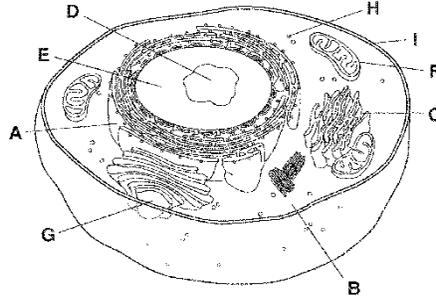
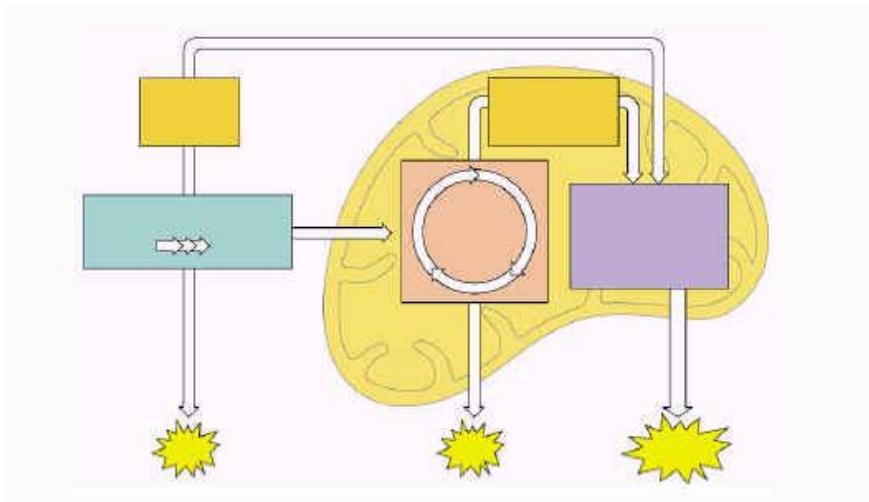


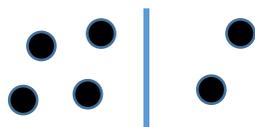
Bio K/H Final Review – Spring Semester 2018



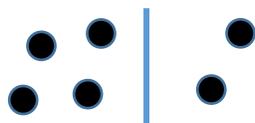
1. What organelle is structure E? What is stored in structure E?
2. What organelle is structure F? Function?
3. Are all protists Eukaryotes or Prokaryotes?
4. What is the Endosymbiotic Theory?
5. What is the cellular respiration equation?
6. What is the photosynthesis equation?
7. What organelle does photosynthesis take place in?
8. How are the two processes (cellular respiration and photosynthesis) opposite from one another?
9. Name the 3 steps of cellular respiration.
10. Label the process of cellular respiration in the picture below.



11. What organelle does cellular respiration take place in?
12. Why do cells have a 'control system' in the cell cycle?
13. When cells grow out of control, and cannot be regulated by the cell cycle, what do we call this?
14. What is active transport?
15. What is passive transport?
16. Draw an arrow that represents the direction of active transport.



17. Draw an arrow that represents the direction of passive transport.



18. Diffusion is the movement of molecules from _____ to _____ concentration.

19. Draw AND describe each phase of Mitosis:

- Prophase:

- Metaphase:

- Anaphase:

- Telophase:

20. Is the cell cycle a sexual or asexual reproduction process in eukaryotes?

21. Show all 5 steps for this dihybrid problem. In a flowering plant, tall (T) is dominant to short (t), and blue flowers (B) is dominant to white flowers (b). A heterozygous tall plant with white flowers is crossed with a short plant with heterozygous blue flowers.

22. If a cell has 20 chromosomes at the beginning of Meiosis, how many chromosomes will each cell contain after Meiosis?

23. From whom did Gregor Mendel conclude that organisms inherit their traits from?

24. If an organism's diploid number is 30, what is the haploid number?

25. What is the end result of Meiosis? (2 or 4 cells, Same or half number of chromosomes, Identical or Different Cells)?

26. What happens during the process of 'crossing over'?

27. When a sperm cell or egg cell with half of the number of chromosomes is generated, how can it eventually produce cells with the normal number of chromosomes?

28. A black bird and white bird mate, and produce a grey bird. What type of inheritance is this known as?

29. Show all 5 steps for this monohybrid problem. In crabs, having two claws is dominant over having 1 claw. Cross a heterozygous crab with a one clawed crab.

30. Show all 5 steps for this sex-linked problem. Hemophilia is a sex-linked trait. Cross a woman who has hemophilia (X^h) with a man who is normal. (X^H)

31. How many traits are crossed in a dihybrid problem?

32. What does a Punnett square show?

33. Show all 5 steps for this blood-typing problem. Cross a parent that is heterozygous type A blood with a parent that is heterozygous type B blood.

34. What does it mean to be heterozygous?
35. What does it mean to be homozygous?
36. Which cells does Meiosis take place in?
37. Create the mRNA strand given the DNA strand. TTA AAG CCG AAT CCG
38. What are the amino acids that code from the mRNA strand you got above?
39. What would the tRNA strand be from the mRNA strand you got above?
40. What is the order of events that leads to a phenotype?
41. What kind of mutation is this?
 - Original Strand: TTA AAC GGA
 - New Strand: TTA AAA GGA
42. What happens in the process of transcription?
43. What happens in the process of translation?
44. What similarities do DNA and RNA have in common?
45. How many codons are needed for 6 amino acids?
46. What is the function of ribosomes in the cell?
47. What is the name of the process where we make identical copies of DNA?
48. What is a mutation?
49. What are the monomers of proteins?
50. List all of the types of RNA involved in protein synthesis.
51. What type of mutation is illustrated below?

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52. What type of mutation is illustrated below?

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53. What are enzymes?
54. What are the two types of vascular tissue?
55. Do animals use photosynthesis or cellular respiration?
56. Do plants use photosynthesis or cellular respiration? (Hint: Trick question!)
57. What is phototropism, gravitropism/geotropism, and thigmotropism?
58. What does the Xylem transport and in what direction?
59. What does the Phloem transport and in what direction?
60. What are stomata?
61. Under what conditions would the stomata close?
62. Which autotrophic process produces most of our available oxygen?
63. What characteristics does Kingdom Plantae have?
64. How do autotrophs and heterotrophs interact with one another?
65. What process are cones in gymnosperms and flowers in angiosperms specialized for?
66. What is the monomer of a carbohydrate?
67. What is one evolutionary advantage angiosperms have over gymnosperms?
68. What is the difference between a fibrous root system and a tap root system?

69. What type of symbiosis does a photosynthetic algae and fungi have?
70. What do fungi and plants both have in common?
71. What is hyphae?
72. What is mycelium?
73. What is the fruiting body of a fungus?
74. What is unique about the 'imperfect fungi' in comparison to the other fungi phylums?
75. What is a lichen?
76. Define homologous structures.
77. Write the function and name structures involved in each body system:

- Nervous System-

- Integumentary System-

- Cardiovascular/Circulatory System-

- Endocrine System-

- Excretory System-

- Immune/Lymphatic System-

- Muscular System-

- Skeletal System-

- Reproductive System-

- Digestive System-

- Respiratory System-

78. What is a reflex arc?
79. What are the two different types of feedback loops?
80. Give an example of positive feedback.
81. Give an example of negative feedback.
82. Define bilateral symmetry.
83. Define radial symmetry.
84. List the levels of organization starting with the cell.
85. What are characteristics of all animals?
86. What is the difference between a gastrovascular cavity and a digestive tract?
87. What is an endoskeleton?
88. What is a notochord?