

# AP Biology Vocabulary List

This is a list of terms that you should be able to define/describe. A good rule of thumb to keep in mind when determining if you can define/describe these terms is whether or not you can explain them to a (reasonably) intelligent 12-year-old.

## Scientific Process:

accuracy	hypothesis	precision
Chi-square	independent variable	prediction
control	inductive reasoning	rate
constant	mean	scientific method
deductive reasoning	median	table
dependent variable	model	trend
graph	observation	variable

## Biochemistry:

amino acid	hydrogen bond	organic molecule
amphipathic	ion	peptide bond
carbohydrate	lipid	phospholipid
carbon	macromolecule	polar molecule
denaturation	monomer	polymer
disaccharide	monosaccharide	protein
ester bond	nitrogen	water
fibrous protein	non-polar molecule	
globular protein	nucleic acid	
glycosydic bond	nucleotide	

## Evolution:

adaptation	fossil	natural selection
adaptive radiation	fossil record	paleontology
allele	founder effect	panspermia
allopatric	geologic time scale	parallel evolution
analogous structure	geology	phenotype
artificial selection	gene flow	phylogeny
background extinction rate	gene pool	polymorphism
biogeography	genetic bottleneck	polyploidy
biological species	genetic drift	population
coevolution	genetic equilibrium	postzygotic isolating mechanism
common ancestor	genetic variation	prezygotic isolating mechanism
comparative anatomy	genotype	primordial environment
convergent evolution	gradualism (aka anagenesis)	radiometric dating
Darwin	Hardy-Weinberg equation	random mating

differential survival  
directional selection  
disruptive selection  
divergent evolution (aka  
cladogenesis  
endosymbiosis  
epoch  
evo-devo  
evolution  
evolutionary fitness  
extinction  
fixation (of alleles)

homologous structures  
homology  
hybrid  
Last Universal Common  
Ancestor  
mass extinction  
migration  
Miller-Urey experiments  
modern synthesis  
molecular clock  
mutation

relative dating  
reproductive isolation  
RNA world  
rock strata  
speciation  
species  
stromatolite  
sympatric  
transitional fossil  
vestigial organ

### Classification & Biological Diversity:

Archaea  
Bacteria  
binomial nomenclature  
cladistics  
cladogram  
class  
distinguishing feature  
Eukarya

family  
genus  
kingdom  
monophyletic  
order  
paraphyletic  
phylogenetic tree  
phylogeny

phylum  
polyphyletic  
shared derived characteristic  
shared ancestral characteristic  
species  
taxon

### Cells:

active transport  
amphipathic  
apoptosis  
aquaporin  
carrier protein  
cell wall  
centrioles  
channel protein  
chloroplast  
communication  
cyclic AMP (cAMP)  
concentration gradient  
cytoplasm  
cytoskeleton  
diffusion  
electron microscope  
endocytosis  
endoplasmic reticulum

glycolipid  
glycoprotein  
Golgi apparatus  
G-protein linked receptor  
hormone  
hypertonic  
hypotonic  
ion pump  
isotonic  
ligand  
light microscope  
lysosome  
magnification  
membrane  
mitochondrion  
necrosis  
nuclear envelope  
nuclear pore

phospholipid  
phosphorylation cascade  
pinocytosis  
plasma membrane  
plasmolysis  
prokaryotic cell  
protein kinase  
quorum sensing  
receptor  
resolution  
ribosome  
rough ER  
second messenger  
selectively permeable  
signal cascade  
signal transduction  
signal transduction pathway  
smooth ER

exocytosis  
eukaryotic cell  
facilitated diffusion  
flagella  
fluid mosaic model

nucleus  
organelles  
osmosis  
passive transport  
phagocytosis

surface area:volume ratio  
transmembrane protein  
turgor  
vacuole

### **Cell Division:**

anaphase  
cancer  
cell cycle  
cellular differentiation  
cell division  
centrioles  
chromosome  
crossing over  
crossover frequency  
cyclin-dependent kinase  
cytokinesis  
differentiation

diploid (2N)  
DNA replication  
fertilization  
gamete  
haploid (1N)  
homologous chromosomes  
independent assortment  
interphase  
maternal chromosome  
meiosis  
metaphase  
mitosis

nuclear division  
p53  
paternal chromosome  
potency  
prophase  
recombination  
sex chromosome  
somatic cell  
specialized cell  
synapsis  
telophase

### **Molecular Genetics:**

activator  
amino acids  
anticodon  
base-pairing rules  
cell differentiation  
constitutive gene  
coding strand  
codon  
DNA  
DNA ligase  
DNA polymerase  
DNA replication  
embryonic induction  
exons  
gel electrophoresis  
gene expression  
gene induction  
gene repression

genetic code  
genetic engineering  
genetic transplantation  
helicase  
homeotic genes  
*HOX* genes  
hydrogen bonding  
inducible genes  
introns  
lac operon  
lagging strand  
leading strand  
micro RNA (miRNA)  
morphogenesis  
morphogens  
mutation  
nucleic acids  
nucleotides

Okazaki fragments  
polymerase chain reaction  
protein  
regulatory sequence  
replication fork  
repressor  
restriction enzyme  
reverse transcriptase  
RNA (mRNA, rRNA, tRNA)  
RNAi  
small interfering RNA (siRNA)  
small regulatory RNA  
start codon/stop codon  
template strand  
transcription  
transcription factors  
transgenic organism  
translation

## Mendelian Genetics:

allele  
autosome  
back cross  
cline  
codominance  
continuous variation  
cross  
dihybrid cross  
discontinuous variation  
dominant  
F1/F2 Generation  
genetic counseling  
genomic imprinting

genotype  
heterozygous  
homozygous  
incomplete dominance  
independent assortment  
lethal allele  
linkage  
monohybrid cross  
multiple alleles  
non-disjunction  
non-nuclear inheritance  
pedigree analysis  
phenotype

phenotypic plasticity  
polygenetic inheritance  
Punnett square  
pure-breeding (aka true-breeding)  
recessive  
segregation  
selfing  
sex chromosome  
sex-limited traits  
sex linked gene  
test cross  
trait

## Metabolism

absorption spectrum  
accessory pigment  
acetyl coA  
action spectrum  
activation energy  
active site  
anabolism  
anaerobic metabolism  
allosteric regulation  
ATP  
autotroph  
Calvin cycle  
catabolism  
catalyst  
cellular respiration  
chemiosmosis  
chemoautotroph

chlorophyll  
chloroplast  
citric acid cycle  
coenzyme  
cofactor  
compartmentalization  
consumer  
cyclic electron flow  
denaturation  
electron transport chain  
entropy  
endergonic reaction  
enzyme  
exergonic reaction  
feedback inhibition  
fermentation  
glycolysis

heterotroph  
induced fit model  
light dependent reactions  
light independent reactions  
metabolic pathway  
mitochondrion  
NAD  
NADP  
negative feedback  
non-cyclic electron flow  
oxidative phosphorylation  
photolysis  
photosynthesis  
positive feedback  
ribulose biphosphate  
substrate-level phosphorylation  
thylakoid membrane

## Physiology

cell-mediated immunity  
circadian rhythm  
closed circulatory system  
clonal selection  
companion cell  
cortex  
countercurrent exchange  
courtship

humoral immunity  
hypothalamus  
inflammation  
inhibition  
insulin  
integration  
intracellular digestion  
immune response

postsynaptic  
presynaptic  
primary immune response  
pressure-flow hypothesis  
pulmonary circulation  
reflex  
refractory period  
reproductive strategy

dentition  
diabetes  
diastole  
digestive enzymes  
digestive tract  
disease  
dopamine  
double circulatory system  
ectothermic  
electrochemical gradient  
endocrine signaling  
endodermis  
endothermic  
estivation  
excretion  
extracellular digestion  
fibrin  
gas exchange  
gastrovascular cavity  
gills  
glucagon  
guard cells  
heart  
heart valves  
hibernation  
HIV  
homeostasis  
hormone

kidney  
leaf  
leukocyte  
loop of henle  
lungs  
lymphocyte  
memory cells  
mesophyll  
metabolism  
migration  
motor neuron  
myelin  
myosin  
neuromuscular junction  
neuron  
neurotransmitter  
nitrogenous waste  
nodes of Ranvier  
non-specific defense  
open circulatory system  
osmoregulation  
passive immunity  
pathogen  
phagocyte  
phagocytosis  
phloem  
photoperiodism  
phytochrome

respiratory surface  
resting potential  
root  
root hair  
root pressure  
saltatory conduction  
Schwann cells  
secondary immune response  
sensory neuron  
sensory receptor  
serotonin  
sinoatrial node  
skeletal muscle  
specific defense  
stem  
stimulus  
stomata  
symplast  
synapse  
T-cell  
transpiration  
transpirational pull  
vaccination  
vein  
ventricle  
villi  
xerophyte  
xylem

## Ecology

abiotic factor  
abundance  
adaptation  
age structure  
biodiversity  
biome  
biotic factor  
carbon cycle  
carrying capacity  
climate change  
community  
conservation  
decomposer  
demography  
density dependent factor

food chain  
food web  
global warming  
greenhouse effect  
greenhouse gas  
gross primary productivity  
habitat  
hydrologic cycle  
imprinting  
interspecific competition  
intraspecific competition  
introduced species  
K-selection  
keystone species  
learning

nitrogen cycle  
nutrient cycle  
parasite  
photoautotroph  
population  
population growth  
population size  
pollution  
predator  
primary consumer  
quadrat  
rate of increase  
resilience  
r selection  
saprophyte

detrivore  
distribution  
ecological niche  
ecological pyramid  
ecological succession  
ecosystem  
ecosystem stability  
endangered species  
exponential growth

life history  
life tables  
limiting factor  
logistic growth  
mark and recapture  
migration  
mortality  
mutualism  
net primary productivity

secondary consumer  
species diversity  
survivorship curve  
symbiosis  
ten percent rule  
threatened species  
trophic efficiency  
trophic level  
urbanization