Test Date: _____

Unit B – Process of Evolution

Class website: http://blogs.sd41.bc.ca/hemingwaya

Living things evolve over time

My Questions:

Vocabulary words:				
deoxyribonucleic acid (DNA)	sugar phosphate backbone	complementary base pairing (Include both pairs in picture and hydrogen bonds)	nucleotide	pyrimidine
purine	DNA Replication	Helicase	Polymerase	Ligase
Mutation	Artificial Selection	Natural Selection	genome	gene
allele	Genotype	Phenotype	Variation	Competition
Adaptation	Homologous structures	Fossil	**Embryology**	**Common descent**
descent with modification	fitness	Population	**Relative frequency**	**Directional selection**
Stabalizing selection	Disruptive selection	gene pool	speciation	evolutionary change
gene flow	genetic drift	divergent evolution	convergent evolution	gradual change model
punctuated equilibrium model				

Process of Evolution:

Learning Goals	**Learning Goal unpacked in detail**	**Resources You learn….You choose**
B1. development of the theory of evolution (development: Lamarck, Lyell, Malthus, Darwin)	describe the influences that Lamarck, Lyell, Malthus, & Darwin brought to the development of the theory of evolution	**CREATE NOTES FROM TEXTBOOK:** **p.368 - 386** **HANDOUTS/NOTES FROM CLASS:** **The History of Evolution** **The Puzzle of Life's Diversity** **MAKE NOTES on VIDEOS & WEBSITES:** **Natural Selection – by Crash Course** **Evolution - by Bozeman Science**
B2. I can **describe the basic structure of DNA**	Describe the following terms: - double helix - sugar-phosphate backbone - nitrogenous bases (A,T,C,G) - complementary base pairing	**CREATE NOTES FROM TEXTBOOK:** p. 291 - 294 **HANDOUTS/NOTES FROM CLASS:** • **DNA worksheets** **MAKE NOTES on VIDEOS & WEBSITES:** What is DNA? – Bozeman Biology

Learning Goals	Learning Goal unpacked in detail	Resources You learn….You choose
B3. I can **explain the role of DNA in evolution.**	a) Define chromosome, chromatid, gene, allele, genome, and gene pool b) Use gene, allele, genome, and gene pool to explain the role of DNA in evolution	**CREATE NOTES FROM TEXTBOOK:** p. 295 - 299 **HANDOUTS/NOTES FROM CLASS:** **MAKE NOTES on VIDEOS & WEBSITES:** BOZEMAN SCIENCE YouTube Channel: DNA replication – Bozeman Biology http://www.youtube.com/watch?v=FBmO_rmXxIw DNA replication animation http://highered.mcgraw-hill.com/olc/dl/120076/bio23.swf DNA Replication Fork http://highered.mcgraw-hill.com/olc/dl/120076/micro04.swf
B4. I can **describe the five agents of evolutionary change.**	I can describe how the each of the following produce evolutionary change: - natural selection (adaptation) - artificial selection (non-random mating) - mutation - genetic drift (small population) - gene flow	**CREATE NOTES FROM TEXTBOOK:** p.378-409 **HANDOUTS/NOTES FROM CLASS:** **MAKE NOTES on VIDEOS & WEBSITES:** BOZEMAN SCIENCE YouTube Channel: https://www.youtube.com/watch?v=5NdMnlt2keE
B5. Speciation: how new species evolve	a) describe the differences between convergent evolution, divergent evolution, and speciation (adaptive radiation) b) provide examples of convergent evolution, divergent evolution, and speciation (adaptive radiation)	**CREATE NOTES FROM TEXTBOOK:** p.435 – 437 (adaptive radiation, convergent evolution p. 384-385 (divergent evolution) **HANDOUTS/NOTES FROM CLASS:** **MAKE NOTES on VIDEOS & WEBSITES:**
B6. I can **compare the gradual change model with the punctuated equilibrium of evolution**	a) I can describe the gradual change model b) I can describe the punctuated equilibrium model and how geologic events contribute to the model equilibrium model c) I can compare the how the tempo of evolution changes when comparing the: - gradual change model - punctuated equilibrium model	**CREATE NOTES FROM TEXTBOOK:** p.439 **HANDOUTS/NOTES FROM CLASS:** **MAKE NOTES on VIDEOS & WEBSITES:**