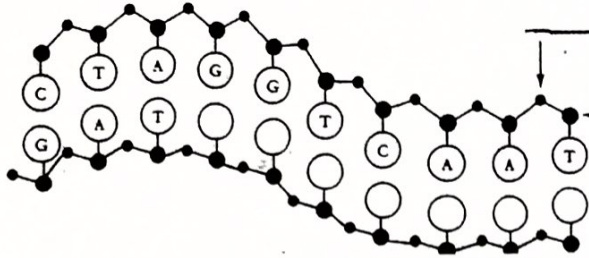


DNA Remediation

1. Label the diagram with the following parts

- a. Phosphate group
- b. Deoxyribose sugar
- c. Strong Covalent Bond
- d. Weak Hydrogen bond
- e. Nitrogenous base



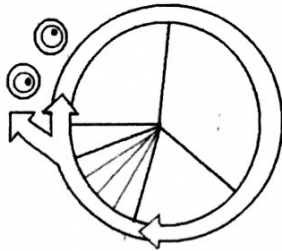
2. Which bonds in the DNA strand break during replication or transcription?

3. Circle one nucleotide.

4. Fill in the chart for each process. Identify where in the cell the process takes place and what is formed at the end of the process.

Process	Location	End Product
Replication		
Transcription		
Translation		

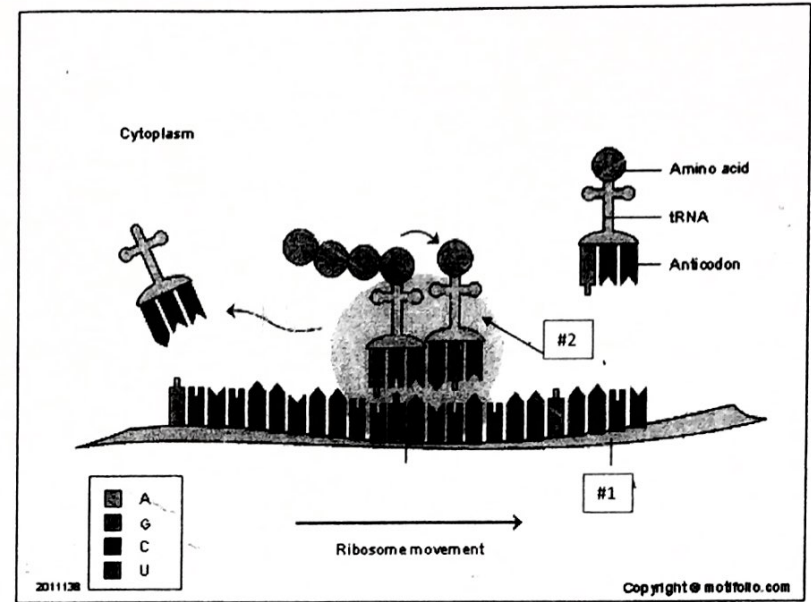
5. Label the phases of the cell cycle. Identify where in the cycle replication takes place.



Look at the diagram below.

- 6. What process is pictured here?
- 7. What is #2 referring to on the diagram (hint* this is the organelle where peptide bonds are formed between amino acids to make protein*)
- 8. What is structure #1 and where was it made?
- 9. Circle the protein that is forming.

DNA Remediation



10. Divide this strand of mRNA into codons:

GGAUCUCGAUAC

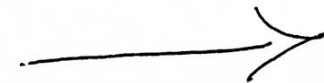
What does each codon code for?

10. Transcribe the following DNA strand.

DNA	T A C G C A T T C T G C C G C
mRNA	
Amino Acid	

11. What would happen if a mistake were made during transcription that deleted the third nucleotide of mRNA?

12. What is this type of mistake called?



13. What is recombinant DNA (also called genetic engineering)?

14. What are the "molecular scissors"? What is their function?

15. Name two uses of DNA typing/profiling.

16. Study the following scenario:

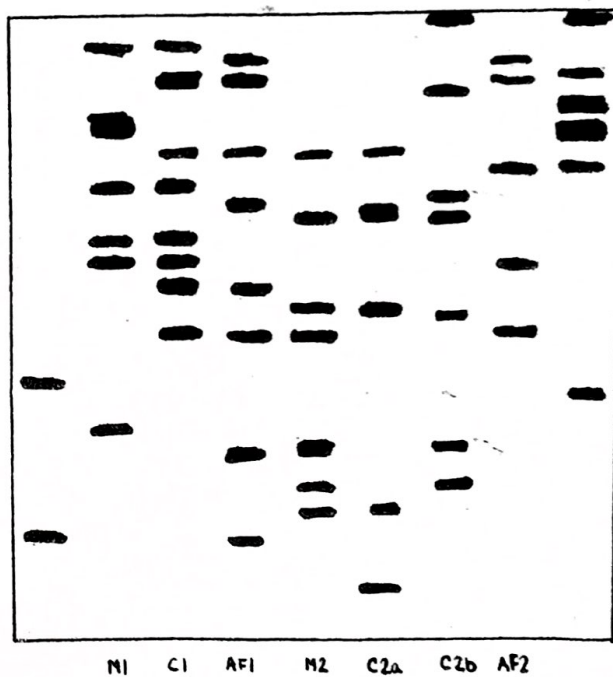
17. The following DNA fingerprint shows DNA from two paternity cases. Use the following key to identify the lanes:

M1 = First Mother M2 = Second Mother

C1 = First Child C2a = Second Child

AF1 = Alleged Father C2b = Third Child

AF2 = Alleged Father 2



Is AF1 the father of C1? ____

Is AF2 the father of C2a? ____ C2b? ____