





Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
409	Constancy and Change	Local	Identify and describe stages of mitosis and relate to asexual reproduction. (Local) B T-1,2	1. The student will demonstrate an understanding of the nature of science.  2: The student will demonstrate an understanding of living systems.	Glencoe—Chapter 12: Cell Reproduction  Labs/Investigations for Cells: • Plasmolysis Lab {R} • Mitosis in Plant Cells Lab, p. 361 {S} • Modeling Meiosis {S}  Cell Alive <a href="http://www.cellsalive.com">www.cellsalive.com</a>	6 days	Review <b>Vocabulary:</b> Cell as a Factory Cell Nucleus Chromatin Chromosomes Mitochondria Ribosome Endoplasmic reticulum Golgi bodies DNA RNA Cell membrane Cytoplasm  <b>Advanced</b> Interphase Prophase Metaphase Anaphase Telophase Diploid	Cell Analogy - The Cell as a Factory  Mitosis Foldable  Lab Reports or Reflections  • Plasmolysis Lab {R} • Mitosis in Plant Cells Lab, p. 361 {S} • Modeling Meiosis {S}	<b>5 E Instructional Model</b>  <b>Engagement:</b> The Cell as a Factory <b>Exploration:</b> Plasmolysis of Plant Cells <b>Explanation:</b> Teacher prepared explanation of cell structure and plasmolysis. Elaborate: a) Mitosis Foldable b) Mitosis in Plant Cells c) Modeling Meiosis <b>Evaluation:</b> Cell Analogy Plasmolysis Lab Reflection Mitosis Foldable Mitosis in Plant Cells Lab Report Meiosis
		<p> During the evaluation phase of the 5 E lesson cycle teachers should evaluate student work products and reteach as necessary.</p> <p> <b>Clear Expectations:</b> After cell analogies are posted, students can judge their own cell analogies and those of other students.</p> <p> <b>Accountable Talk</b> Students design a cell model with an analogy to real life instance: City, school, factory.</p> <p> Mitosis/Meiosis is NOT a TAKS tested concept, so while we want to introduce the concept and have students have a basic understanding, it is more important to focus on the genetics aspect. The concept of sexual reproduction resulting in more diverse offspring versus asexual reproduction resulting in more uniform offspring is expected to be TAKS tested.  <b>✘ This is an area that can be compressed for additional time.</b></p>							


**✘ Indicates differentiation from the IPG. The APGs are color-coded to explain the type of differentiation used.**  
**GREEN = Modifications with Depth & Complexity**  
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**Genetics ( ✖10 days)**

405	<b>Constancy and Change</b>	7.10 The student knows that species can change through generations and that the instructions for traits are contained in the genetic material of the organisms,	A. Identify that sexual reproduction results in more diverse offspring and asexual reproduction results in more uniform offspring (10A) <b>B T-1,2</b>	1. The student will demonstrate an understanding of the nature of science.	✖ <b>Stem Cell Debate, p. 1 supplemental (scitogo) Additional Resources:</b>	5 days	✖ <b>Stem Cell Debate</b>	✖ <b>Human Variation Lab</b>  ✖ <b>Punnett Square Practice</b>  ✖ <b>Monster Lab</b>  ✖ <b>DNA Extraction Lab</b>	<b>5 E Instructional Model</b>  <b>Engagement:</b> ✖ <b>Stem Cell Debate</b> <b>Exploration:</b> ✖ <b>Human Variation Lab</b> <b>Explanation:</b> ✖ <b>Themes of the labs</b> <b>Elaboration:</b> ✖ <b>Punnett Square Practice</b> <b>Evaluation:</b> ✖ <b>Monster Lab</b>
406			B. Compare traits of organisms of different species that enhance their survival and reproduction (10B) <b>B T-1,2</b>	2. The student will demonstrate an understanding of living systems and the environment.	Glencoe—Chapter 12 and 13  ✖ <b>Human Variation Lab, p. 2-11 supplemental (scitogo)</b>  ✖ <b>Punnett Square Practice in Laying the Foundation and on scitogo</b>		Teacher created, or Glencoe, quizzes or tests.  <u>Within the context of the lessons, the students should develop an understanding of the terms:</u> Genetics Heredity Allele DNA Chromosome Hybrid		

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407			C. Distinguish between dominant and recessive traits and recognize that inherited traits of an individual are contained in genetic material. (10C) <b>B T-1,2</b>		<p>✗ Monster Lab, p. 12-19 supplemental (scitogo)</p> <p>✗ DNA Extraction Lab, p. 20-29 (scitogo)</p> <p>✗ Genome Survey  <a href="http://www.pbs.org/wgbh/nova/genome/">www.pbs.org/wgbh/nova/genome/</a></p> <p>✗ Secret of Photo 51  <a href="http://www.pbs.org/wgbh/nova/photo51">www.pbs.org/wgbh/nova/photo51</a></p>		Dominant Recessive Trait Punnett Square Genotype Phenotype Homozygous Heterozygous Mendel, Gregor	<p><b>5 E Instructional Model</b></p> <p><b>Engagement &amp; Exploration:</b></p> <p>✗ DNA Extraction</p> <p>✗ Lab pt. 2</p> <p><b>Explanation:</b></p> <p>✗ Themes of the labs</p> <p><b>Elaboration:</b></p> <p>✗ Secret of Photo 51</p> <p><b>Evaluation:</b></p> <p>✗ Conclusions from labs</p>	

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<b>✖ Human Body and Homeostasis ( ✖7 days)</b>									
306	Patterns, Properties, and Models	7.9 The student knows the relationship between structure and function in living systems. 	A. Student is expected to: Identify systems of the human organism and describe their functions. (9A) <b>B T-1,2,4</b>	1. The student will demonstrate an understanding of the nature of science.  2. The student will demonstrate an understanding of living systems and the environment.  4. The student will demonstrate an understanding of motion, forces and energy.	Glencoe— Chapter 17: Structure and Movement Sections 1, 2, 3 Glencoe Chapter Resources Booklet for Chapter 17  ✖ Typhoid Mary Video (NOVA)  From SCITOGO:  ✖ <b>CDC Epidemic Cases Investigating Tissues: Chicken Wing {R}</b>	7 days		✖ Lab reports, reflections, and dissection  <a href="#">Investigating Tissues and Bones {R}</a>	✖ The purpose of the human body investigations in the 2 <sup>nd</sup> six weeks is to engage students in the Epidemiology Unit (continues into the 3 <sup>rd</sup> six weeks) and to give them basic background information (Medical School)

Academic Rigor  
Students begin concept map of human body systems and their relationships and should be continued throughout the semester.

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307			B. Describe how organisms maintain stable internal conditions while living in changing external environments.  (9B) <b>B T-1,2,4</b>		<p>✘ <b>Check Yo'self, p. 30-34 supplemental</b></p> <p>✘ <b>Body Systems Puzzle, p. 35-39 supplemental</b></p> <p>Bobyworks and A.D.A.M.—are computer programs that contain all body systems and other multimedia resources for the human body.</p>				<p>✘ <b>5 E Instructional Model</b></p> <p>✘ <b>Engagement:</b> Introduction to Epidemiology (Typhoid Mary Video (NOVA) and CDC Epidemic Cases)</p> <p>✘ <b>Exploration:</b> Body Systems Puzzle</p> <p>✘ <b>Explanation:</b> Accelerated Medical School Activities (focus on basic body systems and homeostasis)</p> <p>✘ <b>Elaborate:</b> Check Yo'self Chicken Wing Lab</p> <p>✘ <b>Evaluation:</b> Lab reports, reflections, and dissection</p>
<b>Science Fair (4 days)</b>									
<b>Interventions, Reteaching, Assessment (2 days)</b>									



Models of human body systems may be ordered from the Science Health and Resource Center (414-4551).

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