρέσβυς)

‘old’

- PRESBY-CUS-is, progressive hearing loss occurring with age;
- PRESBYO-PHREN-ia, failure of the sense of location and memory in the aged

PYEL- (πύελος)

‘pelvis (especially of the kidney)’

- CYSTO-PYEL-itis, inflammation of the urinary bladder and pelvis of the kidney;
- PYELO-stomy, incision of the renal pelvis;

- PYELO-GRAPH-y, an X-ray technique for producing an image of the renal pelvis and urinary tract

PYG- (πυγή)

‘rump’

- PYG-id-ium, the terminal part or hind segment of the body in certain invertebrates;
- PYGO-POD-ous, having feet set far back, as some birds

PYR-, PYRET-; PYREX- (πῦρ; πυρετός; πυρέτω --) ἐπύρεξα)

‘fire’, ‘fever’, ‘fever’

- PYRETO-GEN-ic, causing fever;
- PYRETO-lysis, reduction of fever

RHAPH-, -RRHAPH- (ράφή)

‘to sew’

- RHAPÉ, the seamlike union of the two lateral halves of a part or organ (as of a tongue);
- dys-RAPH-ism, defective raphe formation, defective

RHIZ-, -RRHIZ- (ρίζα)

‘root’

- POLY-RRHIZ-al, having many roots;
- RHIZO-SPHERE, soil immediately surrounding the root system of a plant

SARC- (σάρξ, σαρκός)

‘flesh’

- SARCO-PHAG-us;
- SARCO-BI-ont, living on flesh;
- SARCO-CARP, the fleshy or pulpy part of a fruit

SCLER- (σκληρός)

‘hard’

- SCLER-osis;
- SCLER-a, the sclerotic coat of the eyeball, i.e., the firm fibrous outer layer of the eyeball;
- SCLERO-MENINX, dense fibrous lining of the cranial cavity and spinal canal, dura mater

SEP- (σήπω)

‘to rot’, ‘to putrefy’

- a-SEP-tic, pertaining to the exclusion of microorganisms causing decay;
- anti-SEP-tic, preventing SEP-sis or poisoning by destruction of or exclusion of microorganisms from body tissue

NOTE: don’t confuse with Latin root SEP- ‘separate’ of List 9

SIT- (σίτος)

‘food’

- para-SITE;
- apo-SIT-ia, aversion to or loathing of food;
- SITO-therapy, the use of food for therapeutic purposes, a.k.a. DIETO-therapy;
- SITO-TROP-ism, tendency to turn in the direction of food

SPA- (σπάω)

‘to draw’, ‘to jerk’

- SPAS-m;
- anti-SPAS-tic, anti-SPASM-od-ic, or SPAS-m-o-LY-tic, an agent relieving convulsions or spasmodic pains

SPLEN- (σπλήν)

‘spleen’

- SPLEN-etic;
- GASTRO-SPLEN-ic, relating to the stomach and spleen;
- SPLEN-ALG-ia, pain originating in the spleen

STAPHYL- (σταφυλή)

‘bunch of grapes’, ‘uvula’

- BRACHY-STAPHYL-ine, having a short alveolar arch;
- STAPHYLO-COCC-us, spherical bacteria sometimes occurring in clusters;
- STAPHYLO-RRAPH-y, repair of a cleft palate by plastic operation and suture

STEAR-, STEAT- (στέαρ, στέατος)

‘fat’, ‘tallow’

- STEAT-itis, inflammation of adipose tissue;
- STEAT-oma, a sebaceous cyst or tumour of a sebaceous gland;
- STEAR-in, a white crystalline substance which is the main constituent of tallow and suet

STEN- (στενός)

‘narrow’

- STENO-GRAPH-y, shorthand;
- STENO-COR-iasis, narrowing of the pupil;
- STENO-STOMAT-ous, narrow-mouthed

STETH- (στήθος)

‘chest’

- MESO-STETH-ium, middle part of the sternum in vertebrates;
- MICRO-STETHO-PHONE, a STEHO-SCOPE that amplifies the sounds heard

STREPT-, STROPH- (στρεπτός; στροφή)

‘turned’, ‘twisted’

- PHLEBO-STREP-sis, the twisting of a vein;
- STREPTO-COCC-us, a bacterium of a genus that includes the agents of souring of milk and dental decay, and haemolytic pathogens causing various infections such as scarlet fever and pneumonia

STERE- (στερεός)

‘solid’, ‘three-dimensional’

- STEREO-PHON-ic;
- STEREO-ARTHRO-lysis, loosening stiff joints by operation or manipulation;
- STEREO-PLASM, more solid part of a protoplasm, opp. of HYDRO-PLASM

THALL- (θαλλός)

‘young shoot’

- THALLO-PHYTE, plant not differentiated into stem and root, such as algae, fungi and lichens;
- THALL-us (*pl.* thalli), a plant body that is not differentiated into stem and leaves and lacks true roots and a vascular system (i.e. algae, fungi, lichens, and some liverworts)

THYM- (θυμός)

‘mind’, ‘emotions’

- eu-THYM-ia, a joyful but tranquil mood;
- hyper-THYM-ia, heightened emotional response;
- hypo-THYM-ia, subnormal emotional response and depression

TRIB-, TRIP- (τρίβω --) ἔτρψα)

‘to rub’, ‘to crush’

- OMPHALO-TRIP-sy, separation of the umbilical cord by a crushing instrument;
- XERO-TRIP-sis, dry friction

XEN- (ξένος)

‘host’, ‘stranger’, ‘foreigner’

- XENO-phobia;
- peri-XEN-itis, inflammation around a foreign body embedded in the tissues;
- XENO-CHROMA, the effect of foreign pollen producing a change in colour of fruit;
- XENO-LITH, a fragment of a rock included in another rock

ZYG- (ζυγόν)

‘yoke’; relating to joining or pairing

- ZYG-ODONT, having molar teeth in which the four tubercles are united in pairs;
- ZYG-ote, cell formed by the union of two gametes or reproductive cells (a fertilized ovum)

Vocabulary List 5

Greek Roots V

ADELPH- (ἀδελφός)

‘brother’, ‘sibling’

- PHIL-ADELPH-ia;
- IS-ADELPH-ia, conjoined twins united by unimportant tissues, with each body being normal in the development of all essential organs;
- ADELPH-ous, joined together in bundles, as filaments of stamens

ALEX- (ἀλέξω)

‘to ward off’

- ALEX-ANDER;
- ALEX-in, a complex substance with the capacity, in cooperation with antibody and cellular elements, to destroy a variety of pathogenic organisms and other foreign substances

ANCON- (ἀγκών)

‘elbow’

- ANCON-eus, a small muscle at the back of the elbow joint;
- ANCON-itis, inflammation of the elbow joint

ANTR- (ἄντρον)

‘cavity’, ‘sinus’

- ANTR-itis, maxillary sinusitis;
- ANTRO-CELE, an accumulation of fluid in the maxillary sinus

BALAN- (βάλανος)

‘acorn’, ‘the glans penis’

- BALAN-idae, sessile barnacles comprising acorn barnacles;
- BALAN-oid, acorn-shaped (of barnacles);
- BALAN-itis inflammation of the glans penis

BRONCH(I)- (βρόγχια)

‘air tube’

- BRONCH-ADEN-itis, inflammation of bronchial lymph nodes;
- BRONCH-itis, inflammation of mucous membrane of bronchial tubes

BRY- (βρύον)

‘moss’

- BRYO-PHYTE, any of the mosses or liverworts;
- BRYO-logy the science dealing with mosses and liverworts

CALYPT(R)- (καλυπτός)

‘hidden’

- CALPYTO-BRANCHI-ate, with gills not visible from the exterior;
- CALYPTO-BLAST-ic, pertaining to hydroids in which gonophore is contained in a gonotheca

CAMP(T)-, CAMPYL- (κάμπτω; καμπύλος)

‘bent’

- a-CAMP-sia, inflexibility or rigidity of a joint or limb;
- GONY-CAMP-sis, deformity of the knee due to abnormal bending or curving

CARP- (καρπός)

‘wrist’

- CARP-itis, arthritis of the carpal joint in domestic animals;
- CARP-ectomy, excision of a carpal bone or bones;
- meta-CARP-al, part of hand between carpus and phalanges

NOTE: not to be confused with the homonymous CARP- ‘fruit’ of List 3

CERC- (κέρκος)

‘tail’

- LEPTO-CERC-al, with long, slender, tapering tail, as some fishes;
- LOPHO-CERC-al, having a rayless caudal fin like a ridge

CHLAMYD- (χλαμύς, χλαμύδος)

‘cloak’, ‘envelope’

- CHLAMYDO-SAUR-us, a genus of reptiles including the frilled lizard of Australia;
- HETERO-CHLAMYD-eous, having a calyx differing from the corolla in colour

CHORD- (χορδή)

‘cord’

- NOTO-CHORD, the dorsal supporting axis of lowest vertebrates

CHOR(I)- (χόριον)

‘fetal membrane’ (chorion), ‘tunic of the eye-ball’ (choroid)

- CHORIO-BLAST-osis, abnormal proliferation of cells of the chorion;
- CHOROID-itis, inflammation of the choroid coat of the eye

CHY-; CHYM-, CHYL- (χέω; χύμα; χυλός)

‘to pour’; ‘juice’

- CHY-me, the viscid fluid contents of the stomach, consisting of food which has undergone gastric digestion;
- CYTO-CHYL-ema, the interreticular portion of protoplasm, cell-juice

CLEID- (κλείς, κλειδός)

‘clavicle’

- HYPO-CLEID-ium, the interclavicle

CLON(US)- (κλόνος)

‘muscle spasm’

- CLONO-GRAPH, apparatus for recording spasmodic movements of the head, lower jaws, trunk, etc.

COLL(A)- (κόλλα)

‘glue’

- COLLA-GEN, the albuminoid substance of the white fibre of connective tissue, cartilage and bone;
- COLLO-oid, a gelatinous substance which does not readily diffuse through animal or vegetable membrane

NOTE: not to be confused with the similar COL- ‘colon’ of List 2 or the homonymous Latin roots COL- ‘inhabit’ and COLL- ‘neck’ of List 7.

CONDYL- (κόνδυλος)

‘knob’, ‘knuckle’

- CONDYLE, any rounded eminence such as occurs in the joints of many bones;
- CONDYL-oma, a wartlike growth or tumour

CORM- (κορμός)

‘trunk of a tree or body’

- RHIZO-CORM, an underground stem like a single-jointed rhizome, a bulb;
- SCHISTO-CORM-us, having a cleft thorax

DOCH- (δοχός, cf. δέχομαι)

‘to take or receive’

- ELAEO-DOCH-on, the preen gland or oil gland of birds;
- SIALO-DOCHO-plasty, plastic surgery of a salivary gland duct

ECH- (ήχώ)

‘echo’, ‘repetition’

- ECHO-ACU-sia, the subjective sensation of hearing echoes following sounds heard normally;
- ECHO-LAL-ia, the meaningless repetition of words spoken by others

GANGLI- (γαγγλίον)

‘mass of nerve tissue’, ‘small cyst or swelling’

- DI-PLO-GANGLI-ate, with ganglia in pairs;
- GANGLIO-CYTE, a ganglion cell outside the central nervous system

GLI- (γλία)

‘glue’

- NEURO-GLI-a, fibrous or protoplasmic cells supporting nerve cells and nerve fibres;
- GLI-osis, excessive development of neuroglia

GON(I)- (γωνία)

‘angle’

- PENTA-GON;
- MICRO-GONI-SCOPE, an apparatus for measuring extremely small angles, as in ophthalmology

NOTE: not to be confused with root GON(Y)- ‘knee’ of List 4

HAL- (ἅλς)

‘salt’

- HAL-ite, rock salt; HALO-PHYTE, a shore plant, a plant capable of living on salt;
- HALO-GEN, any one of the nonmetallic elements: iodine, chlorine, bromine, fluorine

NOTE: not to be confused with Latin root HAL- ‘breath’ of List 9

IN- (ἵς, ἰνός)

‘fibre’, ‘muscle’

- INO-CHONDR-itis, inflammation of fibrocartilage;
- INO-TROP-ic, pertaining to influences that modify muscle contraction

NOT- (νῶτον)

‘the back’

- NOT-an-ENCEPHAL-ia, congenital absence of the cerebellum;
- STENO-NOT-al, with a very small thorax, as a worker insect

OM- (ὤμος)

‘shoulder’

- ACR-OM-ion, the flat, long process formed by the lateral extension of the scapular spine situated just above the glenoid cavity;
- met-ACR-OM-ion, posterior branch process of the acromion process

OPISTH- (ὀπισθεν)

‘behind’

- OPISTH-ion, median point of posterior margin of the foramen magnum (i.e., the opening in the skull for the spinal cord);
- OPISTH-ODONT, having back teeth only

PALI(N)- (πάλιν)

‘again’, ‘back’

- PALIN-DROME;
- PALIN-ODE;
- PALIN-DROM-ia, recurrence or intensification of a disease;
- PALI-OP-sia, recurrence of a visual impression after stimulus has ceased

PHARYNG- (PHARYNX) (φάρυγξ, φάρυγγος)

‘pharynx’

- PHARYNG-eal, relating to the pharynx;
- PHARYNG-itis, inflammation of the pharynx, causing a sore throat;

- NASO-PHARYNX, the upper part of the pharynx, connecting with the nasal cavity above the soft palate

PHY- (φύω)

‘to grow’

- apo-PHY-sis, a process, outgrowth or projection of some part or organ, as of a bone;
- DACTYLO-sym-PHY-sis, syndactyly (having some or all digits united, naturally or as a malformation)

POIKIL- (ποικίλος)

‘varied’, ‘irregular’, ‘mottled’

- POIKILO-CYTE, a large red blood cell or irregular shape;
- POIKILO-THERMAL, a cold-blooded animal, of which the temperature varies with its surroundings

POR- (πόρος)

‘passage’, ‘pore’

- POR-ous;
- POLY-POR-in, antibiotic derived from POLY-PORE fungus;
- POR-ENCEPHAL-itis, encephalitis with a tendency to form cavities

PTY-; PTYAL- (πτύω; πτύαλον)

‘to spit’; ‘saliva’

- PTYALO-CELE, a cyst containing saliva;
- PYO-PTY-sis, expectoration of pus

PYCN-, PYKN- (πυκνός)

‘thick’, ‘frequent’

- PYCNO-meter, instrument for determining the specific gravity of fluids

PYL(E)- (πύλη)

‘gate’, ‘entrance’

- THERMO-PYL-ae;
- apo-PYLE, exhalant pore of a sponge;
- MICRO-PYLE, aperture for admission of pollen tube at ovule apex;
- PYLE-THROMBO-PHLEB-itis, inflammation and thrombosis of the portal vein

RHABD- (ράβδος)

‘rod’

- RHABDO-MY-oma, tumour of striated muscle;
- RHABDO-phobia, morbid fear of being beaten, unreasoning fear at the sight of a stick

RHACH(I)-, RACH(I)-, -RRACH- (ράχις)

‘the spine’

- RHACHIO-CAMP-sis, curvature of the spine;
- RACHI-ODYN-ia, spasmodic pain in the spinal column

-RRHAG- (ρήγνυμι)

‘excessive discharge, usually of blood’

- ENTERO-RRHAG-ia, intestinal haemorrhage;
- BALANO-RRHAG-ia, haemorrhage from the glans penis

SPERM(A)-, SPERMAT- (σπέρμα, σπέρματα)

‘seed’, ‘semen’

- COELO-SPERM, a carpel hollow on its inner surface;
- GYMNO-SPERM-ous, having seeds not enclosed in a true ovary, as conifers;
- SPERMATO-ZOON, a male reproductive cell;
- SPERMATO-CYST, a seminal sac

SPHEN- (σφήν)

‘wedge’

- SPHEN-oid, a basal compound skull bone of some vertebrates, including humans;
- SPHEN-oid-itis, inflammation of the sphenoid air sinus

SPHYGM- (σφυγμός)

‘pulse’

- SPHYGMO-GRAPH, instrument for graphically recording pulse and variations in blood pressure;
- SHYGMO-GRAM, the tracing made by the sphygmograph

SPIR- (σπείρα)

‘coil’

- SPIR-al;
- ACRO-SPIRE, the first shoot or sprout, being spiral, at the end of a germinating seed;
- SPIR-eme, threadlike appearance of nuclear chromatin during the prophase of mitosis

NOTE: don't confuse with Latin root SPIR- ‘breath’ of List 9

SPONDYL- (σπόνδυλος)

‘vertebra’

- ASTERO-SPONDYL-ous, having centrum with radiating, calcified cartilage;
- SPONDYLO-lysis, dissolution or destruction of a vertebra

SPOR- (σπορά)

‘seed’, ‘spore’

- dia-SPOR-a;
- ANGIO-SPOR-ous, having spores contained in a theca or spore capsule;
- SPORO-GON-y, spore formation (= SPORO-GENE-sis);
- TRICHO-SPOR-osis, fungous infection of a hair shaft

STERN- (στέρνον)

‘chest’, ‘breastbone’

- CHONDRO-STERN-al, pertaining to rib cartilage and sternum;
- SCHISTO-STERN-ia, sternal fissure

STIG- (στίγμα, στίγματα)

‘pricking’, ‘mark’, ‘point’

- STIG-ma; a-STIG-mat-ism, the faulty vision which results from irregularity in the curvature of one or more refractive surfaces of the eye, preventing rays of light from coming to a single focus;
- OSTEO-STYX-is, surgical puncturing of a bone (here X = G+s)

SYRING-, (SYRINX) (σῦριγξ, σύριγγος)

‘pipe’, ‘tube’

- DACRYO-SYRINX, a lacrimal fistula, or a syringe for use in lacrimal ducts;
- SIALO-SYRINX; a salivary fistula, or a syringe for use in salivary ducts;
- SYRINGO-PHIL-us, genus of parasitic mites that live in the gullets of birds

TA- (τάσις. cf. τείνω)

‘to stretch’

- BRONCHI-ec-TA-sis, dilatation of bronchi;
- IRIDO-TA-sis, stretching the iris, as in the treatment of glaucoma;
- PHLEB-ec-TA-sia, dilatation of a vein, varicosity

TEL(E)- (τέλος)

‘completion’, ‘end’, ‘purpose’

- TELEO-logy;
- a-TELO-GNATH-ia, imperfect development of a jaw;
- TELO-KINE-sis, last stage of mitosis

NOTE: not to be confused with TELE- ‘afar’ of list 3

THEL- (θηλή)

‘nipple’

- ENDO-THEL-ium, tissue lining blood and lymph vessels;
- EPI-THEL-ium, tissue forming epidermis and lining hollow organs;
- POLY-THEL-ia, the presence of supernumerary nipples; THEL-ion, central point of a nipple

TOC-, TOK- (τόκος)

‘childbirth’

- OLIGO-TOC-ous, bearing few young;
- OO-TOC-ous, egg-laying

TON- (τόνος. cf. τείνω)

‘stretching’, ‘tension’

- TONE; TON-us, the state of partial contraction characteristic of normal muscle;
- a-TON-ia, absence of tonus;
- OPTHALMO-TONO-meter, an instrument for measuring inter-ocular tension;
- PSYCH-en-TON-ia, mental strain or overwork

TRACHEL- (τράχηλος)

‘neck’

- LAPARO-TRACHELO-tomy, low caesarean section in which the peritoneal cavity is not opened, the approach being through the neck (cervix) of the uterus;
- TRACHELO-SYRINGO-RRHAPH-y, operation for vaginal fistula with stitching of the cervix uteri (the neck of the uterus)

TRE(T)- (τρήμα; τετραίνω)

‘bore’, ‘to perforate’

- a-TRETO-STOM-ia, imperforation of the mouth;
- TRE-ma, a foramen (an opening, orifice, hole or short passage)

TROCH- (τροχός)

‘wheel’, ‘disk’

- TROCO-CEPHAL-ia, an abnormal roundness of the skull caused by premature union of frontal and parietal bones;
- CEPHALO-TROCH-a, a tubellarian larva with eight processes around the mouth

XYL- (ξύλον)

‘wood’

- XYLO-PHONE;
- XYLO-PHYTE, a woody plant;
- XYL-oma, a tree tumour;
- XYLO-TOM-ous, able to bore or cut wood;
- XYLO-PHAG-ous, wood-eatin

ZYM- (ζυμόω)

‘ferment’, ‘enzyme’

- ZYMO-sis, fermentation;
- ZYMO-GEN-ic, causing fermentation;
- en-ZYME, catalytic substance promoting chemical change;
- ZYMO-PHORE, active part of an enzyme (that which bears the ferment)