

MAP 2 MASTERY Unit 6: EVOLUTION

THESE ARE THE IMPORTANT CONCEPTUAL UNDERSTANDINGS I NEED TO MASTER FOR THIS UNIT:

<p>A. Demonstrate an understanding of Evolution theory with the focus being on natural selection and macroevolution</p> <p>" I CAN... "</p>	<p><i>RESOURCES</i> THAT MAY SUPPORT MY LEARNING:</p>	<p><i>RESULTS/SCORES</i> FROM LEARNING ASSESSMENTS</p>	<p><i>MASTERY REFLECTION:</i> WHAT DO I STILL NEED TO MASTER BEFORE THE EXAM? (What is your strategy for <u>improvement</u>?)</p> <p>1 ON 1 : HELP Most effective <u>DURING</u> instruction... do not wait until the end of the unit!</p>
<ul style="list-style-type: none"> Explain who Charles Darwin was and how his voyage on the beagle shaped his ideas toward evolution through the process of natural selection. Explain Darwin's theory of evolution by means of natural selection using his 5 principles. <ol style="list-style-type: none"> Variation exists within populations. Some variations favor survival of an organism Overpopulation leads to competition. Survivors may pass down favorable traits. Long periods of time allow for small changes accumulate & contribute to survival adaptat Explain earlier theories of evolution (The evolution of evolutionary thinking) including catastrophism and Lamarck's idea of acquired traits through use and disuse. Cite evidence that proved Lamarkism to be incorrect? 	<ul style="list-style-type: none"> Sect. 2.1 – 2.8 Essential Study Partner: Unit: Evolution Topics: History Processes Evolution of evolutionary thought PPT on weebly/edline Sect 10.1 2nd (or) 11.1 3rd Sect. 29.13 - 29.14 (2nd) OR 30.13 - 30.14 (3rd) Sect 29.16 2nd (or) 30.16 3rd * other documents and links posted in Course Documents and/or discussed in class. 	<p>SELF ASSESSMENT(s)</p> <hr/> <p>MASTERY CHECK(s)</p> <p>Evolution mini projects:</p> <p>Eternal Arms Race Essay / Darwins's Journey / Create an Organism</p>	<p>INSTRUCTOR VERIFICATION:</p>
<p>B. Demonstrate a knowledge of the evidences for evolution and their importance to the theory of evolution</p> <p>" I CAN... "</p>	<p><i>RESOURCES</i> THAT MAY SUPPORT MY LEARNING:</p>	<p><i>RESULTS/SCORES</i> FROM LEARNING ASSESSMENTS</p>	<p><i>MASTERY REFLECTION:</i> WHAT DO I STILL NEED TO MASTER BEFORE THE EXAM? (What is your strategy for <u>improvement</u>?)</p> <p>1 ON 1 : HELP Most effective <u>DURING</u> instruction... do not wait until the end of the unit!</p>
<ul style="list-style-type: none"> Explain how the fossil record acts as evidence for evolution Explain how anatomy (analogous, homologous, vestigial structures) acts as evidence for evolution Explain how anatomy evidences indicate convergent or divergent evolutionary patterns Explain how embryology acts as evidence for evol. Explain how geography acts as evidence for evol. Explain how biomolecules act as evidence for evol. Interpret phylogenetic trees in order to conclude evolutionary relationships Interpret taxonomic classification in order to derive evolutionary relationships 	<ul style="list-style-type: none"> * G R Q 's on edline/weebly Sect 10.2 – 10.5 2nd (or) 11.2 – 11.5 3rd * Essential Study Partner: <ul style="list-style-type: none"> Unit: Evolution Topic: History → Evidence for Evolution *Evidences tutorial, whales: http://www.indiana.edu/~ensiw/eb/lessons/whalekiosk.html * other documents and links posted in Course Documents 	<p>SELF ASSESSMENT(s)</p> <hr/> <p>MASTERY CHECK(s)</p>	<p>INSTRUCTOR VERIFICATION:</p>

<p>E. Demonstrate an understanding of how humans evolved</p> <p>" I CAN... "</p>	<p>RESOURCES THAT MAY SUPPORT MY LEARNING:</p>	<p>RESULTS/SCORES FROM LEARNING ASSESSMENTS</p>	<p>MASTERY REFLECTION: WHAT DO I STILL NEED TO MASTER BEFORE THE EXAM? (What is your strategy for <u>improvement</u>?)</p> <p>1 ON 1 : HELP : Most effective <u>DURING</u> instruction... do not wait until the end of the unit!</p>
<p>ALL:</p> <ul style="list-style-type: none"> Explain the common ancestor concept, provide an intelligent rebuttal to the claim that humans evolved from apes (ie. gorillas or chimps) Differentiate between Hominin (human-like) and Pongid (ape-like) characteristics. Create a timeline of human evolution from earliest hominin forms through modern <i>Homo sapiens</i>. <p>Depending on time (may vary by instructor):</p> <ul style="list-style-type: none"> Explain how the evidences such as fossil record, anatomy (skin pigmentation, facial structures) and mitochondrial DNA support the current model of human migration out of Africa Identify causes of human migration out of Africa Explain how migration patterns may have been shaped by global climate changes. Explain how migration and isolation may have led to recent variations in superficial traits (epidermal melanin production, facial structures, or hair texture). Explain why mtDNA evidence does NOT support the classification of humans into biological "races." 	<p>See Blackboard and text for:</p> <ul style="list-style-type: none"> * G R Q 's on weebly/edline Articles/graphics posted on Bb Chapter 20 2nd (or) 21 3rd * Essential Study Partner: <ul style="list-style-type: none"> Unit: Evolution Topic: Human Evolution → <ul style="list-style-type: none"> Primates Hominid History http://www.becominghuman.org/node/interactive-documentary http://www.bradshawfoundation.com/journey/ http://discovermagazine.com/1994/nov/racewithoutcolor444/?searchterm=Races%20with%20Colors http://ngm.nationalgeographic.com/ngm/0211/feature2/online_extra.html http://www.pbs.org/race/001-WhatIsRace/001_00-home.htm 	<p>SELF ASSESSMENT(s)</p> <p>MASTERY CHECK(s)</p>	<p>INSTRUCTOR VERIFICATION:</p>

2. SCIENTIFIC SKILLS & APPLICATION OF RESEARCH

<p>A. Demonstrates the ability to interpret experimental data, derive conclusions, and support those conclusions with accurate depictions of data from a Natural Selection investigation.</p> <p>" I CAN... "</p>	<p>Possible METHODS OF ASSESSMENT</p>
<ul style="list-style-type: none"> Analyze experimental data and/or graphical representation and derive conclusions which are supported by experimental evidence. Analyze experimental data and create a graphical representation which supports a rationale experimental conclusion. Effectively label, titles, and key all graphical representations of data. 	<p>Natural Selection Simulation:</p> <p>Bug Hunt/ Noodle bugs / Birds</p> <p>Whale Evolution Activity</p>