

Name: _____ Date: _____ Period: _____

Independent Practice: The Structure and Function of DNA

Fill in the blanks and answer the following questions about DNA using your notes.



1. DNA stands for D N A.

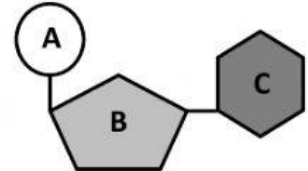
2. What do you call the shape of a DNA molecule? _____

3. Label the three parts of the DNA nucleotide shown to the right:

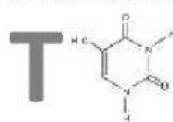
A: _____

B: _____

C: _____



4. Label the nitrogen bases found in DNA nucleotides.



7. Inside the cell, DNA is packaged into very large structures known as –

A chromosomes **B** lysosomes **C** enzymes **D** peroxisomes

8. DNA contains the instructions for making what other biomolecule?

A lipids **B** carbohydrates **C** polysaccharides **D** proteins

9. How is this *information* carried within the DNA?

A Along the sugar-phosphate backbone **C** By the arrangement of the sugars
B Between the peptide bonds **D** In the sequence of nitrogen bases

10. While DNA is found in all cells, in eukaryotic cells the DNA is found inside of the –

A mitochondrion **B** vacuole **C** nucleus **D** Golgi body

11. The information in DNA is written according to the genetic code. The genetic code is used to translate the information in DNA into a specific protein. The genetic code is –

A unique to each individual species **C** unique to each family of organisms
B the same for all living things **D** different for every single living thing

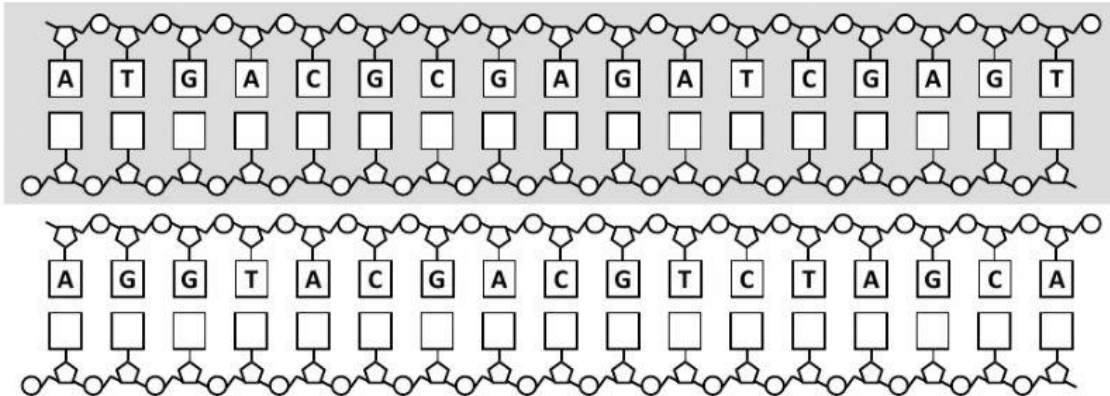
12. The genetic code is used for translating the information from DNA into a protein. This means that the sequences of nitrogen bases are coding for –

- A** fatty acids **B** monosaccharides **C** disaccharides **D** amino acids

13. Most scientists believe that the genetic code provides evidence that all organisms are related. This is primarily because –

- A** all living things use the same basic code **C** some species use similar codes
B each species code is a little different **D** every species has some form of code

14. Practice your base pairing by completing the strands of DNA below.



15. Write out the complimentary strands of DNA for the sequences below.

5'GTACTGACC 3'

5'ACTTAGGCA 3'

5'GTCCATTGA 3'