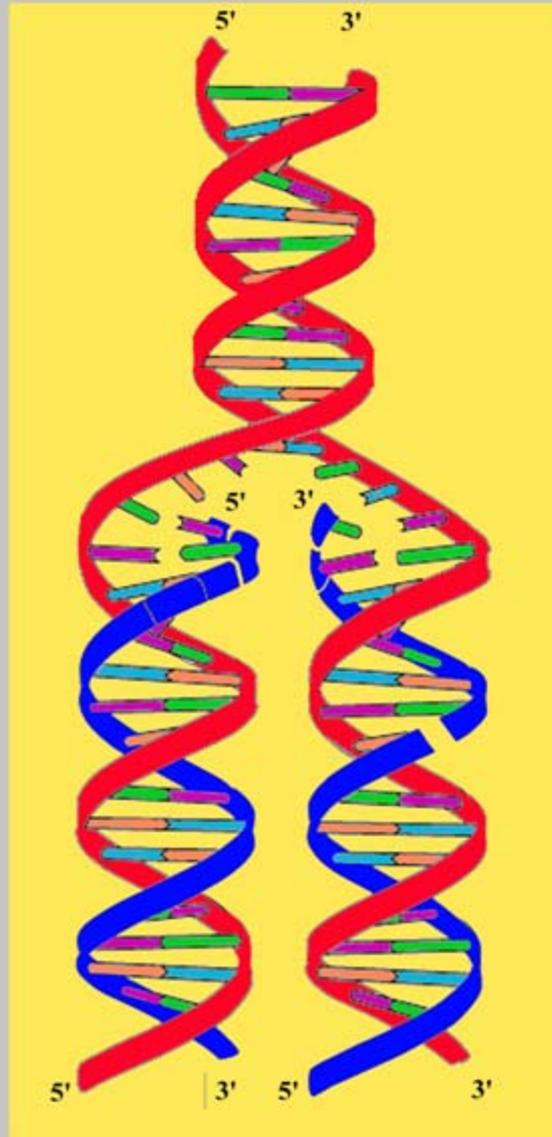


DNA REPLICATION



DNA Replication

- ❖ Replication = DNA copies itself **exactly**
✓ **(Occurs within the nucleus)**
- ❖ Any mistake in copying = **mutation**
- ❖ DNA mutation = chromosomal mutation

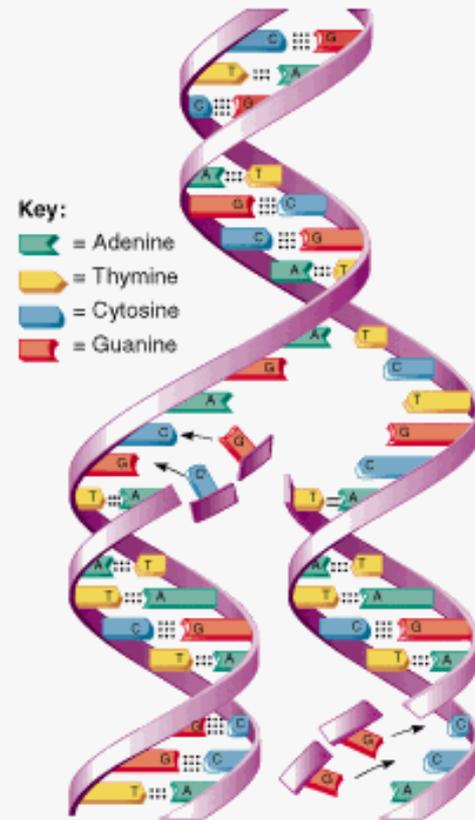
A. Basic Facts of DNA Replication

1. Complementary base pairing

makes
replication possible

C - G

A - T



A. Basic Facts of DNA Replication

2. One side of DNA molecule is

a

template

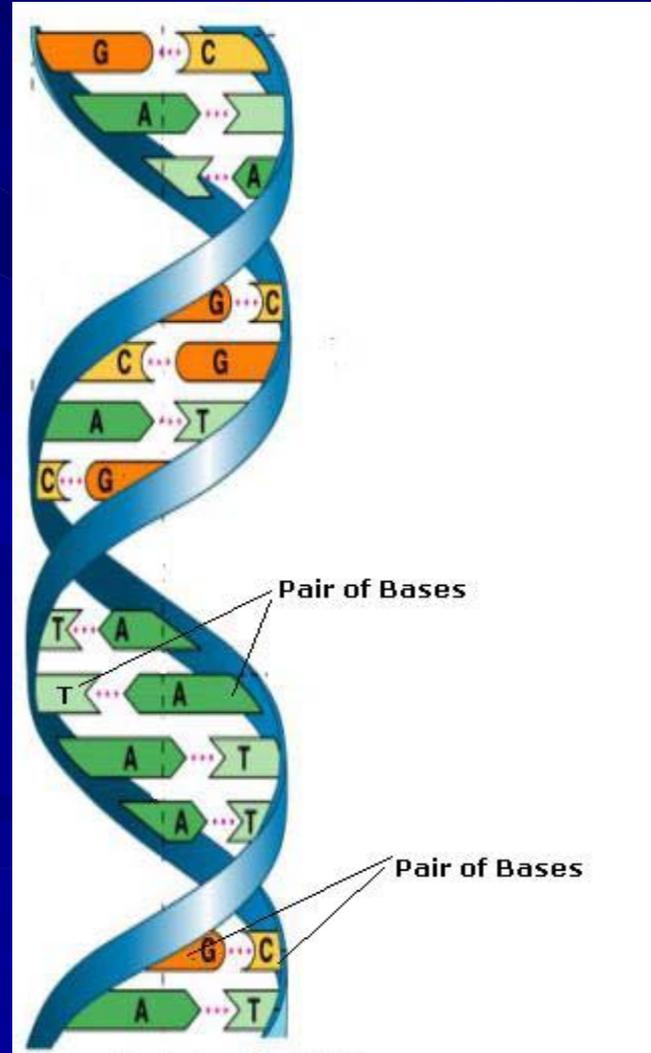
for

making

the

other side
(strand)

?’s 1-3



B. Process of DNA Replication

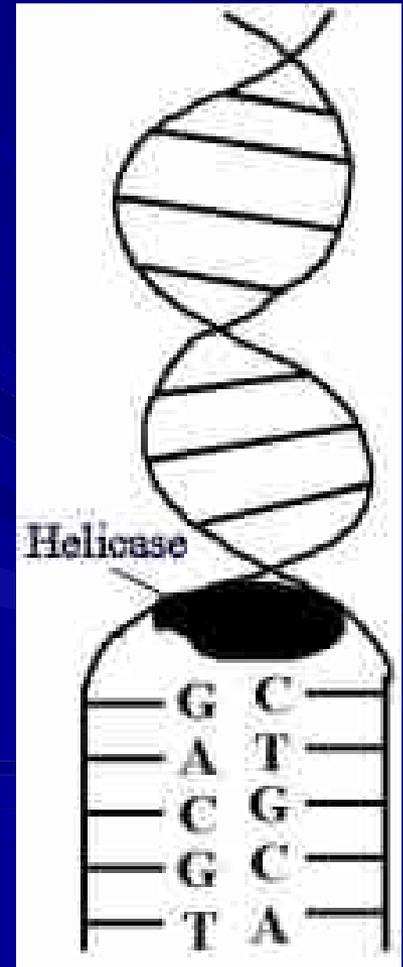
1. Uncoil & unzip DNA molecule

➤ Enzyme (-ase) breaks

weak

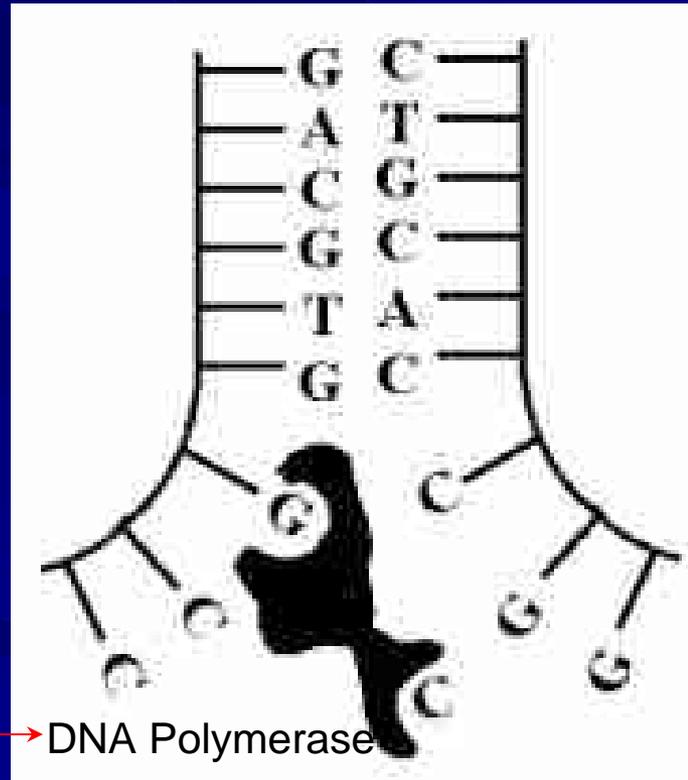
Hydrogen Bond

between bases



B. Process of DNA Replication

2. Enzyme brings in complementary N-bases



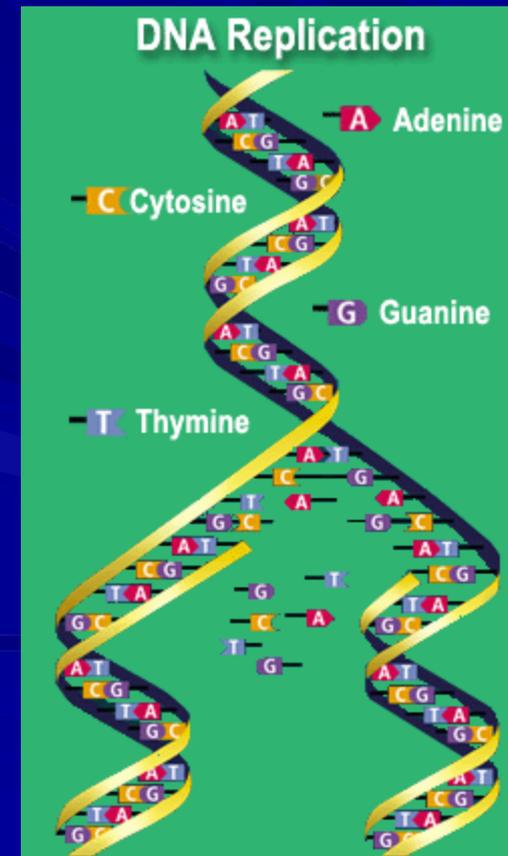
B. Process of DNA Replication

3. Insert N-bases

DNA Replication Tutorial

trc.ucdavis.edu/.../week5/06dnareplication.html

(Go here for on-your-own learning/review)



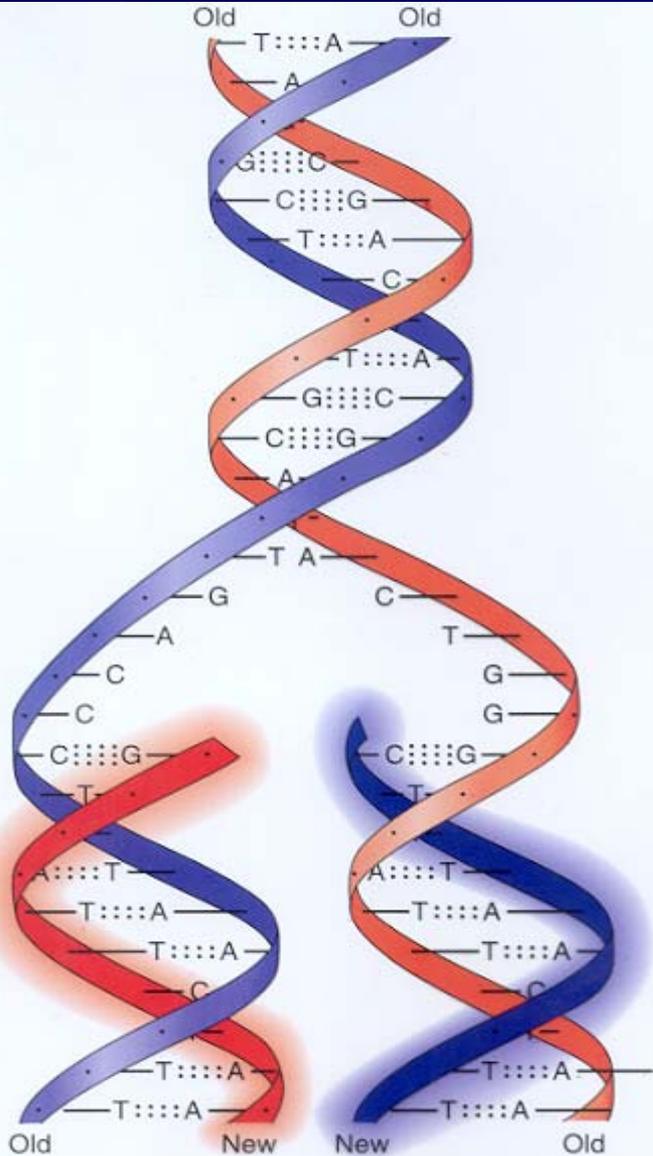
Replication Moovie



C - G
A - T

C. Semi-conservative replication

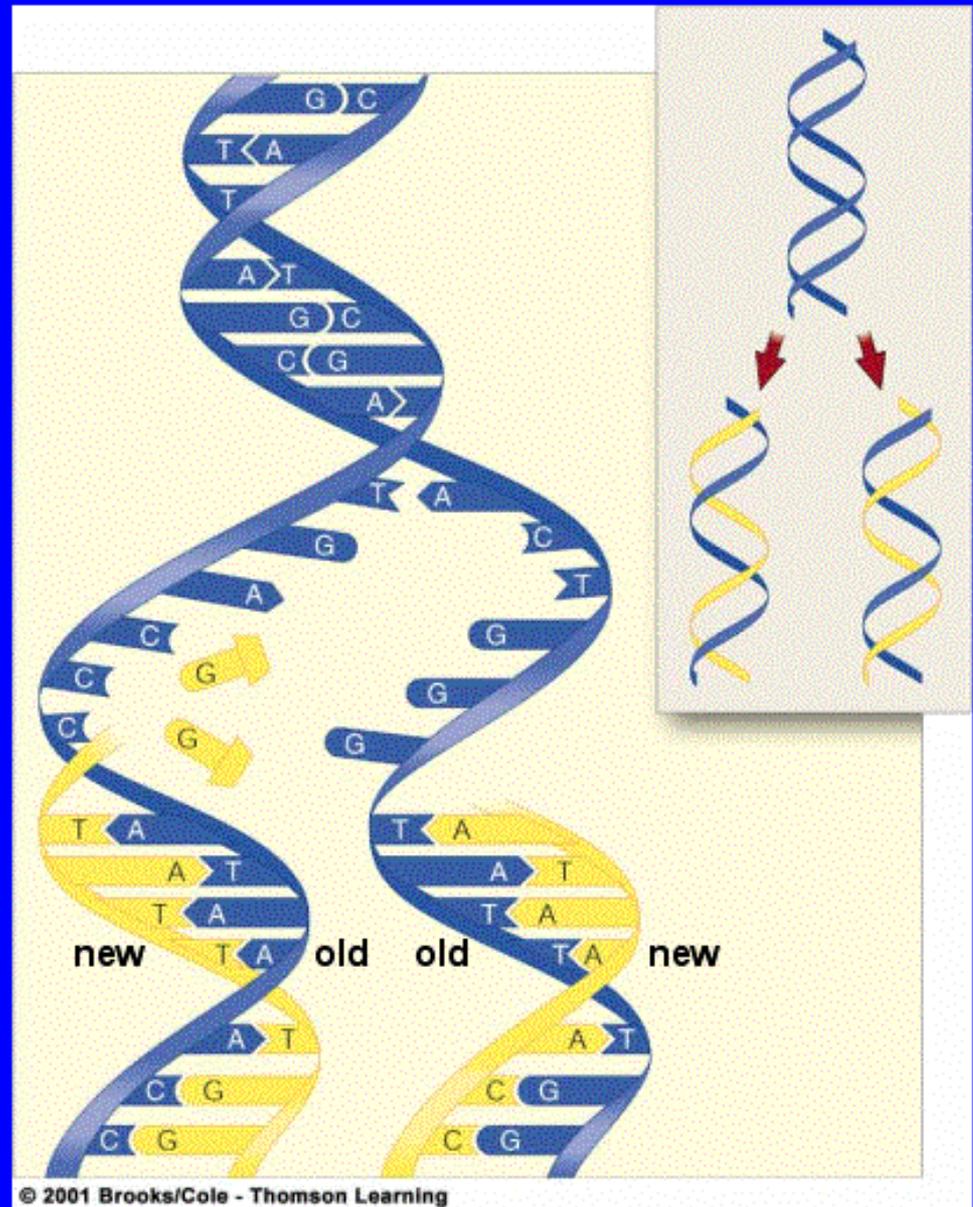
?’s 4-6



1. Each new DNA molecule contains **one old strand** & **one new strand**

DNA Replication

- Each parent strand remains intact
- Every DNA molecule is half “old” and half “new”



DNA vs. RNA

<u>DNA</u>	<u>RNA</u>
Sugar = deoxyribose	Sugar = ribose
Double-stranded molecule	Single-stranded molecule
Thymine bonds with adenine	Uracil instead of thymine

DNA vs. RNA

<u>DNA</u>	<u>RNA</u>
Nuclear DNA Mitochondrial DNA Chloroplast DNA	mRNA = messenger tRNA = transfer rRNA = ribosomal
Nuclear DNA never leaves the nucleus	Assembled in nucleus, moves to cytoplasm (leaves the nucleus)

DNA VS. RNA

?’s 7-12

