



**GRADE 12 ADV
UNIT 2**

**Lesson 2: Replication of DNA
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Grade 12 adv term 1 revision Replication of DNA



1. The enzyme that unzips the DNA to prepare for replication

- a) synthase
- b) helicase
- c) polymerase
- d) replicase

2. DNA replication results in two DNA molecules,

- a) one with two new strands and the other with two original strands
- b) each one with two original strands
- c) each one with one new strand and one original strand
- d) each one with two new strands

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5. Which enzyme is responsible for adding nucleotides?

a) Ligase

b) DNA Polymerase

c) Primase

d) Topoisomerase

6. The process of DNA replication is called semi conservative because it results in

a) none of these

b) two exact copies with new strands

c) Two DNA molecules. One original molecule
and one with two new strands

d) two identical molecules, each with 1 original
strand and one new.

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9. Which enzyme fixes the Okazaki fragments in the lagging strand?

a) Polymerase

b) Helicase

c) Ligase

d) Primerase

10. If a strand reads:

3' AAATTTTC 5'

The matching strand would read...

a) 3' TTTAAAG 5'

b) 3' UUUAAAG 5'

c) 5' TTTAAAG 3'

d) 5' AAATTTTC 3'

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11. Polymerase is able to replicate the new DNA _____ along the leading strand.

- a) very slowly
- b) continuously
- c) only in short fragments
- d) prokaryotically

12. DNA polymerase moves in the _____ to _____ direction

- a) 3' to 5'
- b) 5' to 3'
- c) easiest
- d) 9 to 5

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16. The separation of the two single strands of DNA creates a 'Y' shape?
- a) enzyme
 - b) unzip
 - c) A replication fork
17. This enzyme helps helicase unzip DNA by relieving supercoiling
- a) DNA Polymerase
 - b) Exonuclease
 - c) Topoisomerase
 - d) DNA Primase

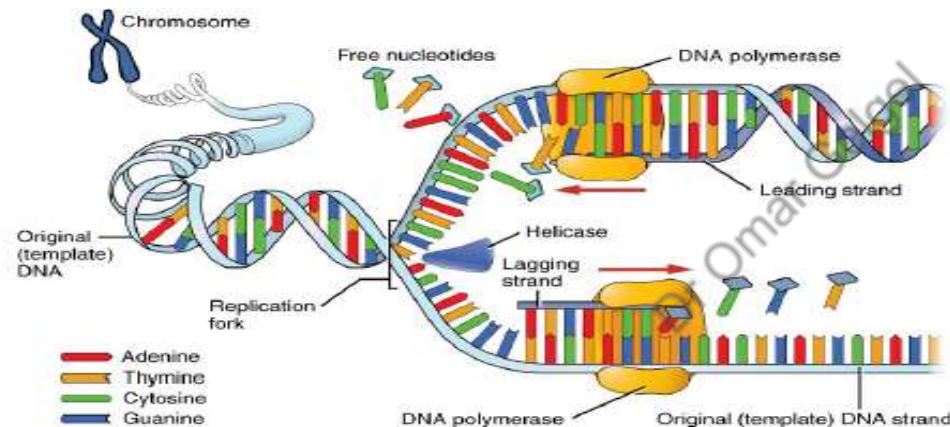
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18. Okazaki fragments are found on the _____ strand

a) Lagging

b) Leading

19.



Small segments of DNA made on the lagging strand are called:

a) Telomeres

b) Okazaki Fragments

c) ERVs

d) Transposable Elements

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20. What strand is copied backwards?

a) Leading

b) Lagging

21. What strand is copied faster?

a) Leading

b) Lagging