# 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.

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## Scientific Process:

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

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## Biochemistry:

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

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## Evolution:

|  |  |  |
| --- | --- | --- |
| adaptation  adaptive radiation  allele  allopatric  analogous structure  artificial selection  background extinction rate  biogeography  biological species  coevolution  common ancestor  comparative anatomy  convergent evolution  Darwin  differential survival  directional selection  disruptive selection  divergent evolution (aka cladogenesis  endosymbiosis  epoch  evo-devo  evolution  evolutionary fitness  extinction  fixation (of alleles) | fossil  fossil record  founder effect  geologic time scale  geology  gene flow  gene pool  genetic bottleneck  genetic drift  genetic equilibrium  genetic variation  genotype  gradualism (aka anagenesis)  Hardy-Weinberg equation  homologous structures  homology  hybrid  Last Universal Common Ancestor  mass extinction  migration  Miller-Urey experiments  modern synthesis  molecular clock  mutation | natural selection  paleontology  panspermia  parallel evolution  phenotype  phylogeny  polymorphism  polyploidy  population  postzygotic isolating mechanism  prezygotic isolating mechanism  primordial environment  radiometric dating  random mating  relative dating  reproductive isolation  RNA world  rock strata  speciation  species  stromatolite  sympatric  transitional fossil  vestigial organ |

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## 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 |

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## 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  exocytosis  eukaryotic cell  facilitated diffusion  flagella  fluid mosaic model | 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  nucleus  organelles  osmosis  passive transport  phagocytosis | 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  surface area:volume ratio  transmembrane protein  turgor  vacuole |

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## 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 |

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## Molecular Genetics:

|  |  |  |
| --- | --- | --- |
| activator  amino acids  anticodon  base-pairing rules  cell differentiation  constituitive 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 |

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## 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 analyisis  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 |

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## 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 bisphosphate  substrate-level phosphorylation  thylakoid membrane |

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## Physiology

|  |  |  |
| --- | --- | --- |
| cell-mediated immunity  circadian rhythm  closed circulatory system  clonal selection  companion cell  cortex  countercurrent exchange  courtship  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 | humoral immunity  hypothalamus  inflammation  inhibition  insulin  integration  intracellular digestion  immune response  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 | postsynaptic  presynaptic  primary immune response  pressure-flow hypothesis  pulmonary circulation  reflex  refractory period  reproductive strategy  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 |

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## Ecology

|  |  |  |
| --- | --- | --- |
| abiotic factor  abundance  adaptation  age structure  biodiversity  biome  biotic factor  carbon cycle  carrying capacity  climate change  community  conservation  decomposer  demography  density dependent factor  detritovore  distribution  ecologial niche  ecological pyramid  ecological succession  ecosystem  ecosystem stability  endangered species  exponential growth | 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  life history  life tables  limiting factor  logistic growth  mark and recapture  migration  mortality  mutualism  net primary productivity | nitrogen cycle  nutrient cycle  parasite  photoautotroph  population  population growth  population size  pollution  predator  primary consumer  quadrat  rate of increase  resillience  r selection  saprophyte  secondary consumer  species diversity  survivorship curve  symbiosis  ten percent rule  threatened species  trophic efficiency  trophic level  urbanization |