Biology Assignment 1:

1. What is the first step in the process of DNA replication?

DNA is copied

DNA polymerase rebuilds the strands

DNA is broken down by enzymes

DNA helicase separates the strands of DNA

2. How does each separated strand of DNA begin to rebuild a new strand?

DNA is separated by DNA helicase

DNA is rebuilt by base pairs

Phosphate groups rebuild the strand

DNA polymerase attaches to each separated strand and rebuilds the strand

3. Explain how the new strand of DNA is built? What template does it use? How is it built?

DNA helicase builds it, It uses the original strand, nucleotides from the ribsome build it

DNA helicase builds it, It uses the original strand, nucleotides from the nucleus build it

DNA polymerase builds it, It uses the original strand, nucleotides from the ribsome build it

DNA polymerase builds it, It uses the original strand, nucleotides from the nucleus build it

4. What kind of substance facilitates the hydrogen bonding of nucleotides in a new DNA molecule?

A lipid called DNA helicase

a carbohydrate called DNA helicase

an enzyme called DNA polymerase

an enzyme called DNA helicase

5. If the sequence of bases in one strand of DNA is C-A-A-G-T, what is the sequence of bases on the matching strand?

CAAGT

GTTGA

CTTCA

GTTCA

6. What is the result of the replication of one molecule of DNA?

1 strand of DNA

2 strands of DNA

4 strands of DNA

a 47th chromosome

7. Explain how DNA replication ensures continuity of form and function from one cell generation to the next?

When DNA is copied exactly each new cell will have the same genes.

DNA replication allows new cells to have different genes than the original cell.

DNA replication allows each cell to be the same because the code that is copied is only half copied

The process of replication allows each new cell to express different genes because they have different DNA

8. In DNA, cytosine always forms two hydrogen bonds with guanine(G).

True

False

9. The sequence of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ carries the genetic information of an organism.

nucleotides

phosphate groups

hydrogen bonds

deoxyribose

10. The process of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ produces a new copy of an organisms' genetic information, which passed on to a new cell

DNA duplication

DNA replication

transcription

translation

11.The double-coiled shape of DNA is called a double helix

True

False

12. The number of nucleotides between each replication fork in human DNA is approximately \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1

10

100

100,000