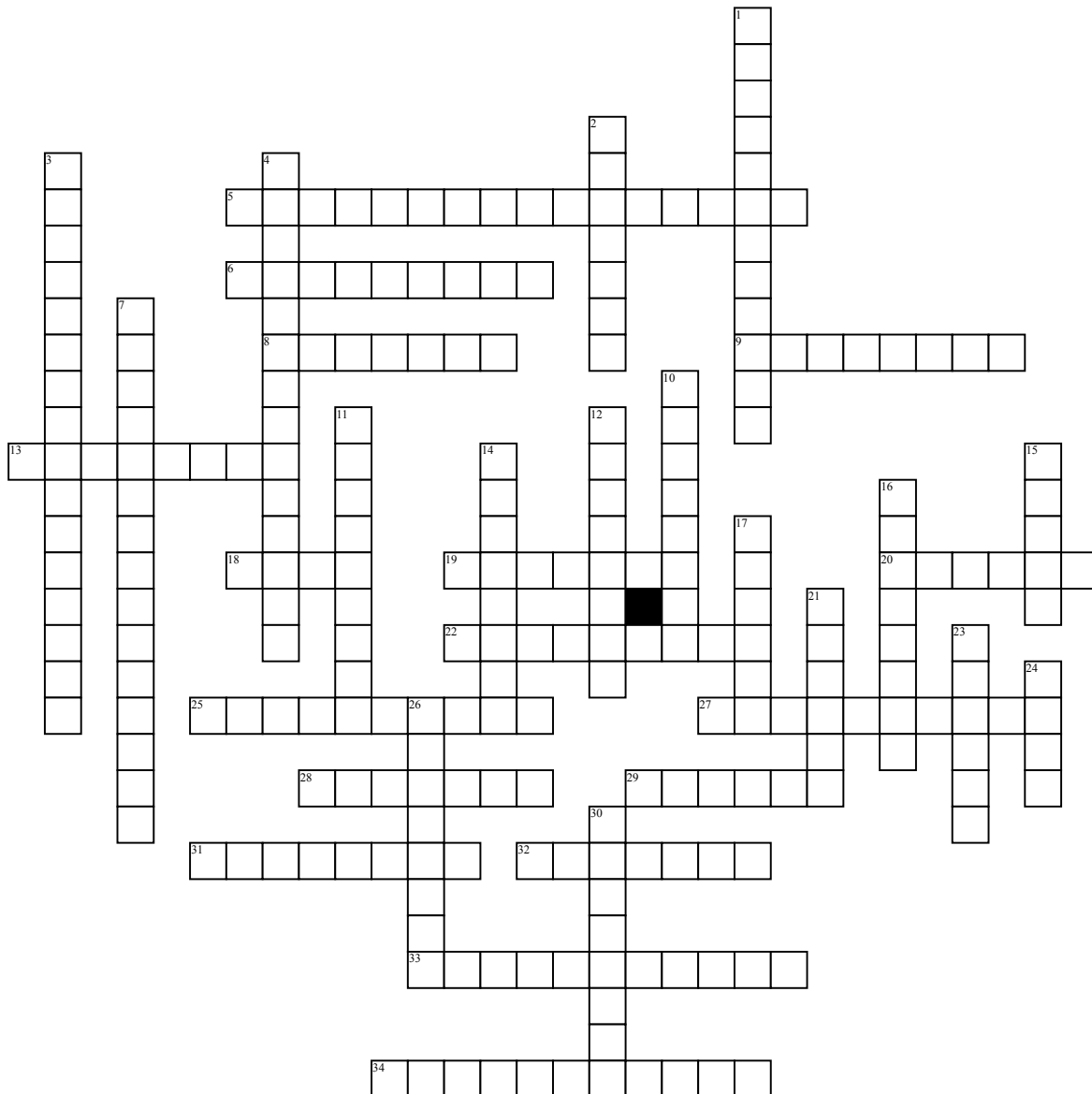


Name: _____

DNA Replication & the Genome



Across

5. This enzyme performs the majority of DNA synthesis on both leading and lagging strands.
6. Heritable chemical changes to histone proteins and DNA that can affect the proteome.
8. Synthesis of this strand requires frequent DNA Polymerase I activity.
9. This type of radiation can induce DNA double strand breaks.
13. This enzyme severs the hydrogen bonds between complementary bases.
18. Abbreviation for the proteins that prevent separated DNA strands from closing.
19. This enzyme is required to provide a point of origin for DNA synthesis to begin.
20. This type of DNA mutation doesn't change the final amino acid sequence of a protein.
22. What is the DNA strand complementary to ATCCGTAAT?
25. This type of mutation can result in a completely different amino acid sequence of the final protein.
27. Enzyme that adds more repeating bases to the end of the lagging strand.
28. This strand is synthesized in a continuous manner.
29. A double-ring nitrogenous base.
31. These repair pathways sense and repair damaged DNA.

32. The structure of this nitrogenous base is identical to uracil methylated at the 5th carbon.

33. Form the basic structure of DNA and RNA.

34. DNA polymerase can also function as this type of enzyme, by detecting a mismatched base and replacing it.

Down

1. British scientist who helped reveal the structure of DNA. (first and last)
2. This scientist's work supported the discontinuous replication hypothesis. (last name only)
3. Method of replication that produces two identical DNA molecules each containing one of the original strand and one new strand.
4. This enzyme replaces RNA primers with DNA
7. Lagging strand synthesis occurs away from this component of the replication bubble
10. 3' and 5' functional groups are bound together by this type of bond.
11. This functional group is present at the 5' end of a nucleic acid.
12. This DNA repair mechanism can recognize an error in DNA and repair the incorrect section.
14. This scientist discovered the two rules underlying complementary base pairing (last name only).
15. This type of mutation results from a single change in the DNA nucleotide sequence.

16. Type of protein around which DNA is loosely coiled.

17. This enzyme mediates one of the last steps of DNA synthesis.

21. Type of sugar found in RNA nucleotides.

23. This nitrogenous base is found in RNA, but not DNA.

24. A region of DNA that encodes for a specific function.

26. DNA base pairs connect with one another using this type of chemical bond.

30. This functional group is present at the 3' end of a nucleic acid.