Select the correct answer.

During DNA replication, the enzyme helicase separates the two nucleotide strands. Select the statement that **BEST** explains how the enzyme does this.



ATTEMPT 1

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- ○ Helicase breaks the hydrogen bonds between purines and purines.
- ○ Helicase breaks the bonds between nucleotides on the same strand.
- ○ Helicase breaks the bonds between sugars and nitrogen bases.
- ◉ Helicase breaks the hydrogen bonds between purines and pyrimidines. ✓

Select the correct answer.

Which of the following represents the correct sequence of steps in the table to show the order of main events in DNA replication?

Step	Action
A	DNA polymerases bind to each separated chain of nucleotides.
B	Helicase enzymes separate DNA's two nucleotide chains.
C	One nucleotide at a time, DNA polymerase constructs a new complementary strand of nucleotides.
D	Single-stranded binding proteins attach to strands to keep them apart.
E	One parent strand and a new complementary strand twist together to form double helix identical to the original.
F	Okazaki fragments are joined together by ligase.

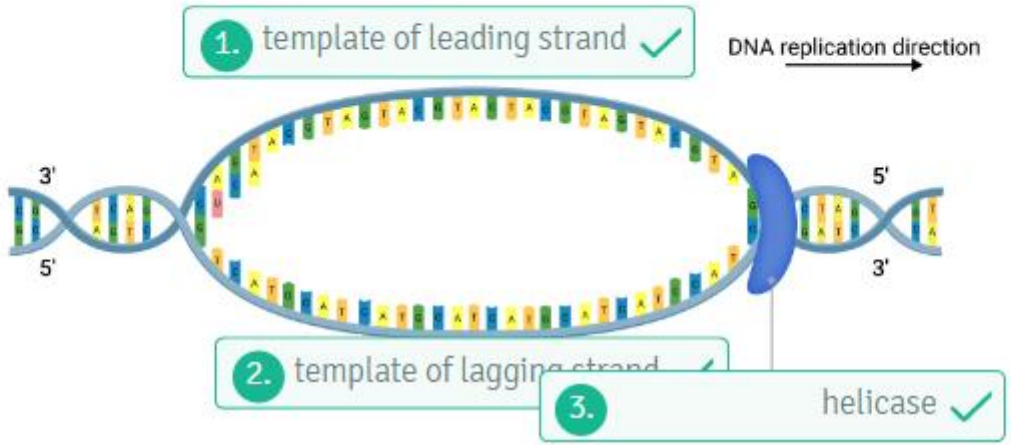
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ATTEMPT 1

- ○ B → D → C → A → F → E
- ○ D → A → B → C → E → F
- ◉ B → D → A → C → F → E ✓
- ○ D → A → B → C → F → E

Drag and drop the options to correctly label the diagram.

The diagram represents the unwinding stage of DNA replication.



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polymerase | primase | new strand

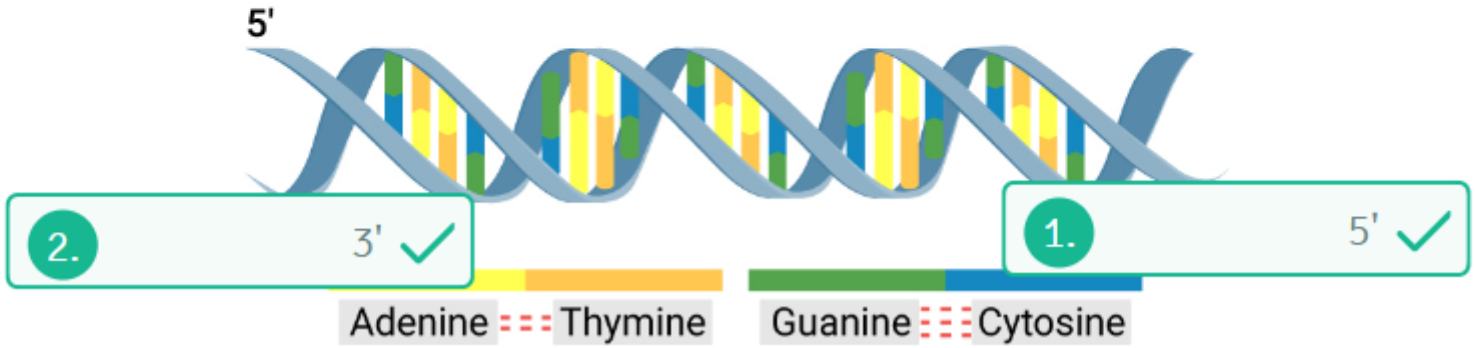
1. template of leading strand ✓

2. template of lagging strand ✓

3. helicase ✓

Drag and drop the options to correctly label the diagram.

The diagram represents two DNA strands that are antiparallel.



3a' 2' 1' 4'

1. 5'

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2. 3'

Select the correct answers.

Which of the following characterize the work of DNA polymerase?

- [ ] keeps the two separating strands apart
- [ ] synthesizes DNA in the 3' to 5' direction
- [x] can only add nucleotides to pre-existing 3' end
- [x] checks that the replication is accurate
- [ ] initiates production of Okazaki fragments
- [x] synthesizes DNA in the 5' to 3' direction
- [ ] pulls the strands of the DNA molecule apart
- [ ] adds a primer on each strand as a starting point

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Select the correct answer.

What happens to the DNA primer after the base pairing stage of DNA replication ends and joining begins?

- (selected) RNA primers are removed and replaced with nucleotides. ✓
- RNA primers remain in place for the next replication.
- Helicase makes RNA primers drop off the strand.
- RNA primers dissolve after replication is complete.

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