

**Newport-Mesa Unified School District
Office of Secondary Curriculum and Instruction
High School Course of Study**

Course Title		Anatomy 1AB				Course Code		[Office use only]	
Transcript Title:	Anatomy 1AB			Grades Levels:	10-12		Board Adoption Date:		
Content Area:	Science			GPA Scale:	4.0		Date Course Submitted:		March 2011
Credential Req:	Life Science		Graduation Subject Areas:		Life Science		Elective		
UC/CSU “A-G” Area Approvals:				School Site that wrote and submitted the course:				Newport Harbor HS	
Prerequisite(s):	Previous completion of Biology or Life Science								
Next course(s):	Chemistry or Physiology								

COURSE DESCRIPTION

Anatomy 1AB is a second, third or fourth year science course for students interested in biology, medicine, veterinarian and health care professions but have not yet completed chemistry. This is a lab course in which students will integrate basic biochemistry, physics and biology to study the structures and functions of primarily the human body but with reference to comparative vertebrate organisms. This course will include discussion of diseases and the pathology of those systems, standard and alternative treatments, and correct laboratory procedures. Guest speakers will include professionals with medical or veterinarian experience in applications of the respective unit being studied. The text to be used is Introduction to the Human Body 7th Edition by Tortora and Derrickson which has not yet been approved.

GOALS: (Expected performance outcomes for students)

After having completed Anatomy AB, the students will be able to:

- Demonstrate an understanding of the structural components of the twelve human body systems and comparative anatomy of vertebrates, through problem solving, laboratories and group projects.
- Demonstrate an understanding of the levels of organization from cell to organ system through experimentation, analysis of data and critical thinking.
- Demonstrate an understanding of human development through the completion of individual and group projects, synthesizing data and applying that knowledge to a new situation.
- Demonstrate an ability to perform basic laboratory skills including dissection techniques, microscopy, thin section, dissection, blood type analysis, urinalysis, EKG analysis, blood pressure and cardiac rate through auscultation and sphygmometry.

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California Content Standards

Course Content by Grading Period

Unit1: Human Body Orientation (Fall)
Medical Terminology

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Cell Biology: 1. The Fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. (a, c)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (a,b,d,f),

Activities: "Body Orientation Poster" (anatomical terms and anatomical reference points using life-size student outlines)
"Comparative Sections" (body planes and anatomical terms for various household and agricultural animals)
"Acetate Model" (overlapping body systems to show interaction, body cavities and placement)
"EMT vs. Anatomical Terms Compare and Contrast Chart"

Unit2: Chemistry (Fall)
Basic Chemistry

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Chemistry: 1. The periodic table displays the elements in increasing atomic number and shows periodicity. (a-e, i)

Chemical Bonds: 2. Biological chemical and physical properties of matter result from the ability of atoms to form bonds from electrostatic forces between electrons and protons and between atoms and molecules. (a-c)

Acids and Bases: 5. Acids, bases and salts are three classes of compounds that form ions in water solutions. (a-e,g)

Activities: "ABC's of Elements Poster" (group project using human anatomy nomenclature as elements)
"Chemical Models" (model building to practice Lewis Dot, 3-D placement, chemical formula and chemical structure)
"Signs of a Reaction Lab" (four types of reactions, exothermic vs. endothermic)
"Daily Products We Use Lab" (pH analysis of shampoos, facial and hair treatments, make-up, creams, foods, etc.)

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Organic Chemistry

Organic Chemistry and Biochemistry: 10. The bonding characteristics of carbon allow the formation of many different organic molecules of varied sizes, shapes, and chemical properties and provide the biochemical basis of life. (a-c,f)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (d,h,i)

Cell Biology: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. (b)

Genetics: 4. Genes are a set of instructions encoded in the DNA sequence of each organism that specify the sequence of amino acids in proteins characteristic of that organism. (a-c, e-f)

Activities: "Polypeptide Lab" (model building of three amino acids and their linkage)
 "DNA Model Building Lab" (double helix, primary through quaternary structure)
 "Yeast Lab" (enzymes and reaction time)
 "Adipose Lab" (melting point and acid hydrolysis of common cooking fats)

Unit 3: Levels of Cellular Organization (Fall)

Cells and tissues

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (b)

Cell Biology: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. (a,c,g)

Genetics: 4. Genes are a set of instructions encoded in the DNA sequence of each organism that specify the sequence of amino acids in proteins characteristic of that organism. (c)

Activities: "Mitosis Cupcake Decoration Contest" (review of similarities and differences)
 "Tissue slide analysis" (observe differences and similarities of various types of tissues using microscopes)
 "Embryology Lab" (tissue differentiation and embryological progression using clay and plastic models)

Unit 4: Control and Regulation (Fall/ Spring)

Integumentary system

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

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Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (a-c,e)

Physiology: 10. Organisms have a variety of mechanisms to combat disease. (b)

Cell Biology: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. (a,j)

Activities: "Did You Wash your Hands?" (bacteria, viruses, disease, microbiology)

"Wrap Your Body" (determination of total body surface area)

"Cosmetology Presentation ROP" (jobs that involve the safety and cosmetic alteration of integumentary organs/tissues)

Endocrine system

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (b,c,e,i)

Activity: Hormone Chart (chart organization of glandular production, effect and homeostatic control)

Endocrinologist Demonstration (overview of biochemical tests given to ascertain homeostatic imbalances)

Reproductive System

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Genetics: 2. Mutation and sexual reproduction lead to genetic variation in a population. (a-f)

Genetics: 4. Genes are a set of instructions encoded in the DNA sequence of each organism that specify the sequence of amino acids in proteins characteristic of that organism. (b-e)

Genetics: 5. The genetic composition of cells can be altered by incorporation of exogenous DNA into the cells. (c,d)

Activities: "Female Hormone Chart" (chart the levels of female hormones in a monthly menstrual cycle)

"Bull vs. Sheep Testicle Dissection Lab" (discovery of the male reproductive system)

"Homologous Reproductive Structures Observation" (comparative anatomy of frog/pig/cat male/female systems)

Nervous system

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

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Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (a-e)

Physiology: 10. Organisms have a variety of mechanisms to combat disease. (f)

Cell Biology: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. (a)

Activities:

- "Clay Modeling of the Gyres of the Brain" (loci and function)
- "Brain Mapping Poster" (location and function)
- "Senses Reaction Lab" (using timers to monitor reaction times of the five basic senses)
- "Optometry Demonstration" (Ophthalmologist discussion of techniques and lab assistant responsibilities)

Unit 5: Support and Locomotion (Spring)
Skeletal system

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (a,b)

Activities:

- "Bob Bones" (create and color code a model of the axial and appendicular skeleton)
- "Comparative Bone Cross-section" (labeling of pre-dissected femur and rib bones of various species)
- "Tooth Race" (reassembly of dentitia within mandibulary and maxillary molds)
- "Bone Setting" (techniques using wooden sticks, wire, plaster and clay)

Muscular system

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (a,d,e,h)

Genetics: 4. Genes are a set of instructions encoded in the DNA sequence of each organism that specify the sequence of amino acids in proteins characteristic of that organism. (c)

Cell Biology: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. (i)

Activities:

- "Comparative Muscle Lab" (analyze the three types of muscle fiber tissues)
- "Clay Muscle Modeling" (attachment and insertion, vascular and nervous innervation)

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Unit 6: Fluids and Transport (Spring)
Cardiovascular system

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (a,b,d,h)

Cell Biology: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. (a,g)

Activity: "EMT demonstration of emergency cardiac care" (gross anatomy and revival techniques)
"RBC Relay Race" (students run to and from the heart and lungs and body to transport oxygen and carbon dioxide)
"Animated Heart Flip Book" (to determine the effects of hypotonic and hypertonic solutions on red blood cells)
"Yoga Day" (influence of vagus and phrenic nerve stimulation on heart rate and blood pressure)

Lymphatic system

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (a,g)

Physiology: 10. Organisms have a variety of mechanisms to combat disease. (a-d)

Cell Biology: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. (c)

Genetics: 4. Genes are a set of instructions encoded in the DNA sequence of each organism that specify the sequence of amino acids in proteins characteristic of that organism. (c)

Activity: Video analysis: "Osmosis Jones" (determine the body's response to illness/disease)

Unit 7: Environmental Exchange (Spring)
Respiratory System

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (a)

Physiology: 10. Organisms have a variety of mechanisms to combat disease. (c)

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Genetics: 4. Genes are a set of instructions encoded in the DNA sequence of each organism that specify the sequence of amino acids in proteins characteristic of that organism. (c)

Activity: "Build a Lung" (demonstrate the contraction and relaxation of the diaphragm using balloon, 2-liter bottles and latex gloves)
 "Spirometer Lab" (calculate and graph respiratory volumes)
 "Respiratory Technician Presentation" (treatment techniques for lower respiratory system physical therapy)

Digestive and Urinary Systems

Investigation and Experimentation: 1. Scientific progress is made by asking meaningful questions and conducting careful investigations. (a-d, f-g, j-n)

Physiology: 9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. (a,b,d,f)

Cell Biology: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cells. (b)

Activities: Balloon GI Tract (actual human length and size)
 Urinalysis and Catheterization Lab
 Culminating Activity: Fetal pig dissection of all systems

Provisions for Individual Physical and Cognitive Differences/Needs

Instructor office hours for individual and group tutoring

Participation of individuals in cooperative settings

Practical examination opportunities

Substitution of lay terms for scientific terminology when appropriate

Evaluation

Student achievement will be measured using multiple assessment tools, included but not limited to benchmark test results, final exams, end-of-unit tests, quizzes, homework, classwork, notebooks, portfolios, authentic performance assessments, and written assessments using the district's rubric. Specifically:

- Individual practice and homework (10%)
- Group practice and in class activities (10%)
- Teacher generated quizzes, lab practicals and exams (20%)
- Laboratory analysis reports (20%)
- Investigative research projects (20%)
- Semester Finals, Benchmark Exams, Culminating Cat Dissection Portfolio (20%)

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Unit 1	Length of Unit: 3 weeks				
	Key Terms	Standards*		Model Tasks**	Tools & Text
Human Body Orientation Subtopics: - Science Skills - Overview of Anatomy - Levels of Organization - Maintaining Life - Homeostasis - Etymology/Terminology	Scientific Method Anatomy Physiology Gross Systemic Surface Microscopic Developmental Embryology Complementarity Homeostasis Organ Systems Directional terms Regional terms Body planes and sections	I&E 1a-d,f,g,j-n Cell Bio 1 a-c Physiology 9 a-i Physiology 10 a,d	H M H L	- Lab Station Safety and Tools Skills - Contamination Lab and Sterility Practices - Acetate Poster Booklet of 12 Systems by Organ Systems - Body Orientation Poster - Comparative Sections - Frog Dissection - EMT vs Anatomical Terms Compare and Contrast <u>Daggett's Application Taxonomy</u> Quadrant A - Apply knowledge within a discipline Quadrant B - Apply knowledge across disciplines Quadrant C - Apply knowledge in real-world predictable situations Quadrant D - Apply knowledge in real-world unpredictable situations	A B B A C D B Textbook and related materials, lab manual and required lab equipment, computer with internet access
Differentiation	Support -- for students who are struggling with the content	Content: Multiple supplementary materials Process: graphic organizers, conceptual drawings, etymology, direct instruction, mixed grouping, collaborative work, tiered tasks, demonstration, additional teaching time before/after school, use of various teaching modalities, varied questioning strategies, varied reading strategies, video autopsy Product: lab skills, lab reports, homework, projects, student choice type of demonstration of mastery, presentations			
	Extension – for high achieving students. Required activities for all honors courses.	Content: Multiple supplementary materials Process: Project choices, extra credit for going beyond the rubric on a project, peer tutoring, (those who teach learn it better), bonus/extension problems, current event connections from research.			

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	Product: lab skills, reports, homework extensions, projects, current events, student choice type of demonstration of mastery, presentations
Evaluation	Formative Assessments: Review games, think-pair-share, KWL, quiz, homework check, concept checks, journals Summative Assessments: Tests, lab reports, writing assessment or essay, presentations, projects.

* Standards are to be identified by frequency on California Standards Tests. A high frequency standard will be labeled with an “H”, a medium frequency standard will be labeled “M”, and a low frequency standard will be labeled “L”.

** Tasks are to be identified by the Application Taxonomy Quadrant designed by the International Center for Leadership in Education.

Unit 2	Length of Unit: 5 weeks				
	Key Terms	Standards*		Model Tasks**	Tools & Text
Chemistry Subtopics: - Basic Inorganic Chemistry - Organic Chemistry - Biochemistry	Matter Energy Atoms Elements Molecules Compounds Polymers Bonds Reactions Acid/Base Carbohydrates Lipids Proteins Nucleic Acids Replication Transcription Protein Synthesis	I & E 1a-d,f-g,j-n Chemistry 1a-e,i Chemical Bonds 2 a-h Acids and Bases 5 a-e, g Organic Chemistry 10 a-f Physiology 9 d,h,i Cell Bio1 b Genetics 4 a-c, e-f	H M M L H H M H	- ABC's of Elements Poster - Chemical Models - Signs of a Reaction Lab - Daily Products We Use Lab - Polypeptide Lab - DNA Model Lab - DNA Extraction Lab - Yeast Lab - Adipose Lab <u>Daggett's Application Taxonomy</u> Quadrant A - Apply knowledge within a discipline Quadrant B - Apply knowledge across disciplines Quadrant C - Apply knowledge in real-world predictable situations Quadrant D - Apply knowledge in real-world unpredictable situations	A A C B B B D D D
Differentiation		Content: Multiple supplementary materials including student generated index card reference stack			

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	Support -- for students who are struggling with the content	Process: graphic organizers, conceptual drawings, varied reading materials based on readiness and learning styles, direct instruction, mixed grouping, collaborative work, tiered tasks, additional teaching time before/after school, use of various teaching modalities, varied questioning strategies, varied reading strategies Product: lab reports, homework, projects, current events, student choice type of demonstration of mastery, presentations		
	Extension – for high achieving students. Required activities for all honors courses.	Content: Multiple supplementary materials Process: Project choices, extra credit for going beyond the rubric on a project, peer tutoring, (those who teach learn it better), bonus/extension problems, current event connections from research. Product: lab skills, reports, homework extensions, projects, current events, student choice type of demonstration of mastery, presentations		
Evaluation	Formative Assessments: Student generated index card reference stack, reviews, think-pair-share, KWL, HW and concept check Summative Assessments: Tests, lab reports, writing assessment or essay, presentations, projects.			

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Unit 3	Length of Unit: 5 weeks				
	Key Terms	Standards*		Model Tasks**	Tools & Text
Levles of Cellular Organization Subtopics - Cells - Plasma Membrane - Cytoplasm - Nucleus - Growth	Cell theory Fluid Mosaic Model Tonicity Osmosis Diffusion Facilitated transport Active transport Endomembrane Epithelium	I & E 1a-d,f,g,j-n Organic Chemistry and Biochemistry 10 a-c Physiology 9 b	H M H M	- Mitosis Cupcake Decoration - Cell Thin Section - Comparison of Meiosis/Mitosis Glitter Poster - Tissue Slide Analysis - Embryology Lab - Comparative Tissue Practicum	C B A B B D Textbook and related materials, lab manual and required lab equipment, computer with internet access

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• Reproduction • Tissues • Development	Connective Nervous Muscle Cell Cycle Mitosis Meiosis	Cell Bio 1 a,c,g Genetics 4 a-c, e-f	H	<u>Daggett's Application Taxonomy</u> Quadrant A - Apply knowledge within a discipline Quadrant B - Apply knowledge across disciplines Quadrant C - Apply knowledge in real-world predictable situations Quadrant D - Apply knowledge in real-world unpredictable situations			
Differentiation	Support -- for students who are struggling with the content	Content: Multiple supplementary materials including student generated index card reference stack Process: graphic organizers, conceptual drawings, varied reading materials based on readiness and learning styles, direct instruction, mixed grouping, collaborative work, tiered tasks, additional teaching time before/after school, use of various teaching modalities, varied questioning strategies, varied reading strategies Product: lab reports, homework, projects, current events, student choice type of demonstration of mastery, presentations					
	Extension – for high achieving students. Required activities for all honors courses.	Content: Multiple supplementary materials Process: Project choices, extra credit for going beyond the rubric on a project, peer tutoring, (those who teach learn it better), bonus/extension problems, current event connections from research. Product: lab skills, reports, homework extensions, projects, current events, student choice type of demonstration of mastery, presentations					
Evaluation	Formative Assessments: Student generated index card reference stack, reviews, think-pair-share, KWL, HW and concept check Summative Assessments: Tests, lab reports, writing assessment or essay, presentations, projects.						

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Unit 4	Length of Unit: 5 weeks				
	Key Terms	Standards*		Model Tasks**	Tools & Text
Control and Regulation Subtopics: - Integumentary - Endocrine - Reproductive - Nervous	Epidermis Dermis Skin Diseases Hormones Genitalia Conception Differentiation Heredity Neuroglia Neurons Membrane Potentials Central Peripheral Autonomic Senses	I & E 1a-d,f,g,j-n Genetics 2 a-f Genetics 4 b-e Genetics 5 c,d Physiology 9 a-c,e,i Physiology 10 b,f Cell Bio1 a	H M H M H M H	- Did You Wash Your Hands Lab - Wrap your Body Lab - Cosmetology Presentation - Hormone Chart - Endocrinologist Presentation - Female Hormone Chart - Bull vs. Sheep Testicle Dissection - Homologous Reproductive Female Organs Dissection - Clay Brain Model - Brain Mapping Poster - Senses Reaction Lab - Optometry Demonstration	D D A A A C D A A D A
Differentiation	Support -- for students who are struggling with the content	Content: Multiple supplementary materials including student generated index card reference stack Process: graphic organizers, conceptual drawings, varied reading materials based on readiness and learning styles, direct instruction, mixed grouping, collaborative work, tiered tasks, additional teaching time before/after school, use of various teaching modalities, varied questioning strategies, varied reading strategies Product: lab reports, homework, projects, current events, student choice type of demonstration of mastery, presentations			
	Extension – for high achieving students. Required activities for all honors courses.	Content: Multiple supplementary materials Process: Project choices, extra credit for going beyond the rubric on a project, peer tutoring, (those who teach learn it better), bonus/extension problems, current event connections from research. Product: lab skills, reports, homework extensions, projects, current events, student choice type of			

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		Product: lab reports, homework, projects, current events, student choice type of demonstration of mastery, presentations			
	Extension – for high achieving students. Required activities for all honors courses.	Content: Multiple supplementary materials			
		Process: Project choices, extra credit for going beyond the rubric on a project, peer tutoring, (those who teach learn it better), bonus/extension problems, current event connections from research. Product: lab skills, reports, homework extensions, projects, current events, student choice type of demonstration of mastery, presentations			
Evaluation	Formative Assessments: Student generated index card reference stack, reviews, think-pair-share, KWL, HW and concept check Summative Assessments: Tests, lab reports, writing assessment or essay, presentations, projects.				

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Unit 6	Length of Unit: 5 weeks					
	Key Terms	Standards*		Model Tasks**	Tools & Text	
Fluid and Transport Subtopics: - Cardiovascular - Lymphatic	Blood Cells	I & E		- EMT Demonstration of Emergency Cardiac Care - Beef Heart Dissection - RBC Relay Race - Animated Heart Flipbook - Yoga Day - Video Analysis	A	Textbook and related materials, lab manual and required lab equipment, computer with internet access
	Plasma	1a-d,f,g,j-n	H		D	
	Formed elements	Genetics	M		A	
	Hemostasis	4 c			A	
	Transfusions				C	
	Blood type		H		B	
	Cardiac Cycle	Physiology				
	Vasoconstriction	9 a,b,d,g,h				
	Vasodilation		M			
	Blood Pressure	Physiology				
	Lymphatic System	10 a-d	H			
	Immune response	Cell Bio1 a,c,g				
Antigens						

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Differentiation	Support -- for students who are struggling with the content	Content: Multiple supplementary materials including student generated index card reference stack			
		Process: graphic organizers, conceptual drawings, varied reading materials based on readiness and learning styles, direct instruction, mixed grouping, collaborative work, tiered tasks, additional teaching time before/after school, use of various teaching modalities, varied questioning strategies, varied reading strategies			
		Product: lab reports, homework, projects, current events, student choice type of demonstration of mastery, presentations			
	Extension – for high achieving students. Required activities for all honors courses.	Content: Multiple supplementary materials			
		Process: Project choices, extra credit for going beyond the rubric on a project, peer tutoring, (those who teach learn it better), bonus/extension problems, current event connections from research.			
		Product: lab skills, reports, homework extensions, projects, current events, student choice type of demonstration of mastery, presentations			
Evaluation	Formative Assessments: Student generated index card reference stack, reviews, think-pair-share, KWL, HW and concept check				
	Summative Assessments: Tests, lab reports, writing assessment or essay, presentations, projects.				

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Unit 7	Length of Unit: 5 weeks				
	Key Terms	Standards*		Model Tasks**	Tools & Text
Environmental Exchange Subtopics: - Respiratory - Digestive - Urinary	Boyle's Law	I & E			A
	Gas Exchange	1a-d,f-g,j-n	H	- Build A Lung - Spirometer Lab	D
	Dalton's Law			Respiratory Technician Presentation	A
	Henry's Law	Genetics	M	Balloon GI tract	A
	Ventilation	4 c		Urinalysis and Catheterization Lab	C
	Pathology		H	Culminating Pig Dissection	D
	Alimentary	Physiology		System Portfolio	D
	Dentitia	9 a,b,d,f	M		

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	Mastication Deglutition Secretion Absorption Nephron Aldosterone Micturition	Physiology 10 c Cell Bio1 b	M			
Differentiation	Support -- for students who are struggling with the content	Content: Multiple supplementary materials including student generated index card reference stack Process: graphic organizers, conceptual drawings, varied reading materials based on readiness and learning styles, direct instruction, mixed grouping, collaborative work, tiered tasks, additional teaching time before/after school, use of various teaching modalities, varied questioning strategies, varied reading strategies Product: lab reports, homework, projects, current events, student choice type of demonstration of mastery, presentations				
	Extension – for high achieving students. Required activities for all honors courses.	Content: Multiple supplementary materials Process: Project choices, extra credit for going beyond the rubric on a project, peer tutoring, (those who teach learn it better), bonus/extension problems, current event connections from research. Product: lab skills, reports, homework extensions, projects, current events, student choice type of demonstration of mastery, presentations				
Evaluation	Formative Assessments: Student generated index card reference stack, reviews, think-pair-share, KWL, HW and concept check Summative Assessments: Tests, lab reports, writing assessment or essay, presentations, projects.					

* Standards are to be identified by frequency on California Standards Tests. A high frequency standard will be labeled with an “H”, a medium frequency standard will be labeled “M”, and a low frequency standard will be labeled “L”.

** Tasks are to be identified by the Application Taxonomy Quadrant designed by the International Center for Leadership in Education.