

SCIENCE LEARNING CENTER
Takoma Park/Silver Spring Campus SN 101
Montgomery College

Resources for TEAS Science Preparation

HUMAN BODY SCIENCE

OBJECTIVE	PROGRAM	CD	VCR	ONLINE RESOURCES
Describe the functions of the circulatory system.			Understanding The Human Body Part I (Tape I Lectures 1-4) (BI #98)	http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/ http://www.biology4kids.com/files/systems_main.html
Describe the functions of the digestive system.			Understanding The Human Body Part II (Tape II Lectures 14-16) (BI #99) Part III (Tape I, Lectures 17-19)(BI #100)	http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/ http://www.biology4kids.com/files/systems_circulatory.html
Describe the functions of the nervous system.			Understanding The Human Body Part I (Tape II Lectures 7-8) (BI #99) Part II, (Tape I, Lectures 9-13)(BI #100)	http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/ http://www.biology4kids.com/files/systems_respiratory.html
Describe the functions of the respiratory system.			Understanding The Human Body Part I (Tape II Lectures 5-6) (BI #98)	http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/ http://www.biology4kids.com/files/systems_nervous.html

SCIENCE LEARNING CENTER
Takoma Park/Silver Spring Campus SN 101
Montgomery College

Describe the functions of the immune system.		Blood and Immunity		http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/ http://www.biology4kids.com/files/systems_immune.html
Describe the general anatomy and physiology of the human body.	A.D.A.M Interactive Anatomy		Understanding the Human body: Parts I - IV (BI # 98-101)	http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/
Explain that populations grow or decline through the combine effects of births and deaths, and through emigration and immigration.		Population Ecology	Population and communities (BI #110)	http://kfhs.spsk12.net/staff/cadorette/index_files/Page661.htm Select “Population Ecology Notes” http://www.biology.iupui.edu/biocourses/N100/2k4ch39pop.html
Identify various factors that influence birth rates and fertility rates.		The Biosphere	Ecosystems and the Biosphere (BI #109)	http://www.biology.iupui.edu/biocourses/N100/2k4ch39pop.html

SCIENCE LEARNING CENTER
Takoma Park/Silver Spring Campus SN 101
Montgomery College

LIFE SCIENCE

OBJECTIVE	PROGRAM	CD	VCR	ONLINE RESOURCES
Explain the process of natural selection and adaptation.		Evolution Heredity	Heredity and Mutation (BI #50)	http://biol1114.okstate.edu/study_guides/scenarios/5-galapagos/Galapagos_frameset.htm http://www.actionbioscience.org/evolution/futuyma.html http://www.biology4kids.com/files/studies_kingdoms.html
Explain the biological classification system.	Consult a general biology textbook under Classification, Systematics, and/or Taxonomy			http://www.bio200.buffalo.edu/labs/nomenclature.html
Identify parts of a cell and its function (e.g. energy production, transportation of molecules, waste disposal, synthesis of new molecules, storage of genetic material).		Cell Structure and Function Cellular Respiration Biochemistry: The Chemistry of Life Biochemistry I Biochemistry II DNA: The Molecule of Life From DNA to Protein Genetics Heredity Photosynthesis Plasma Membrane and Cellular Transport	Fluid Transport System (BI #78)	http://www.cellsalive.com/cells/cell_model.htm http://www.biology4kids.com/files/plants_reproduction.html http://www.biology4kids.com/files/cell_wall.html http://www.biology4kids.com/files/cell_main.html http://www.biology4kids.com/files/cell_membrane.html

SCIENCE LEARNING CENTER
Takoma Park/Silver Spring Campus SN 101
Montgomery College

Explain that cells can differentiate.		Animal Cells and Tissues Mitosis Meiosis		http://www.cellsalive.com/cells/cell_model.htm
Compare and contrast mitosis and meiosis.		Mitosis Meiosis		http://www.cellsalive.com/cells/cell_model.htm Choose mitosis and/or meiosis from the menu on the left. http://www.biology4kids.com/files/cell2_mitosis.html http://www.biology4kids.com/files/cell2_meiosis.html
Compare and contrast photosynthesis and respiration.		Photosynthesis Cellular Respiration		http://sciencelearningcenter.pbworks.com/f/cell-res.pdf http://www.slideshare.net/MissWander/power-point-51-cell-energy-photosynthesis-respiration http://www.slideshare.net/Schroedermc/cellular-respiration-and-photosynthesis http://www.biology4kids.com/files/plants_main.html
Describe the structures and functions of nucleic acids to include DNA and RNA.		Biochemistry I Cell Structure and Function DNA: The Molecule of Life From DNA to Protein Genetic Engineering Inside the Cell		http://www.dnatutorial.com/RNA.shtml http://www.attotron.com/pub/dnaquiz/Q1DNA.htm http://learn.genetics.utah.edu/

SCIENCE LEARNING CENTER
Takoma Park/Silver Spring Campus SN 101
Montgomery College

LIFE SCIENCE (Continued)

OBJECTIVE	PROGRAM	CD	VCR	ONLINE RESOURCES
Explain that changes in DNA (mutations) occur spontaneously at low rates, and that only mutations in the germ cell can create variation that changes an organism's offspring.		Evolution Heredity	Heredity and Mutation (BI #50)	http://www.answers.com/topic/mutation http://www.nature.com/scitable/topicpage/genetic-mutation-441
Describe how RNA and DNA are involved in cell replication.		Mitosis Meiosis Animal Cells and Tissues		See section on mitosis/meiosis above. http://learn.genetics.utah.edu/ http://nobelprize.org/educational/medicine/dna/index.html
Explain that heredity information is stored in genes.		Heredity Mendel's Principles of Heredity DNA: The Molecule of Life Biochemistry: The Chemistry of Life Biochemistry I	Translating the Genetic Code: Protein synthesis (BI #47)	http://learn.genetics.utah.edu/
Compare and Contrast chromosomes, genes, proteins, RNA and DNA.		Biochemistry: The Chemistry of Life Biochemistry I Biochemistry II From DNA to Protein Genetic Engineering Genetics Inside the Cell Meiosis		http://learn.genetics.utah.edu/ http://nobelprize.org/educational/medicine/dna/index.html http://www.chem4kids.com/files/bio_proteins.html http://www.chem4kids.com/files/bio_dna.html

SCIENCE LEARNING CENTER
Takoma Park/Silver Spring Campus SN 101
Montgomery College

		Mitosis Mendel's Principles of Heredity		http://www.biology4kids.com/files/cell_chromosome.html
Describe the differences between phenotypes and genotypes.		Heredity Mendel's Principles of Heredity		http://www.youtube.com/watch?v=ubmrhWo-Vso&feature=related
Apply Mendel's laws of genetics and the Punnett Square.		Heredity Mendel's Principles of Heredity		http://www.execulink.com/~ekimmel/mendel1a.htm http://www.purchon.com/biology/mendel.htm

EARTH AND PHYSICAL SCIENCE

OBJECTIVE	PROGRAM	CD	VCR	ONLINE RESOURCES
Identify the sun as the major external source of energy.			Absorbing the Light (BI #75)	http://hyperphysics.phy-astr.gsu.edu/hbase/biology/energyc.html http://www.cosmos4kids.com/files/solsyst_sun.html
Balance and identify important chemical reactions, including oxidation/reduction and acid/base reactions.	Comprehensive Chemistry	Chemical Reactions Properties of Acids, Bases and Salts		http://www.chem4kids.com/files/react_intro.htm
Identify the purpose of catalysts.		Enzymes	Catalysis (CH #23) Enzymes: Regulators of Body Chemistry (BI #83)	http://www.chem4kids.com/files/react_catalyst.html
Recognize that enzymes are protein molecules.		Enzymes		http://www.chem4kids.com/files/bio_enzymes.html

SCIENCE LEARNING CENTER
Takoma Park/Silver Spring Campus SN 101
Montgomery College

Use pH scale to identify acid and base solutions.	Comprehensive Chemistry	Properties of Acids, Bases and Salts	Acid/Base Indicators (CH #26)	http://lrs.ed.uiuc.edu/students/erlinger/water/background/ph.html http://www.chem4kids.com/files/react_catalyst.html
Identify chemical bonds between atoms in common molecules (e.g. Common hydrocarbons).	Comprehensive Chemistry	Electronic Structure	Electron Arrangement and Bonding (CH #14) Carbon Bonding (CH #32)	http://www.chem4kids.com/files/atom_bonds.html
State the chemical properties of water.		States of Matter		http://www.chem4kids.com/
Distinguish among kinetic energy, potential energy, and other energy contained by a field.			Potential and Kinetic Energy (PH #17) Magnetic Fields (PH #10)	http://www.ftexploring.com/energy/enrg-types.htm http://www.chem4kids.com/files/react_thermo.html
Identify the measurable properties of atoms including mass and electrical charge.		Atomic Structure	Rutherford-Bohr Atom (CH #10)	http://www.chemguide.co.uk/atoms/properties/gcse.html http://www.chem4kids.com/files/atom_intro.html
Identify protons, neutrons, and electrons as major components of an atom.		Atomic Structure	Rutherford-Bohr Atom (CH #10) Atoms and Their Electrons (CH #12)	http://web.jjay.cuny.edu/~acarpi/NSC/3-atoms.htm http://www.chem4kids.com/files/atom_intro.html
Explain that chemical bonds result when electrons are shared or transferred between atoms.		Chemical Bonding I Chemical Bonding II	Chemical Bonding (CH #15) How atoms bond (CH #13) Carbon Bonding (CH #32)	http://www.chem4kids.com/files/atom_bonds.html http://www.chem4kids.com/files/atom_isotopes.html

SCIENCE LEARNING CENTER
Takoma Park/Silver Spring Campus SN 101
Montgomery College

EARTH AND PHYSICAL SCIENCE (Continued)

Explain the physical and chemical patterns within the periodic table of elements.		Periodic Table and Trends,	Periodic Table (CH #4) Periodic Table (CH #45)	http://chemistry.about.com/od/periodictableelements/a/periodictrends.htm http://www.chem4kids.com/files/elem_intro.html http://www.chem4kids.com/files/matter_chemphys.html
Explain the difference of the atoms or molecules in liquids, gases and solids.		States of Matter	Molecular Substance and Covalent Crystals (CH #18) Metals and Ionic Solids (CH #29)	http://www.chem.purdue.edu/gchelp/liquids/character.html http://www.chem4kids.com/files/matter_states.html http://www.chem4kids.com/
Compare and contrast evaporation, vaporization and condensation.		States of Matter		http://www.chem4kids.com/files/matter_evap.html http://www.chem4kids.com/ http://answers.yahoo.com/question/index?qid=20100524062340AAPwMQn

SCIENTIFIC REASONING

OBJECTIVES	RESOURCES
Identify questions and concepts that guide scientific investigations, including formulation and testing of hypotheses, use technology and mathematics to improve investigations and communications, formulate and revise scientific explanations (including conclusions) and models using logic and evidence, recognize and analyze alternative explanations and models, communicate and defend scientific argument, identify reasons for conducting investigations, and identify reasons for including technology and mathematics in science research.	http://www.biology4kids.com/files/studies_scimethod.html Independent research and study including but not limited to prefaces and first chapters of introductory and/or general biology, chemistry, and physics textbooks.