

# Unit 10 Test Review WS

Name \_\_\_\_\_

## Chapter 12.3-12.4: Protein Synthesis and Gene Mutations

1. Which type of RNA is a copy from DNA? \_\_\_\_\_
2. How many main types of RNA are there? \_\_\_\_\_
3. Unlike DNA, RNA contains \_\_\_\_\_
4. Which parts of the nucleotide are found in both DNA and RNA? \_\_\_\_\_  
\_\_\_\_\_
5. Which type(s) of RNA is(are) involved in protein synthesis? \_\_\_\_\_
6. RNA contains the sugar \_\_\_\_\_
7. What is produced during transcription? \_\_\_\_\_
8. During transcription, an RNA molecule is formed that is \_\_\_\_\_ to a strand of DNA.
9. How many codons are needed to specify 5 amino acids? \_\_\_\_\_
10. How can there be 64 codons if there are only 20 amino acids? \_\_\_\_\_  
\_\_\_\_\_
11. What happens during the process of translation? \_\_\_\_\_  
\_\_\_\_\_
12. Genes contain instructions for assembling \_\_\_\_\_.
13. A mutation that involves one or a few nucleotides is called a(an) \_\_\_\_\_.
14. List the types of gene mutations we have covered. \_\_\_\_\_
15. The dark strips on a DNA fingerprint are sections of DNA that contain \_\_\_\_\_.  
Do they code for genes? \_\_\_\_\_ The repeating segments are often called \_\_\_\_\_ DNA.
16. What is the start codon in most molecules of mRNA? \_\_\_\_\_
17. What type of bond holds the amino acids together? \_\_\_\_\_
18. What is the 'Original code'? \_\_\_\_\_
19. What enzyme opens DNA during transcription? \_\_\_\_\_
20. What is a disease caused by a single substitution? \_\_\_\_\_
21. What is another name for protein synthesis? \_\_\_\_\_
22. What disease is caused by a mutation in somatic cells? \_\_\_\_\_
23. What is the term for mRNA that gets edited out? \_\_\_\_\_
24. What is the start codon? \_\_\_\_\_
25. What is an Anticodon? \_\_\_\_\_
26. What are the stop codons? \_\_\_\_\_
27. What is a Codon? \_\_\_\_\_
28. If the original strand of DNA is C G A A G A C G A G G G and a replicated strand is  
C G A A A G A C G A G G G, what type of mutation, if any has occurred? \_\_\_\_\_

29. If the original strand of DNA is C G A A G A C G A G G G and a replicated strand is C G A A G A T G A G G G, what type of mutation, if any has occurred? \_\_\_\_\_

30. What type of point mutation can cause a frameshift? \_\_\_\_\_

**Which is it?**

***DNA***

***RNA***

***BOTH***

- |   |   |
|---|---|
| 31. _____ has genetic code                | 46. _____ You make it                                     |
| 32. _____ Single strand                   | 47. _____ Compliment to A is U                            |
| 33. _____ Thymine                         | 48. _____ Ribose  |
| 34. _____ Inherited                       | 49. _____ Uracil  |
| 35. _____ Phosphate group                 | 50. _____ Has anti-codon                                  |
| 36. _____ Master 'copy'                   | 51. _____ Three types                                     |
| 37. _____ Stays in nucleus                | 52. _____ Deoxyribose                                     |
| 38. _____ A, C, G                         | 53. _____ Has codon                                       |
| 39. _____ One type                        | 54. _____ Compliment to A is T                            |
| 40. _____ Copy of the original            | 55. _____ Four types of nitrogen bases on nucleotides     |
| 41. _____ Makes up part of ribosome       | 56. _____ Goes from nucleus through cytoplasm to ribosome |
| 42. _____ Compliment to C is G            |   |
| 43. _____ Building blocks are nucleotides |   |
| 44. _____ Carries amino acids to ribosome |   |
| 45. _____ Double helix                    |   |

**57.**

<b>Summarize the <u>first step</u> of Protein synthesis:</b> What is it called? Where? What is produced? Etc.	<b>Summarize the <u>second step</u> of Protein synthesis:</b> What is it called? Where? What is produced? Etc.

**58. Complete the Following using the Codon wheel:**

<b>DNA Code</b>	<b>mRNA codon</b>	<b>tRNA anti-codon</b>	<b>Amino Acid</b>
	<b>CGU</b>		
<b>TAG</b>			
			<b>Valine</b>
		<b>CAU</b>	