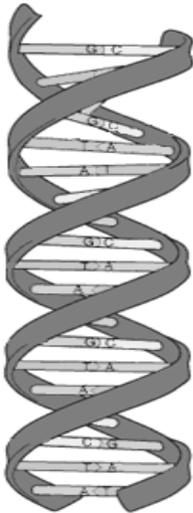


NUCLEIC ACIDS (DNA and RNA) Notes

DNA – _____

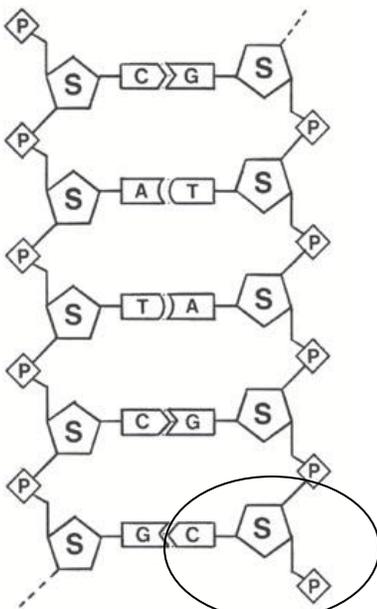
- DNA controls all living processes including production of new cells – _____
- DNA carries the genetic code – _____ and _____ genetic information from one _____ to the next
- Chromosomes are made of _____
- DNA is located in the _____ of the cell

Model of **DNA**:



- The model was developed by _____ and _____ in 1953.
- They received a _____ in 1962 for their work.
- The model looks like a twisted ladder – _____.

Untwisted it looks like this:



Nucleotide

- The _____ of the ladder are P = _____
S = _____ molecule
- The _____ of the ladder are C, G, T, A = _____
(Nitrogenous means containing the element _____.)

A = _____ **(Apples are Tasty)**

T = _____

A always pairs with T in DNA

C = _____ **(Cookies are Good)**

G = _____

C always pairs with G in DNA

- It is the order of these _____ that determines _____
- One _____ + one _____ + one _____ = one _____
- Nucleotides are the _____ of DNA – thus, each strand of DNA is a string of _____

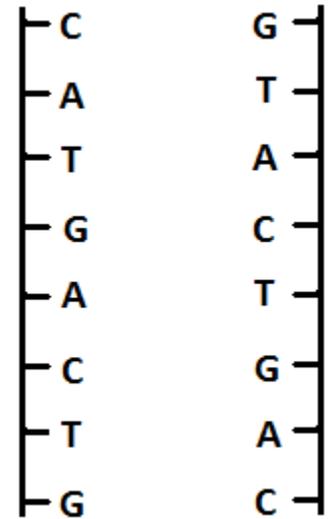
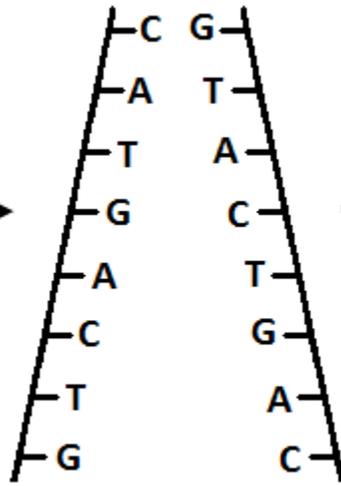
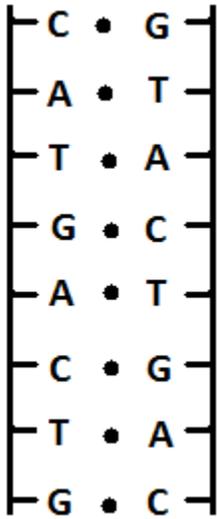
DNA Replication

- Cell division involving _____ produces 2 _____ cells that are genetically _____ to each other and genetically identical to the _____ cell
- Remember that for this to happen, DNA in the parent cell must be _____ (copied) _____ the cell divides – this process occurs during _____ in the cell cycle

STEP 1

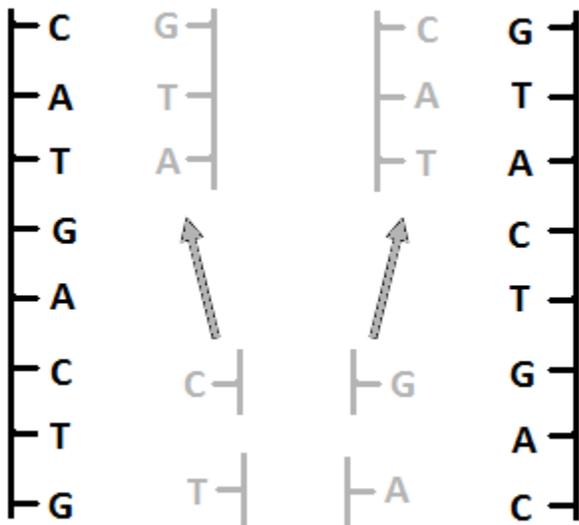
_____ between base pairs are _____ by the enzyme _____ and DNA molecule _____

DNA molecule separates into _____



STEP 2

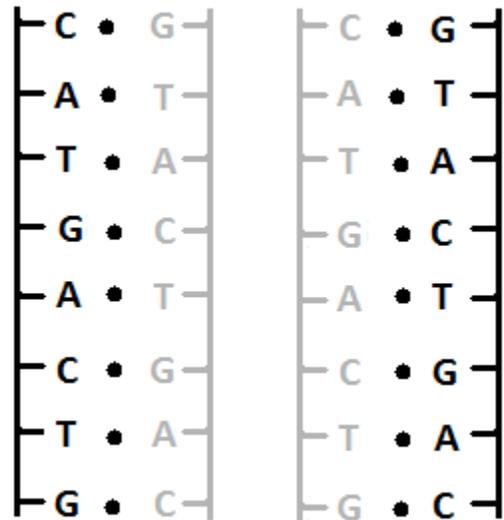
_____ match up with complementary bases



Free nucleotides abundant in _____

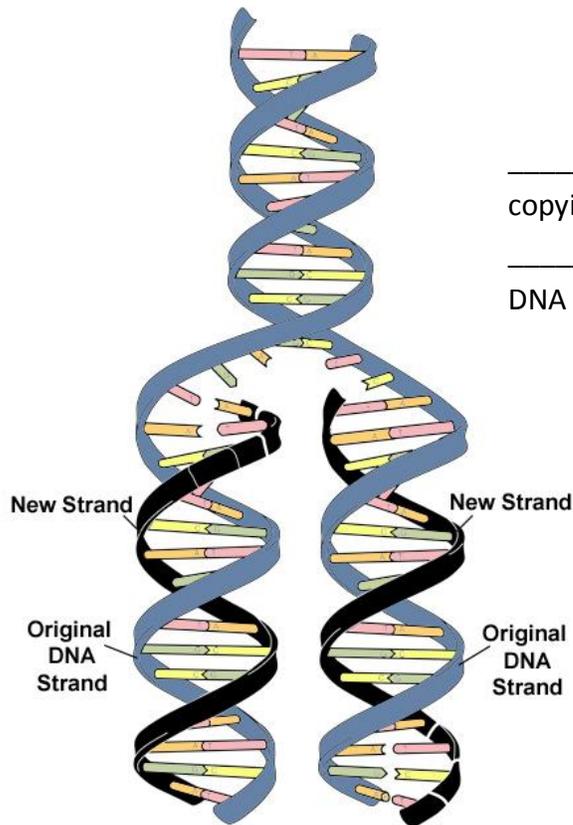
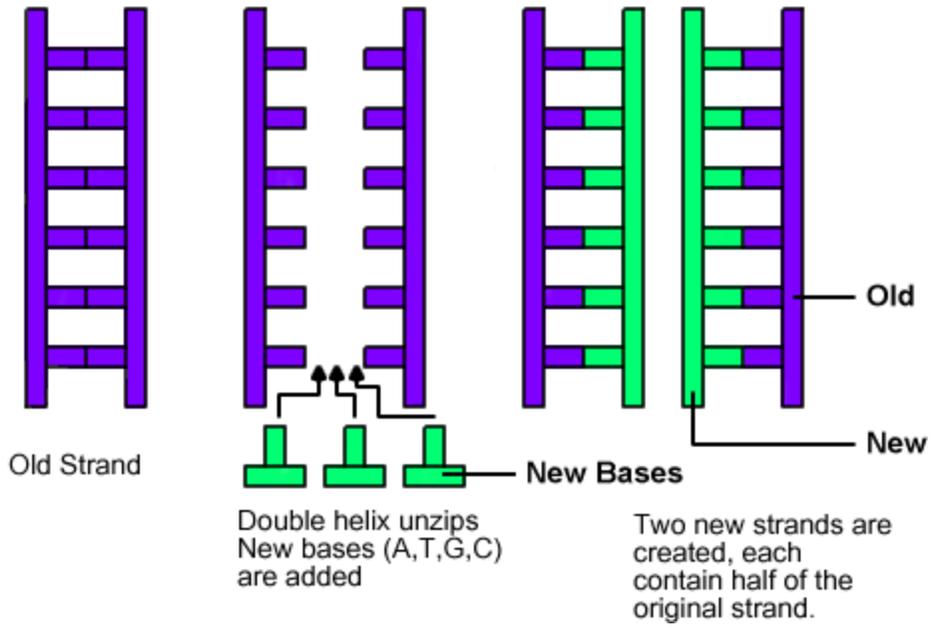
STEP 3

Nucleotides are linked into 2 new strands of DNA by the enzyme, _____—DNA polymerase also _____ for copying errors



_____ Strand
_____ Strand

Diagram Examples of DNA Replication: (You could see DNA replication represented different ways.)



DNA Replication

_____ occur when
copying _____ cause a
_____ in the _____ of
DNA nucleotide bases

RNA— _____

- RNA is a _____ that allows the _____ to be delivered to the _____
- RNA is different than DNA:
 1. The sugar in RNA is _____; the sugar in DNA is _____
 2. RNA is a _____ of nucleotides; DNA is a _____ of nucleotides
 3. RNA has _____ (U) instead of _____ (T) which is in DNA
 4. RNA is found _____ of the _____; DNA is found _____ the nucleus

G
U
A
C
U
G
A
C

Complete the chart by reading each term or phrase and placing a check in the appropriate column.

	DNA	RNA	Both
Deoxyribose			
Ribose			
double stranded			
single stranded			
nucleotides			
found in nucleus only			
found in and out of nucleus			
Cytosine			
Guanine			
Adenine			
Thymine			
Uracil			
double helix			
replication			