

**BORED?**

**WORRIED ABOUT BRAIN ATROPHY OVER THE SUMMER?**

**DEPRESSED ABOUT TAKING THE SUMMER OFF FROM ACADEMICS?**

Here is a “Summer Fun” packet from your AP Biology instructor. Follow these directions:

- Read chapters 1-5 & 8 in the AP Biology (Campbell book) book. There will be a test over these chapters on the first day of school.
- Make a set of 105 flashcards with this packet and a pair of scissors. Learn the word root, prefix, or suffix, and its meaning (NOT the sample words). Your flashcards are portable! Learn your biology terminology by taking your set... On a road trip!!! To the park!!! To the beach!!! Waiting in line at Disneyland!!! In the bathroom!!! Let’s make sure we start out the year speaking the same language. Know them by August.

Have a super summer. See you soon.

Mrs. Pardue

<b>Word Root, Prefix or Suffix</b>	<b>Meaning</b>	<b>Examples</b>
ambi-	around; on both sides; both	<ul style="list-style-type: none"> <li>• ambidextrous – the ability to perform skillful acts with both (either hands)</li> <li>• ambient – surrounding</li> </ul>
alb/o	white	<ul style="list-style-type: none"> <li>• albinism – a condition in which there is a lack of pigments of the skin, hair and eyes</li> </ul>
aer/o	air	<ul style="list-style-type: none"> <li>• aerophagia – the swallowing of air</li> </ul>
aden/o	gland	<ul style="list-style-type: none"> <li>• adenitis – a glandular inflammation</li> <li>• adenocarcinoma – a glandular cancer or a cancer derived from glandular tissue</li> <li>• adenoma - a glandular tumor</li> </ul>
a-	no; not; without; absence of	<ul style="list-style-type: none"> <li>• agnathia – absence of the lower jaw</li> <li>• amenorrhea - absence of the menstrual flow</li> </ul>
-ase	enzyme	<ul style="list-style-type: none"> <li>• amylase – an enzyme which breaks down starch</li> <li>• lipase - an enzyme which breaks down fat</li> </ul>
aque/o	water	<ul style="list-style-type: none"> <li>• aqueous – watery</li> </ul>
anti-	against; opposite	<ul style="list-style-type: none"> <li>• antiemetic – a substance used to prevent vomiting</li> <li>• antipruritic – a substance used to prevent or alleviate itching</li> <li>• antipyretic - a substance used to prevent or reduce fever</li> </ul>
ante-	forward; before	<ul style="list-style-type: none"> <li>• antemortem – before death</li> <li>• antenatal - before birth</li> </ul>
angi/o	vessel; blood vessel	<ul style="list-style-type: none"> <li>• angioma – a tumor composed of blood vessels</li> <li>• angiopathy - a disease of the blood vessels</li> </ul>
cardi/o	heart	<ul style="list-style-type: none"> <li>• cardiomegaly - enlargement of the heart</li> </ul>
carcin/o	cancer (of epithelial tissue)	<ul style="list-style-type: none"> <li>• carcinogenic - substance which is capable of producing or causing cancer</li> </ul>
-blast	immature cell; germ; bud	<ul style="list-style-type: none"> <li>• erythroblast – an immature red blood cell</li> <li>• osteoblast - an immature bone cell</li> </ul>
bi-	two; both; double; twice	<ul style="list-style-type: none"> <li>• bifurcate – forked; divided into two</li> <li>• bilateral - both sides</li> </ul>
auto-	self	<ul style="list-style-type: none"> <li>• autoinfection - self-infection</li> </ul>
gastr/o	stomach	<ul style="list-style-type: none"> <li>• gastrostaxis – the oozing of blood from the stomach lining</li> <li>• gastrectomy - surgical removal of the stomach</li> </ul>
ex-	out; out of; away from	<ul style="list-style-type: none"> <li>• excise – to cut out</li> <li>• exhale - to breathe out</li> </ul>

epi-	upon; in addition to; at; above	<ul style="list-style-type: none"> <li>• epidural – located over or above the dura, the hard membranous covering of the brain and spinal cord</li> </ul>
endo-	within; inward	<ul style="list-style-type: none"> <li>• endometrium – the inner lining of the uterus</li> <li>• endosalpinx - the lining of the fallopian tube</li> </ul>
ecto-	out; outside	<ul style="list-style-type: none"> <li>• ectoderm – the outermost of the three germ layers of the embryo</li> </ul>
home/o	constant; unchanging; same; like	<ul style="list-style-type: none"> <li>• homeostasis – an unchanging or static state</li> </ul>
heter/o	other; different	<ul style="list-style-type: none"> <li>• heterocrine - secreting more than one substance</li> </ul>
hepat/o	liver	<ul style="list-style-type: none"> <li>• hepatomegaly – enlargement of the liver</li> <li>• hepatotoxic – pertaining to a substance which causes injury to the liver</li> </ul>
hem/o	blood	<ul style="list-style-type: none"> <li>• hemoglobin – the oxygen carrying protein of the red blood cell</li> <li>• hemoptysis – the spitting up of blood</li> <li>• hemorrhage - bleeding; literally: “the bursting forth of blood”</li> </ul>
-globin	protein	<ul style="list-style-type: none"> <li>• hemoglobin - a protein found in the blood (red blood cell)</li> </ul>
inter-	between; among	<ul style="list-style-type: none"> <li>• interpalpebral – between the eyelids</li> <li>• interventricular - between the ventricles of the brain or heart</li> <li>• intermural – between the walls of a structure</li> </ul>
in-	in; into; upon; not	<ul style="list-style-type: none"> <li>• inadequate – not adequate</li> <li>• incision – to cut into</li> <li>• inviable - not capable of living</li> </ul>
immun/o	protection; safety	<ul style="list-style-type: none"> <li>• immunogenic – pertaining to a substance which is capable of bringing about an immune response</li> <li>• immunology - the study of the immune or protective mechanism</li> </ul>
hypo-	under; beneath; below; less than normal	<ul style="list-style-type: none"> <li>• hypodermic – below the skin</li> <li>• hypoxemia - a decreased blood oxygen content</li> </ul>
hyper-	over; above; beyond; excessive	<ul style="list-style-type: none"> <li>• hypercycyesis – multiple birth</li> <li>• hyperorexia – greatly increased appetite</li> <li>• hyperprexia - a febrile condition; fever</li> </ul>
circum-	around	<ul style="list-style-type: none"> <li>• circumarticular – around a joint</li> <li>• circumoral - around the mouth</li> </ul>
-cidal	killing	<ul style="list-style-type: none"> <li>• bactericidal - a substance or process which kills bacteria</li> </ul>

chrom/o	color	<ul style="list-style-type: none"> <li>chromosome – a structure found in the nucleus of cells which carries encoded genetic information; literally: “a colored body”</li> </ul>
chlor/o	green	<ul style="list-style-type: none"> <li>chloroma - a malignant green-colored tumor</li> </ul>
cephal/o	head	<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>cephalhematoma – a blood filled swelling (hematoma) beneath the scalp</li> <li>cephalalgia –head pain</li> </ul>
-cyte	cell	<ul style="list-style-type: none"> <li>erythrocyte – red blood cell</li> <li>leucocyte - white blood cell</li> </ul>
cyan/o	blue	<ul style="list-style-type: none"> <li>cyanosis - a bluish discoloration of the skin and mucous membrane (due generally to decreased amounts of available oxygen)</li> </ul>
cry/o	cold	<ul style="list-style-type: none"> <li>cryoprecipitate - a precipitate which forms as a result of cooling</li> </ul>
-crine	to secrete	<ul style="list-style-type: none"> <li>endocrine - to secrete internally (into the bloodstream)</li> </ul>
con-	together; with	<ul style="list-style-type: none"> <li>connect - to lie together</li> </ul>
dors/o	back	<ul style="list-style-type: none"> <li>dorsiflex – backward bending</li> <li>dorsolateral - pertaining to the back and to the side</li> </ul>
dis-	apart; not	<ul style="list-style-type: none"> <li>disarticulate – to separate at the joint</li> <li>dislocate - the displacement of a part, usually a bone</li> </ul>
dia-	through; apart; between; across; complete	<ul style="list-style-type: none"> <li>diagnosis – literally: “a complete knowledge”</li> <li>diarrhea - “flowing through” of the intestinal content resulting in frequent liquid fecal discharge</li> </ul>
derm/o	Skin	<ul style="list-style-type: none"> <li>erthroderma – redness of the skin</li> <li>hypodermic - pertaining to the area beneath the skin</li> </ul>
de-	down; from; away; lack of	<ul style="list-style-type: none"> <li>decerebrate – organism lacking cerebral function</li> </ul>
lip/o	fat	<ul style="list-style-type: none"> <li>lipase – an enzyme which breaks down fat</li> <li>lipoid – resembling fat</li> <li>lipolysis – the destruction or breakdown of fat</li> <li>hyperlipemia - excessive amounts of fat in the blood</li> </ul>
leuc/o	white	<ul style="list-style-type: none"> <li>leucocyte - white blood cell</li> </ul>
lact/o	milk	<ul style="list-style-type: none"> <li>lactobacillus – a bacillus found in milk</li> <li>lactogenic - pertaining to a substance or action which promotes</li> </ul>

		the production of milk
-itis	inflammation	<ul style="list-style-type: none"> <li>• acrodermatitis – an inflammation of the skin of the extremities</li> <li>• cheilitis - an inflammation of the lips</li> </ul>
intra-	within; inside; inward	<ul style="list-style-type: none"> <li>• intramedullary – within the bone marrow cavity or spinal cord</li> <li>• intrapartum - during birth</li> </ul>
melan/o	Black	<ul style="list-style-type: none"> <li>• melanoma – a skin tumor characterized by collections of black or brown pigment</li> <li>• melanocyte - a cell which produces pigment</li> </ul>
mega-	great; large	<ul style="list-style-type: none"> <li>• megacholedochus – enlargement of the common bile duct</li> <li>• megacolon - an enlargement (dilation) of the colon</li> </ul>
mal-	bad; ill; poor	<ul style="list-style-type: none"> <li>• malabsorption – poor absorption</li> </ul>
macro-	large; long	<ul style="list-style-type: none"> <li>• macrocephaly – excessive head size</li> <li>• macropodia - excessive size of the feet</li> </ul>
-lytic	destruction	<ul style="list-style-type: none"> <li>• osteolytic - pertaining to the destruction of bone</li> </ul>
mort/o	subject to death; fatal or causing death	<ul style="list-style-type: none"> <li>• mortality - pertaining to death</li> </ul>
mono-	one; alone; single	<ul style="list-style-type: none"> <li>• monocular – one-eyed</li> </ul>
micr/o	small	<ul style="list-style-type: none"> <li>• microaneurysm – small aneurysm</li> <li>• microcoria - abnormally small pupil</li> </ul>
-meter	measure	<ul style="list-style-type: none"> <li>• thermometer - instrument used to measure temperature</li> </ul>
mes/o	middle	<ul style="list-style-type: none"> <li>• mesoretina – middle layer of the retina</li> </ul>
nephr/o	kidney	<ul style="list-style-type: none"> <li>• nephrolithotripsy – the crushing of a kidney stone</li> <li>• nephroptosis - the falling or downward displacement of a kidney</li> </ul>
neo-	new; recent	<ul style="list-style-type: none"> <li>• neoplasm – a new growth</li> </ul>
my/o	muscle	<ul style="list-style-type: none"> <li>• myalgia – muscle pain</li> <li>• myocardium – heart muscle</li> <li>• myometrium – the smooth muscle of the uterus</li> </ul>
morph/o	form/shape	<ul style="list-style-type: none"> <li>• morphology – the study of form, shape and structure</li> <li>• morphosis – the process of formation</li> </ul>
multi-	many; much	<ul style="list-style-type: none"> <li>• multigravida – many pregnancies</li> <li>• multinucleate – a cell containing many nuclei</li> </ul>
oo/o	egg; ovum	<ul style="list-style-type: none"> <li>• oocyte – an egg cell</li> </ul>
onc/o	tumor; mass	<ul style="list-style-type: none"> <li>• oncology –the study of tumors</li> <li>• oncolytic – pertaining to a substance or action which destroys tumors</li> <li>• oncogenic - pertaining to the</li> </ul>

		formation of tumors
-oma	tumor; swelling	<ul style="list-style-type: none"> <li>• hepatoma – a tumor of the liver</li> </ul>
-ology	study of; science of	<ul style="list-style-type: none"> <li>• kinesiology – the study of body movement or motion</li> <li>• pathology – the study of disease</li> </ul>
neur/o	nerve	<ul style="list-style-type: none"> <li>• neuroblastoma – a tumor composed of immature nerve cells</li> </ul>
ped/o	foot	<ul style="list-style-type: none"> <li>• pedal – pertaining to the foot</li> <li>• pedograph – footprint</li> </ul>
ped/i	child	<ul style="list-style-type: none"> <li>• pediatricist – specialist in the diseases of children</li> </ul>
path/o	disease; suffering	<ul style="list-style-type: none"> <li>• pathogen – disease producing</li> </ul>
oste/o	bone	<ul style="list-style-type: none"> <li>• osteoma – bone tumor</li> <li>• osteotome – an instrument used for cutting bone</li> </ul>
-osis	disease; increase of; state of; condition	<ul style="list-style-type: none"> <li>• erythrocytosis – increase in the number of erythrocytes in the blood</li> </ul>
tom/o	cut	<ul style="list-style-type: none"> <li>• colectomy – the cutting out of or</li> </ul>
therm/o	heat	<ul style="list-style-type: none"> <li>• thermography – a graphic representation of heat distribution</li> </ul>
ventr/o	belly; undersurface	<ul style="list-style-type: none"> <li>• ventricle – little belly or little cavity</li> </ul>
uni-	one	<ul style="list-style-type: none"> <li>• unilateral – one-sided</li> </ul>
trans-	across; through	<ul style="list-style-type: none"> <li>• transurethral – through the urethra</li> <li>• transmural – across or through a wall</li> </ul>
adip/o	fat	<ul style="list-style-type: none"> <li>• adipocele – a hernia containing fatty tissue</li> </ul>
agglutin/o	sticking together; clumping	<ul style="list-style-type: none"> <li>• hemagglutination – the clumping together of (red) blood cells</li> </ul>
amni/o	amnion (membrane around fetus)	<ul style="list-style-type: none"> <li>• amnioscopy – a visualization of the amniotic sac and its contents</li> </ul>
-ary	pertaining to	<ul style="list-style-type: none"> <li>• pulmonary – pertaining to the lung</li> </ul>
ather/o	pertaining to the yellowish fatty plaques found covering the lining of arteries; literally: “thin yellow paste”	<ul style="list-style-type: none"> <li>• atheroma – a mass of atheromatous material found covering the lining of an artery; a fatty plaque</li> </ul>
atri/o	atrium; literally: “hall, entrance room”	<ul style="list-style-type: none"> <li>• atrioventricular – pertaining to the junction of the atria and ventricles of the heart</li> </ul>
aur/o	ear	<ul style="list-style-type: none"> <li>• aural – pertaining to the ear, or sense of hearing</li> <li>• auricle – ear; ear-like appendage; literally: “little ear”</li> </ul>
axill/o	armpit	<ul style="list-style-type: none"> <li>• axillary – pertaining to the armpit</li> </ul>
cerebr/o	brain; cerebrum	<ul style="list-style-type: none"> <li>• cerebromalacia – a softening of the brain</li> <li>• cerebrospinal – pertaining to the brain and spinal cord</li> </ul>
chem/o	chemical; drug	<ul style="list-style-type: none"> <li>• chemotherapy – treatment by the use of drugs</li> </ul>
phyt/o	plant	<ul style="list-style-type: none"> <li>• dermatophyte – a skin fungus; literally: “skin plant”</li> </ul>

-phobia	fear; dread	<ul style="list-style-type: none"> <li>• acrophobia – fear of high places</li> </ul>
-philia	attraction for; love	<ul style="list-style-type: none"> <li>• hydrophilic – pertaining to a substance which readily absorbs or has an attraction for water</li> </ul>
phag/o	to eat; swallow	<ul style="list-style-type: none"> <li>• aphagia – refusing to eat; literally: “not eating”</li> <li>• phagocyte – a cell which swallows or ingests foreign material</li> </ul>
peri-	around; about; surrounding	<ul style="list-style-type: none"> <li>• pericardium – the membrane surrounding the heart</li> <li>• periosteum – membrane surrounding bone</li> </ul>
pseudo/o	false	<ul style="list-style-type: none"> <li>• pseudomembranous – pertaining to a false membrane</li> <li>• pseudocyesis – a false pregnancy</li> </ul>
pre-	before	<ul style="list-style-type: none"> <li>• prenatal – before birth</li> </ul>
post-	behind; after	<ul style="list-style-type: none"> <li>• postmortem – after death</li> </ul>
poly-	many; much	<ul style="list-style-type: none"> <li>• polyarticular – pertaining to many joints</li> </ul>
pneum/o	lung; air	<ul style="list-style-type: none"> <li>• hemopneumothorax – the presence of blood and air in the thoracic cavity</li> <li>• pneumonitis – a lung inflammation</li> </ul>
syn-	together; with	<ul style="list-style-type: none"> <li>• synapse – the junction of the processes of two neurons; literally: “clasp”</li> <li>• syndrome – symptoms which occur together; literally “to run a course together”</li> <li>• syndesis – a binding together</li> </ul>
super-	over; above; excessive	<ul style="list-style-type: none"> <li>• supernormal – more than normal</li> </ul>
sub-	under; beneath; below; less than; deficient	<ul style="list-style-type: none"> <li>• sublethal – less than necessary to produce death</li> <li>• subdural – beneath the dura mater</li> </ul>
somat/o	body	<ul style="list-style-type: none"> <li>• somatic – pertaining to the body</li> </ul>
re-	back; again	<ul style="list-style-type: none"> <li>• reinfection – a repeat infection caused by the same infecting agent</li> </ul>