Biology Review Sheet

DNA/RNA Structure, Replication, Transcription, Translation and Mutations

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| 1. List the parts of a nucleotide | a.  b.  c. |
| 1. List the sugar found in a DNA nucleotide |
| 1. List the bases found in a DNA nucleotide. | a.  b.  c.  d. |
| 1. List the sugar found in a RNA nucleotide. |  |
| 1. List the bases found in a RNA nucleotide. | a.  b.  c.  d. |
| 1. Where is DNA located in the cell? |  |
| 1. What is the name given to the process by which DNA is copied? |  |
| 1. After DNA has been replicated, are both of the strands new, originals or one new and one original? |  |
| 10 In DNA, which base binds with ….   1. A 2. C | (a)  (b) |
| 11 List three ways that DNA and RNA  are different. | a.  b.  c. |
| 13. List the types of RNA. | a.  b.  c. |
| 14. Which types of RNA are made from DNA? |  |
| 15. What is produced during transcription? |  |
| 16. Where does transcription occur? |  |
| 17. Where does translation occur? |  |
| 18. How many codons code for one amino acid? |  |
| 19. How many bases are in one codon? |  |
| 20. Which macromolecule does DNA contain instructions for assembling? |  |
| 21. Which type of RNA functions as a blueprint of the genetic code? |  |
| 22. What is a change in DNA called? |  |
| 23. List the different types of mutations. | a.  b.  c. |
| 24. Which type of mutation substitutes one base for another? |  |
| 25. What has to happen in order for a frameshift mutation to occur? |  |
| 27. Which two molecules make up the backbone of DNA? | a.  b. |
| 28. Which type of mutation is shown in the diagram below? |  |
| 29. How many copies of a gene are formed during DNA replication? |  |
| 30. Which of the nucleic acids contains uracil? |  |
| 32. Which type of mutation is shown in the diagram below? What happens to the amino acids AFTER this type of mutation? |  |
| 33. Label the following diagram representing a nucleotide: | a.  b.  c. |
| 34. Given the following DNA sequence, transcribe and then translate it.  C T A C G A T T T T A C T |  |
| 35. Given the following DNA sequence, transcribe and then translate it.  G A C T A C G A A A C C C G G A T C T |  |
| 36. Use the following diagram to answer the following questions:     1. What do structures A and B **together** represent? 2. What does structure D represent? 3. What does structure E represent? 4. What does process X represent? 5. What does process Y represent? 6. Where does process X occur? 7. Where does process Y occur? | a.  b.  c.  d.  e.  f.  g. |
| 37.Use the following diagram to answer the following questions:   1. What does structure A represent? 2. What does structure B represent? 3. What does structure C represent? 4. What does structure D represent? 5. What does structure F represent? 6. What does structure G represent? 7. What is structure B made from and by what process? 8. What process is occurring on structure G? Where does this process occur? 9. What is inside structure A that cannot leave structure A? Why can’t it leave? 10. Which structure is a codon? | a.  b.  c.  d.  e.  f.  g.  h.  i.  j. |