

SCIENCE LEARNING CENTER
 Germantown Campus SA202
<http://www.sciencelearningcenter.pbworks.com>
 Montgomery College

Activities for TEAS Science Preparation

HUMAN BODY SCIENCE

OBJECTIVE	Computer PROGRAM	ONLINE RESOURCE	VIDEO/OTHER
			Ask a Staff Member for help accessing these materials:
Describe the functions of the circulatory system.	Interactive Physiology/The Cardiovascular System	http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/	Video: The Human Cardiovascular System
Describe the functions of the digestive system.		http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/	Digestive Study Model
Describe the functions of the nervous system.	Interactive Physiology/The Nervous System	http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/	Video: The Human Nervous System
Describe the functions of the respiratory system.	Interactive Physiology/The Respiratory System	http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/	Respiratory Study Model; Video: The Human Respiratory System
Describe the functions of the immune system.		http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/	
Describe the general anatomy and physiology of the human body.	Interactive Physiology A.D.A.M Interactive Anatomy	http://www.innerbody.com/htm/body.html http://www.getbodysmart.com/	Video: Anatomy and Physiology

SCIENCE LEARNING CENTER
 Germantown Campus SA 202
<http://www.sciencelearningcenter.pbworks.com>
 Montgomery College

Explain that populations grow or decline through the combine effects of births and deaths, and through emigration and immigration.		http://kfhs.spsk12.net/staff/cadorette/index_files/Page661.htm Select “Population Ecology Notes” http://www.biology.iupui.edu/biocourses/N100/2k4ch39p_op.html	Video: Principles of Ecology (this would have some sections of relevance only).
Identify various factors that influence birth rates and fertility rates.		http://www.biology.iupui.edu/biocourses/N100/2k4ch39p_op.html	

LIFE SCIENCE

OBJECTIVE	Computer PROGRAM	ONLINE RESOURCE	VIDEO/OTHER
Explain the process of natural selection and adaptation.		http://bio1114.okstate.edu/study_guides/scenarios/5-galapagos/Galapagos_frameset.htm http://www.actionbioscience.org/evolution/futuyma.html	Videos: Evolution 1-4
Explain the biological classification system.		http://www.bio200.buffalo.edu/labs/nomenclature.html	<u>Textbook under Classification</u>
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 Plasma Membrane and Cellular Transport	http://www.cellsalive.com/cells/cell_model.htm	
Explain that cells can differentiate.		http://www.cellsalive.com/cells/cell_model.htm	

SCIENCE LEARNING CENTER
 Germantown Campus SA 202
<http://www.sciencelearningcenter.pbworks.com>
 Montgomery College

Compare and contrast mitosis and meiosis.		http://www.cellsalive.com/cells/cell_model.htm Choose mitosis and/or meiosis from the menu on the left.	
Compare and contrast photosynthesis and 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	
Describe the structures and functions of nucleic acids to include DNA and RNA.	Chemistry of Life	http://www.dnatutorial.com/RNA.shtml http://www.attotron.com/pub/dnaquiz/Q1DNA.htm http://learn.genetics.utah.edu/	
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.		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.		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.		http://learn.genetics.utah.edu/	

SCIENCE LEARNING CENTER
 Germantown Campus SA 202
<http://www.sciencelearningcenter.pbworks.com>
 Montgomery College

Compare and Contrast chromosomes, genes, proteins, RNA and DNA.		http://learn.genetics.utah.edu/	
		http://nobelprize.org/educational/medicine/dna/index.html	
Describe the differences between phenotypes and genotypes.		http://www.youtube.com/watch?v=ubmrhWo-Vso&feature=related	
Apply Mendel's laws of genetics and the Punnett Square.		http://www.execulink.com/~ekimmel/mendel1a.htm	
		http://www.purchon.com/biology/mendel.htm	

EARTH AND PHYSICAL SCIENCE

OBJECTIVE	Computer PROGRAM	ONLINE RESOURCES	VIDEO/OTHER
Identify the sun as the major external source of energy.		http://hyperphysics.phy-astr.gsu.edu/hbase/biology/energyc.html	
Balance and identify important chemical reactions, including oxidation/reduction and acid/base reactions.	Comprehensive Chemistry		
Identify the purpose of catalysts.	Enzymes		
Recognize that enzymes are protein molecules.	Enzymes		
Use pH scale to identify acid and base solutions.	Comprehensive Chemistry	http://lrs.ed.uiuc.edu/students/erlinger/water/background/ph.html	Video: Acids and Bases
Identify Chemical bonds between atoms in common molecules (e.g. Common hydrocarbons).	Comprehensive Chemistry, Chemistry of Life		Video: Covalent Bonding
State the chemical properties of water.	Chemistry of Life		

SCIENCE LEARNING CENTER
 Germantown Campus SA 202
<http://www.sciencelearningcenter.pbworks.com>
 Montgomery College

Distinguish among kinetic energy, potential energy, and other energy contained by a field.	Comprehensive Chemistry	http://www.ftexploring.com/energy/enrg-types.htm	
Identify the measurable properties of atoms including mass and electrical charge.	Chemistry of Life	http://www.chemguide.co.uk/atoms/properties/gcse.html	
Identify protons, neutrons, and electrons as major components of an atom.	Chemistry of Life	http://web.jjay.cuny.edu/~acarpi/NSC/3-atoms.htm	
Explain that chemical bonds result when electrons are shared or transferred between atoms.	Chemistry of Life		
Explain the physical and chemical patterns within the periodic table of elements.		http://chemistry.about.com/od/periodictableelements/a/periodictrends.htm	
Explain the difference of the atoms or molecules in liquids, gases and solids.		http://www.chem.purdue.edu/gchelp/liquids/character.html	
Compare and contrast evaporation, vaporization and condensation.		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.