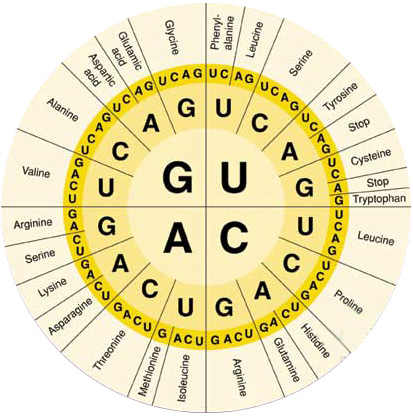
1. What are the three steps to DNA replication?
2. One strand of DNA undergoes replication. This results in \_\_\_\_\_\_\_ strands of DNA. That same piece of DNA undergoes replication again and we discover we have \_\_\_\_\_\_\_ strands of DNA.
3. DNA replication uses two different molecules. What are they and what are their functions?
4. What are the three different types of RNA?
5. Draw a picture of each type of RNA below.
6. What are functions of all three different types of RNA?






1. What type of RNA enters and leaves the nucleus?
2. What types of RNA never enter the nucleus?
3. Does DNA ever leave the nucleus?
4. Define protein synthesis.
5. What process involves taking the message of DNA and converting it to RNA?
6. What are the four steps to transcription?
7. Where does transcription happen?
8. How fast does transcription happen?
9. Where does transcription start on DNA?
10. If you were looking at transcription under a microscope, what is the telltale sign that it is being performed?
11. What enzyme is largely responsible for the processes of transcription?
12. What are the four steps to translation?
13. What types of RNA are involved in translation?
14. Translation is performed in the…
15. tRNA carries what building block to proteins?
16. If two strings of amino acids have one amino acid difference, is their protein the same?
17. What is a codon? Where is it located?
18. What is an anitcodon? Where is it located?
19. What is the end result of translation?
20. Convert this string of DNA to protein.

ACATTGCCCGTATCG



1. Define mutation.
2. Draw an example of a substitution mutation. Why is a good example
3. Draw an example of a frameshift mutation. Why is it a good example?
4. Why do mutations harm organisms?
5. Why are mutations bad? Why might they be good?