Recent AP Biology Free Response Questions, By Year

1998 1. Cell membrane transport
1998 2. Gene transfer
1998 3. Asexual and sexual reproduction
1998 4. Food web

1999 1. Experiment, photosynthesis
1999 2. Communication between cells
1999 3. Domains
1999 4. DNA as hereditary material

2000 1. Experiment, enzyme
2000 2. Feedback mechanisms and homeostasis
2000 3. DNA replication, transcription, translation, transfer
2000 4. Response to environment

2001 1. Structure and function
2001 2. Evolution and natural selection
2001 3. Experiment, BOD, dissolved oxygen
2001 4. Proteins

2002 1. Molecular genetics techniques
2002 2. Biological rhythms, animals
2002 3. Structure and function
2002 4. Experiment, diffusion

2002b1. Bacteriophage
2002b2. Experiment, circulation
2002b3. Structure and function, polymers
2002b4. Germ layers

2003 1. Drosophila chi-square
2003 2. Regulation, homeostasis
2003 3. Population growth
2003 4. Death

2003b1. Prokaryote, eukaryote DNA
2003b2. Hormones
2003b3. Water
2003b4. Population genetics, biodiversity

2004 1. Meiosis
2004 2. Evolution
2004 3. Experiment, photosynthesis
2004 4. Symbiosis

2004b1. Prokaryotes, impact
2004b2. Experiment, primary productivity, DO
2004b3. Homeostasis

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2004b4. Kingdoms, characteristics

2005 1. Experiment, yeast enzymes
2005 2. Chromosomes
2005 3. Reproduction, angiosperm and moss
2005 4. Immune system

2005b1. Animal behavior, interactions
2005b2. Evolutionary significance of adaptations
2005b3. Protein synthesis
2005b4. Experiment, osmosis

2006 1. Prokaryote, eukaryote cells, organelles
2006 2. Population ecology
2006 3. Transpiration
2006 4. Circulatory, respiratory, digestive systems

2006b1. Sexual, asexual reproduction
2006b2. Structure/function macromolecules, membranes
2006b3. Transpiration
2006b4. Food web energy transfer

2007 1. Membranes, macromolecules, function
2007 2. Cephalization, nervous system development, stimulus response
2007 3. Biome, desert food chain, C4
2007 4. Restriction mapping, recombinant DNA, GM

2007b1. Behavior, experiment design
2007b2. Immune, non-specific, acquired, transplant rejection
2007b3. mRNA modification, translation, protein modification
2007b4. Ecosystem energy flow, global changes

2008 1. Protein structure, function, hemoglobin
2008 2. Primary productivity, graph, prediction
2008 3. Regulation, cellular, metabolic, ecosystem
2008 4. Plants, fertilization, pollen transfer, self-incompatibility

2008b1. DO, primary productivity
2008b2. Structure and function, various levels
2008b3. HW, population change
2008b4. Homology and evolution

2009 1. Experiment, graph, control, physiology
2009 2. ATP structure, chemiosmosis, use, energy pyramid
2009 3. Phylogeny, genetic change
2009 4. DNA to protein, regulation, viruses

2009b1. Transformation
2009b2. Plant reproduction, alt. gen., vascular/non, dispersal
2009b3. Water properties, biological role

2009b4. Oxygen uptake mechanisms

2010 1. Homeostasis, glucose, cell signaling
2010 2. Experiment, graph, predict, enzyme regulation
2010 3. Linkage, HW
2010 4. Succession, abiotic, primary/secondary

2010b1. Chromatography, photosynthesis, Rf
2010b2. Mutations, consequences, frequency change
2010b3. Bacteria, roles, GM
2010b4. Response, experiment design

Recent AP Biology Free Response Questions, by Category

Molecules and Cells

Chemistry of Life

2001 4. Proteins
2002b3. Structure and function, polymers
2003b3. Water

Cells

1998 1. Cell membrane transport
1999 2. Communication between cells
2006 1. Prokaryote, eukaryote cells, organelles
2006b2. Structure/function macromolecules, membranes

Cellular Energetics

Heredity and Evolution

Heredity

2003 1. Drosophila chi-square
2003b1. Prokaryote, eukaryote DNA
2004 1. Meiosis
2005 2. Chromosomes
2006b1. Sexual, asexual reproduction

Molecular Genetics

1998 2. Gene transfer
1999 4. DNA as hereditary material
2000 3. DNA replication, transcription, translation, transfer
2002 1. Molecular genetics techniques
2005b3. Protein synthesis

Evolutionary Biology

2001 2. Evolution and natural selection
2003b4. Population genetics, biodiversity
2004 2. Evolution
2005b2. Evolutionary significance of adaptations

Organisms and Populations

Diversity of Organisms

1999 3. Domains
2002b1. Bacteriophage
2004b1. Prokaryotes, impact
2004b4. Kingdoms, characteristics

Structure and Function of Plants and Animals

1998 3. Asexual and sexual reproduction
2000 2. Feedback mechanisms and homeostasis
2000 4. Response to environment
2001 1. Structure and function

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2002 3. Structure and function
2002b4. Germ layers
2003 2. Regulation, homeostasis
2003 4. Death
2003b2. Hormones
2004b3. Homeostasis
2005 3. Reproduction, angiosperm and moss
2005 4. Immune system
2006 3. Transpiration
2006 4. Circulatory, respiratory, digestive systems
2006b3. Transpiration

Ecology

1998 4. Food web
2002 2. Biological rhythms, animals
2003 3. Population growth
2004 4. Symbiosis
2005b1. Animal behavior, interactions
2006 2. Population ecology
2006b4. Food web energy transfer

Experiments

1999 1. Experiment, photosynthesis
2000 1. Experiment, enzyme
2001 3. Experiment, BOD, dissolved oxygen
2002 4. Experiment, diffusion
2002b2. Experiment, circulation
2004 3. Experiment, photosynthesis
2004b2. Experiment, primary productivity, DO
2005 1. Experiment, yeast enzymes
2005b4. Experiment, osmosis