mutations
Study Guide

Mutations Study Guide

Name: _____

Part I: Matching - In the space below, match each term with the correct statement or definition provided.

1. ____	Point mutation	a.	Mutations that affect one gene.
2. ____	Silent mutation	b.	Mutations that affect multiple genes.
3. ____	Gene mutation	c.	Mutations that only affect one single nucleotide.
4. ____	Nonsense mutation	d.	A gene mutation that affects multiple nucleotides.
5. ____	Chromosomal mutation	e.	A gene mutation that results in no change in the amino acid sequence.
6. ____	Missense mutation	f.	A gene mutation that results in a change in the amino acid sequence thus creating a different protein.
7. ____	Duplication	g.	A gene mutation that results in a change in the amino acid sequence that leads to a premature stop.
8. ____	Insertion	h.	A type of mutation that occurs when a nucleotide or segment is repeated.
9. ____	Frameshift mutation	i.	A type of mutation that occurs when a nucleotide or segment is deleted.
10. ____	Deletion	j.	A type of mutation that occurs when an extra nucleotide is added to a sequence.

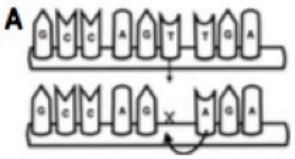
Part II: Table - For each type of mutation listed, check off each quality that applies.

Type of Mutation	Gene mutation		Chromosomal mutation	How are gene mutations and chromosomal mutations different? How are they similar?
	Frameshift	Point		
11. Insertion				17.
12. Duplication				
13. Deletion				
14. Substitution				
15. Translocation				
16. Inversion				

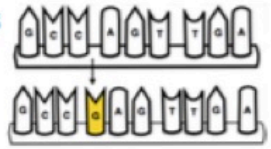
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Part III: Gene mutation analysis - For each diagram below, determine which type of gene mutation it is, and whether it is a missense, nonsense, or silent mutation. Check off the appropriate classification in the table below.

A



B

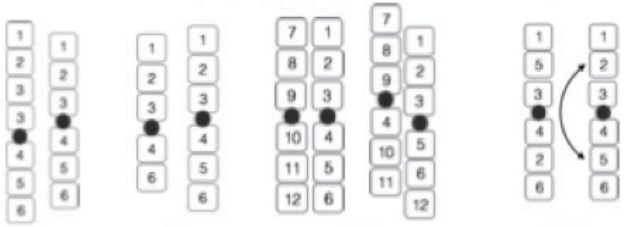


C



Diagram	Type of Gene mutation	Missense, Silent, or Nonsense?
17. A		
18. B		
19. C		

Part IV: Chromosomal mutation analysis - Identify each type of chromosomal mutation illustrated below by comparing the pairs of chromosomes for each example.



20. _____ 21. _____ 22. _____ 23. _____

Part V: Short answer- Answer each question to the best of your ability.

24. Name 3-4 causes of mutations: _____

25. How are mutations passed on from an organism to its offspring? _____

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