

DNA Profile

Here is an original sequence of DNA,

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AGCTACGAGAATTCGGATCCTCGAAGCTTACTGAGAATTCCTAGCTACGATCGATCGACTGACTAGCTACGAA
GCTAGCAAAGCTTTCGATCGAGAATTCGGATCCCTAGCTAGCATCGATCGACTAGCAAGCTTATCGATCGATG
AATTCCGACTGACTACGAGGATCCTCGATCGACTAGCTACGATCGACTAAGCTTGACTAGCTACGATCGAATT
CGACCACTCGCATACCGAGAGTGGATCAAGGGATCCAATTCGAAGGGCCTTCGATCGCCTGCAAAGCCTTCG
ATCCCTTCCTAGCTAGCTAGC
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Make this your own and personal DNA by making unique changes to the base sequence following the instructions below.

1. STARTING FROM THE BOTTOM and working towards the top, type your individual changes to the DNA sequence.
2. Type (your name) ORIGINAL SEQUENCE at the top of the sequence. Use **BOLD** to indicate **SUBSTITUTIONS**, use *Italics* to indicate **ADDITIONS**; use UNDERLINE OF EACH BASE ON EITHER SIDE OF **DELETIONS**: Save your document as DNA sequence lab
3. Select the whole sequence and copy and paste so you will have a new copy of your individual DNA.
4. Using only the second copy of your DNA, use the REPLACE command under EDIT (or use Strg H) to find GAATTC and replace with G[use 5 spaces] AATTC, label this second sequence as "Ecor1 cuts DNA of (your name)at GAATTC" Save your document as DNA sequence lab
5. Repeat step 3 so that you will have a third copy.
6. Using only the third copy of your DNA, use the REPLACE command under EDIT (or Strg H) to find GGATCC and replace with G[use 5 spaces] GATCC; label this third sequence as "BamH1 cuts DNA of (your name) at GGATCC". Save your document as DNA sequence lab
7. Repeat step 3 so that you will have a fourth copy of your DNA.
8. Using only the fourth sequence of your DNA, use the REPLACE command under EDIT (or Strg H) to find AAGCTT and replace with A[use 5 spaces] AGCTT, label this fourth sequence as "HindIII cuts DNA of (your name) at AAGCTT". Save your document as DNA sequence lab.
9. Now find each cut for each restriction enzyme and put a return at the end so that each fragment is on its own line. Be aware that some fragments will be longer than one line so don't cut artificially.

10. Print out your DNA for your report.

11. Count the number of bases in each fragment, record in a table

Fragment #	Ecor1	BamH1	HindIII
1			
2			
3			
4			
5			
6			
7			

12. Check around with other classmates,

Do you have the same number of fragments?

Are your fragments the same size?

Suggest reasons why this could be.

13. How have your individual changes caused the DNA to be cut differently? Examine the restriction enzyme cutting sites in the original DNA to see how your changes affected the cutting process.

