Biology 12 Student Achievement Record

Edited Sept. 2, '21

Name: _____

The following outcomes must be achieved (understanding proven) to allow for success in the course. Make sure to check off all outcomes you have achieved and write notes in your notebook for ones you have not achieved that will assist you in proving them later.

Essential Outcome	Outcome Achieved
1: I can clearly and distinctly explain the difference and relationship between a chromosome, a gene, a trait, and an allele.	
2: I can explain the process used by Mendel in his pea plant experiments by naming at least 3 traits he studied, as well by describing the physical appearance of these traits in each of the following generations: P, F_1 and F_2.	
3: I can explain in common language the three laws of inheritance developed by Mendel based on the results of his experiments (Law of Independent Assortment, Law of Dominance and Law of Segregation).	
4: I can create and analyze the results of a Punnett square (mono and dihybrid) given a hypothetical test cross.	
5: I can distinguish (with examples) between incomplete vs codominance, and polygenic traits vs multiple alleles and can determine offspring of hypothetically crosses showing incomplete dominance, codominance and multiple alleles.	
6: I can explain the 3 structural differences between DNA and RNA.	
7: I can explain how proteins are made from DNA within cells by explaining the processes (and locations) of transcription and translation as well as the role of mRNA, tRNA, and rRNA.	
8: I can define and explain the effects of mutations (substitutions, deletions, insertions, inversions, translocations, frameshift) as well as distinguish between a point mutation vs. a chromosomal mutation.	
9: I can define and explain the pros and cons of selective breeding (a.k.a. artificial selection) as well explain the difference between inbreeding (a.k.a. pure breeding), and outbreeding (a.k.a. hybridization).	
10: I can define and explain the concept of sex-linked genes/traits using examples such as colour blindness, hemophilia, muscular dystrophy, etc. in humans.	
Lab (11): I can create and analyze human karyotypes and can use these to identify the sex, genotypes and phenotypes (especially any abnormalities) of the individuals represented.	
12: I can analyze pedigree charts, and can use these to identify the sex, number of offspring, genotypes and phenotypes of the individuals represented.	
Unit 2 "Evolution"	
13: I can describe the work of each of the following scientists Hutton, Lyell, Malthus and can explain how each of their scientific work influenced Darwin's theory of evolution by natural selection.	
14: I can describe and explain (with examples) Lamarck's theory of evolution by acquired characteristics.	
15: I can describe and explain how each of the following provide evidence for evolution: the fossil record, DNA evidence, similarities in embryology (including homologous body structures), vestigial structures and geographic distribution of species.	
16: I can describe and explain (with examples) Darwin's theory of evolution by natural selection in 5 main points **(VOCAR)**.	
Unit 3 "Human Physiology"	
17: I can identify, name, and describe the function(s) of the major organs comprising the human nervous system (parts of neurons, and the parts of the brain).	
18: I can define and explain (with examples) the overall function of the nervous system and its divisions as well as how it works to maintain homeostasis through feedback loops in the human body.	
19: can describe the three types of neurons (sensory, interneuron and motor) and explain how information is passed along a neural circuit.	

20: I can identify, name, and describe the function(s) of the major glands and the hormones they produce that comprise the human endocrine system (adrenal, pituitary, pancreas, ovaries/testis, thyroid).	
21: I can define and explain (with examples) the overall function of the endocrine system and how it works to maintain homeostasis through feedback loops in the human body.	
22: I can identify, name, and explain the function major organs of the male and female reproductive systems.	
23: I can explain the events leading up to and including human conception.	
24: I can explain the developmental events from zygote to fetus in humans.	
25: I can explain the process of human birth including the hormones involved.	

Extension Work:

The following material should not be completed unless you have met the essentials above for each unit. These outcomes are above your passing mark and will only be applied if all essential outcomes are achieved.

Name of Extension Entry (test, lab report, assignment, etc…)	**Mark Achieved**	**Value Entry out of**
Totals =		
Percentage (divide 2nd number into 1st number and X 100)=		
% towards overall mark (multiply above % by 20%) =		

- **I have achieved all my essential outcomes** **60%**

- **Value in last box above** **+ _____%**
  (remember this can only be applied if essentials are done)

Total = _____%

(Unknown value of 20% exam added in if essentials are achieved)