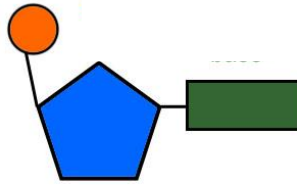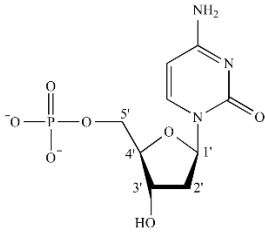Name: _____ Date: _____ Period: _____

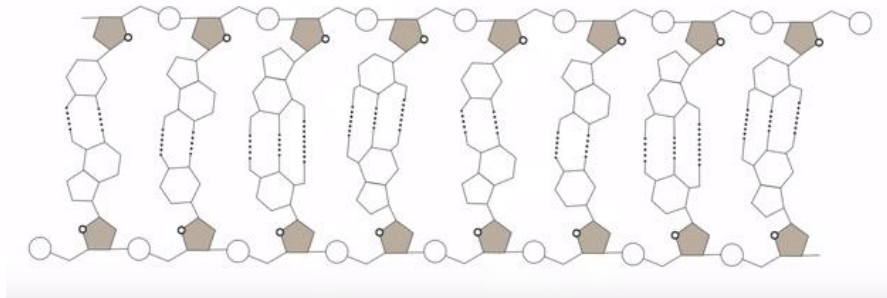## Teacher's Pet Video: DNA Structure and Function PreAP

Go to www.biologybynapier.com, go to the current unit – Biomolecules and DNA, scroll down to today's date. The video is embedded for you. Or you can google "Teachers Pet DNA structure".

1. What are the monomers of DNA?

2. Label the nucleotides below:

3. What are the four bases in DNA (you can just list the letters)?

4. What does double helix refer to?

5. What is the backbone of DNA made of?

6. Which molecule on the backbone do the bases always pair with?

7. What type of bond holds the bases together? (A with T, C with G)

8. Strands of DNA are _____ to each other.

9. Label the DNA strand below:

Label the following: Deoxyribose sugar, Phosphate, Hydrogen bonds and fill in all the base pairs.

Write the matching bases for this template strand: 3' A T G C T A G C T T G C A 5'
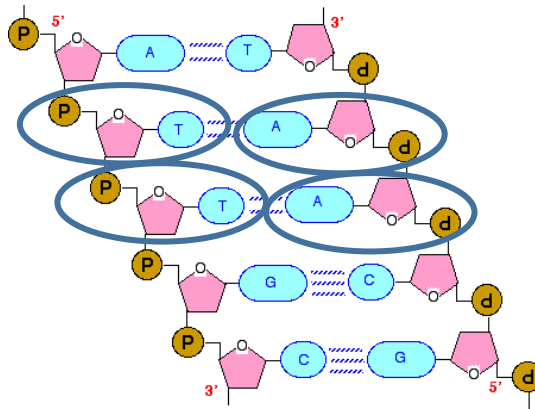
_____

What did you learn?

1. How does DNA compare in all living things?
   a. Same components (parts) of DNA, different order of nucleotide bases
   b. Different sugars and phosphates, same order of bases
   c. DNA components (parts) and order is exactly the same in all living things
   d. DNA differs in type of sugar in all living things.

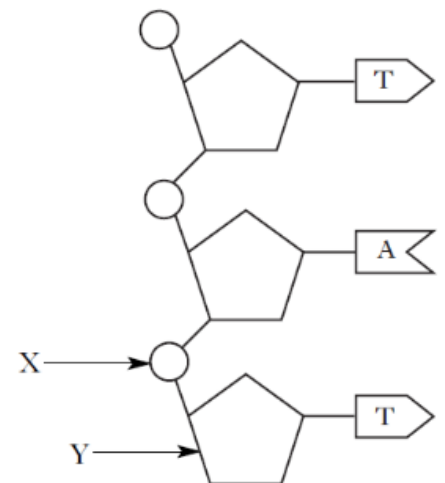2. Fill in the missing DNA bases below:

   A T C C G G T C A A C A G

   _____

3. What is the name of the structures that are circled below?

   _____

4. What is structure "X" in the diagram to the right?
   a. Phosphate
   b. Sugar
   c. Nitrogen base
   d. Nucleotide

5. Circle the part of the DNA that carries the code for our traits.
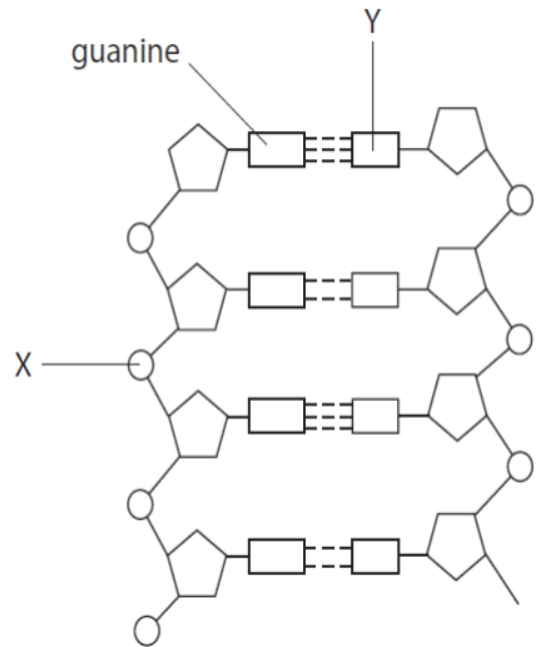
6. What is structure "Y" in the diagram to the right?
   a. Phosphate
   b. Sugar
   c. Nitrogen base
   d. Nucleotide

7. What is structure "X" in the diagram to the right?
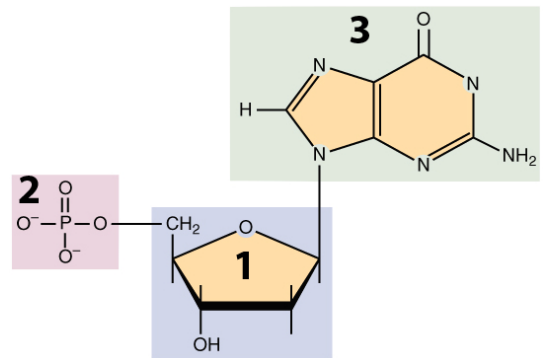   a. Phosphate
   b. Sugar
   c. Nitrogen base
   d. Nucleotide

8. What is structure "Y" in the diagram to the right?
   a. Phosphate
   b. Sugar
   c. Nitrogen base
   d. Nucleotide

9. Which base does "Y" have to be?
   a. T
   b. A
   c. C
   d. G

10. Which part of the DNA carries the code for all organisms traits?
    a. Phosphates
    b. Sugars
    c. Nucleotide bases
    d. Hydrogen bonds

11. Which answer below is correct for this structure?
    a. 1 – sugar, 2 – phosphate group, 3 – nitrogen base
    b. 1 – phosphate group, 2 – sugar, 3 – nitrogen base
    c. 1 – sugar, 2 – nitrogen base, 3 – phosphate group
    d. 1 – nitrogen base, 2 – phosphate group, 3 – sugar

12. Why can DNA be taken out of one organism and put into another species of organism and still work?

_____

_____