DNA and DNA Replication

Where is DNA found?

What is it composed of?

List the three parts of a nucleotide.

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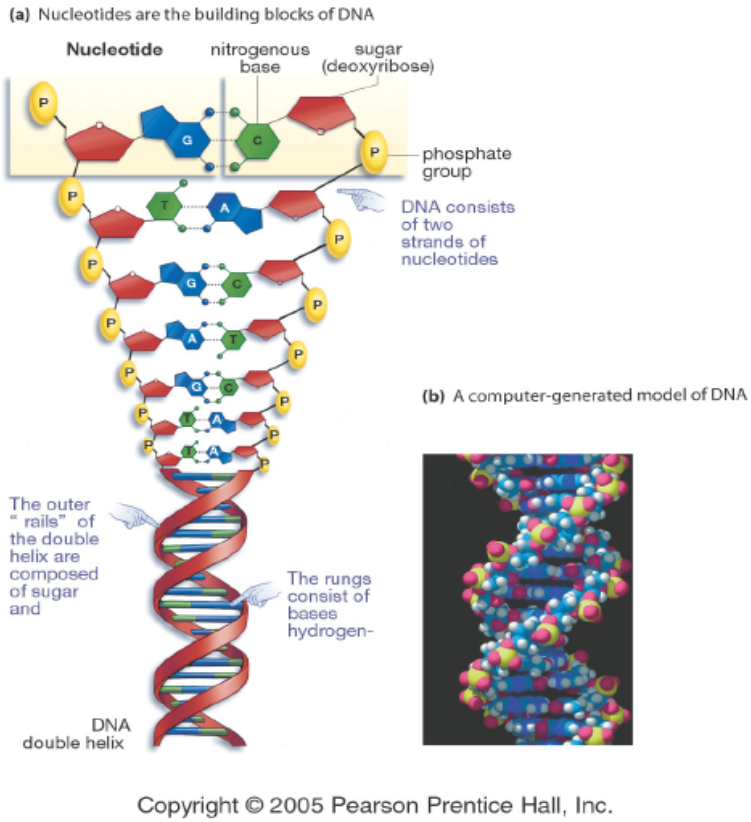
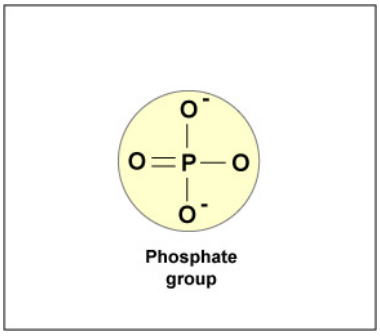
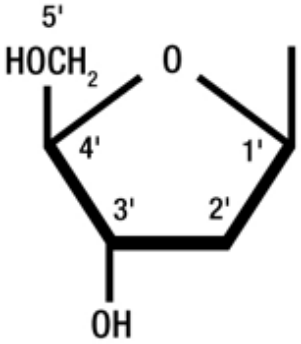
-
-







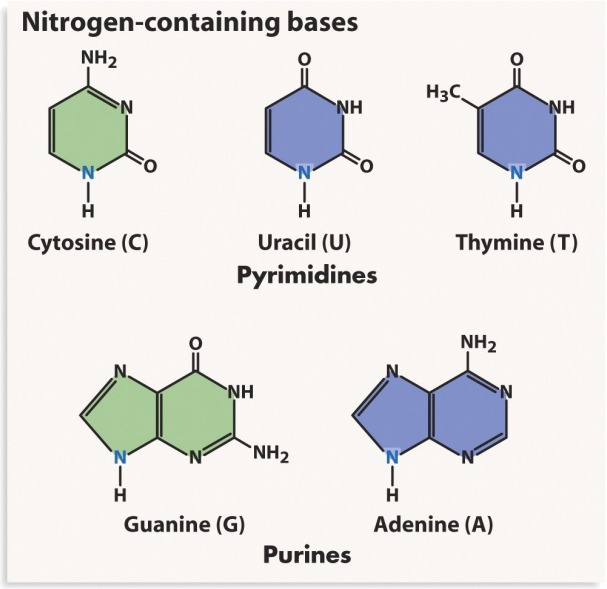
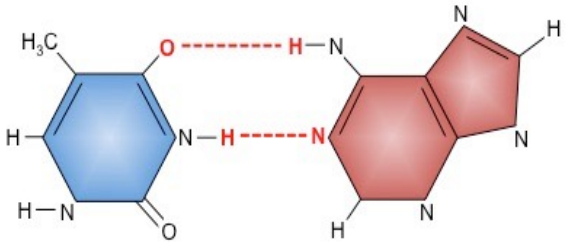


Figure 4-1c Biological Science, 2/e

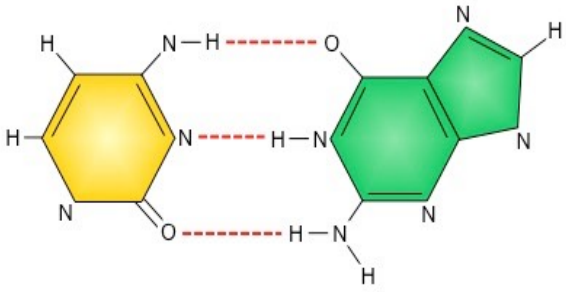
Purines contain _____ rings. Examples

Pyrimidines contain _____ ring. Examples

How are purines bonded to pyrimidines?



Thymine / Uracil pairs with Adenine
(2 hydrogen bonds)



Cytosine pairs with Guanine
(3 hydrogen bonds)

How many bonds between C and G? _____

How many bonds between A and T? _____

The whole story of a nucleotide….

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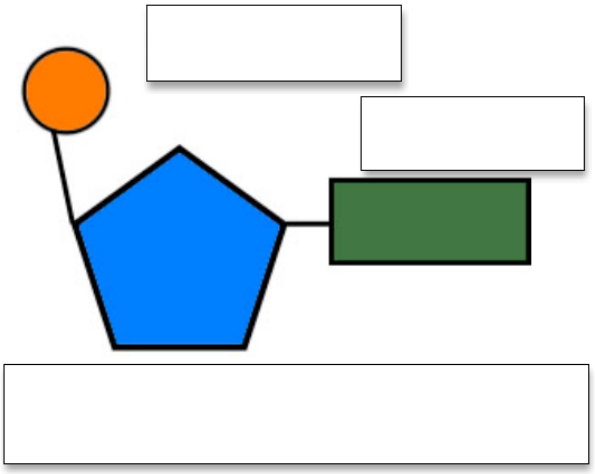
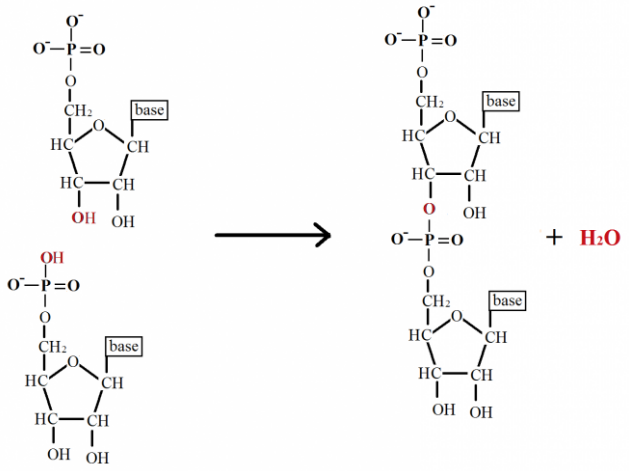
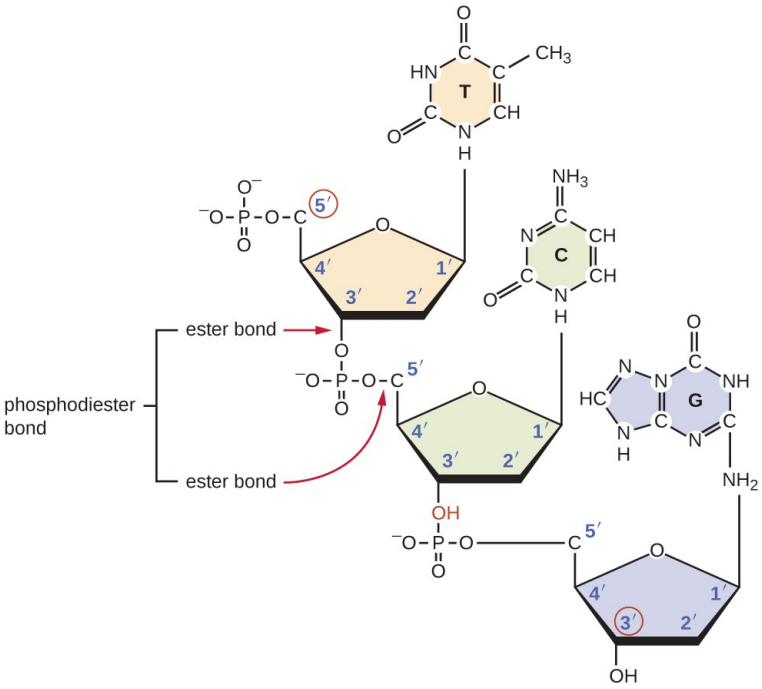
-
-



What is the back-bone of the DNA composed of?

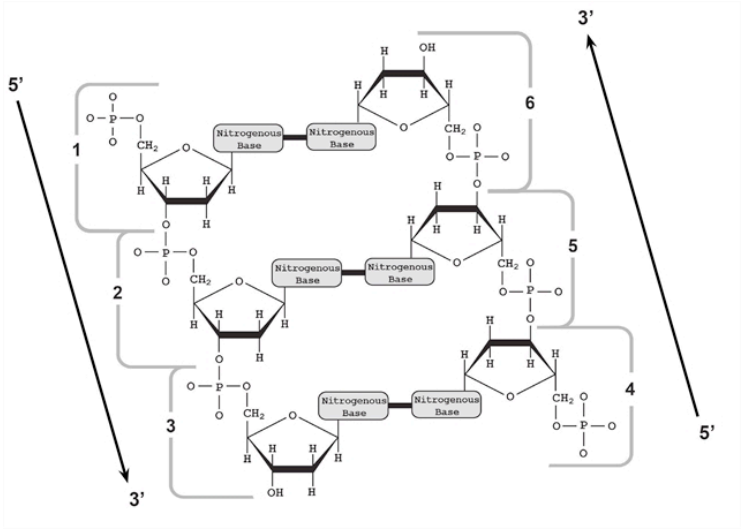
What type of bond holds the nucleotides together?



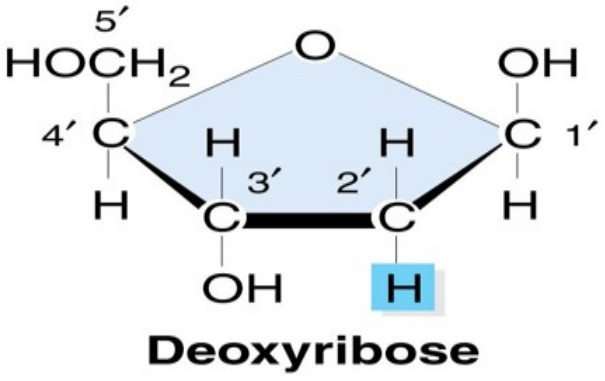


What does the DNA model resemble?

What does it mean to be anti-parallel?



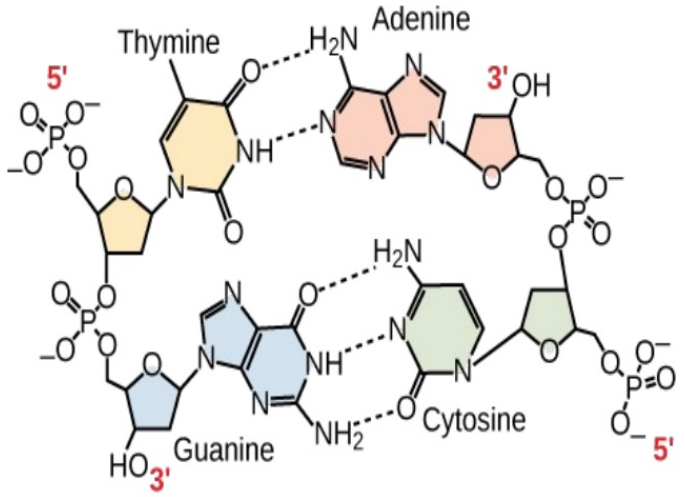
What does deoxyribose mean?



How many carbons are on the ring?

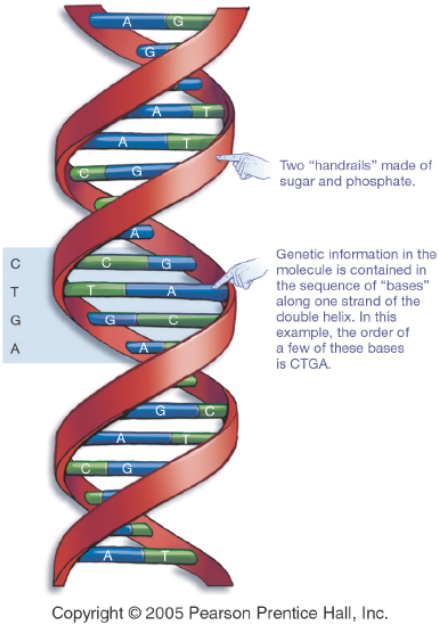
What are the four bases of DNA?

In DNA, how are the two strands held together?



Which base does RNA have that DNA does not have? _____

What does it mean to be a ribose sugar?



Who proposed the structure of DNA and when did they do it?

In DNA, what are the base pairings?

Adenine ----- _____

Cytosine----- _____

How did Rosalind Franklin play in the discovery of the DNA double helix?

How far could one piece of human DNA stretch? _____

How many bases are in one twist of the DNA?

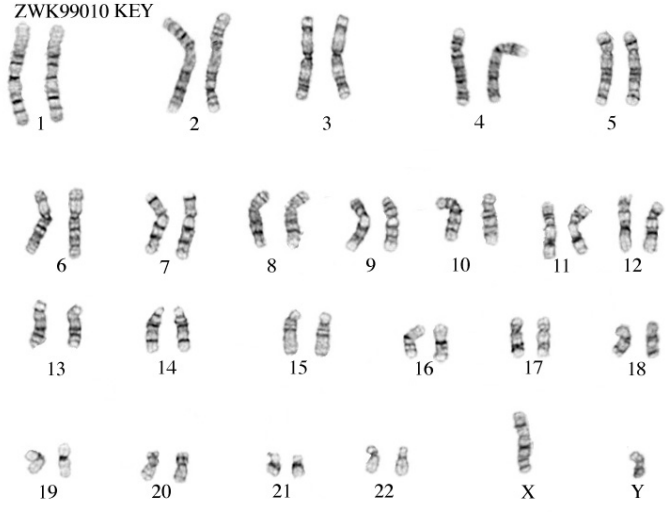
What is a chromosome?

Humans have _____somatic chromosomes (1-22) and _____ sex chromosomes (23)

A karyotype is a _____ showing paired chromosomes. Abnormalities in chromosome _____ as well as _____ can be seen. The _____ of the baby can also be determined.

Male or Female: How can you tell?

ZWK99010 KEY



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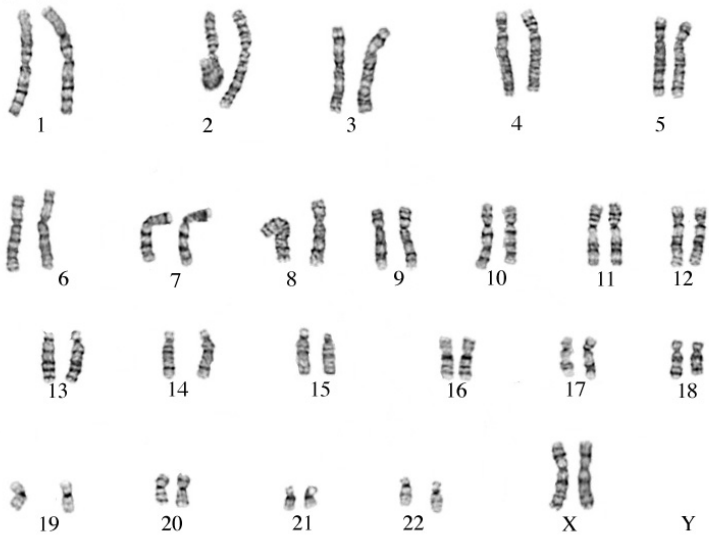
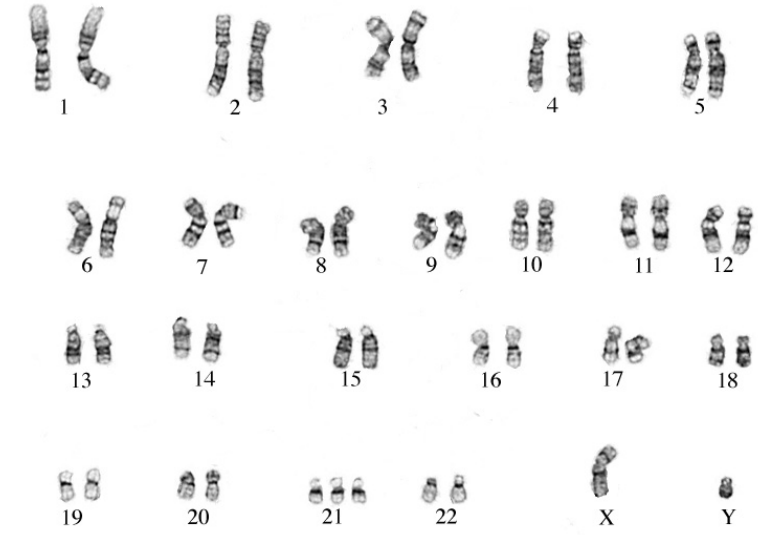


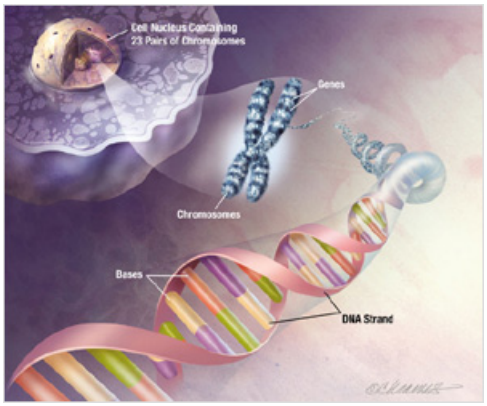
Where do the chromosomes come from?

Male or Female? Is everything OK, if not what's wrong?

ZWK99024 KEY



What is a gene?



What are the different proteins produced responsible for?

DNA Replication

How many pairs of nucleotides are found in a human chromosome? _____

It can copy _____ pairs a second. How long will it take to copy each chromosome?

That is too long, how does the cell speed up the process?

When does DNA replication occur?

Which six enzymes are responsible for DNA replication?

-
-
-
-
-
-

What are the two ends of a DNA molecule called? _____ and _____

What is the function of Topoisomerase and DNA Helicase?

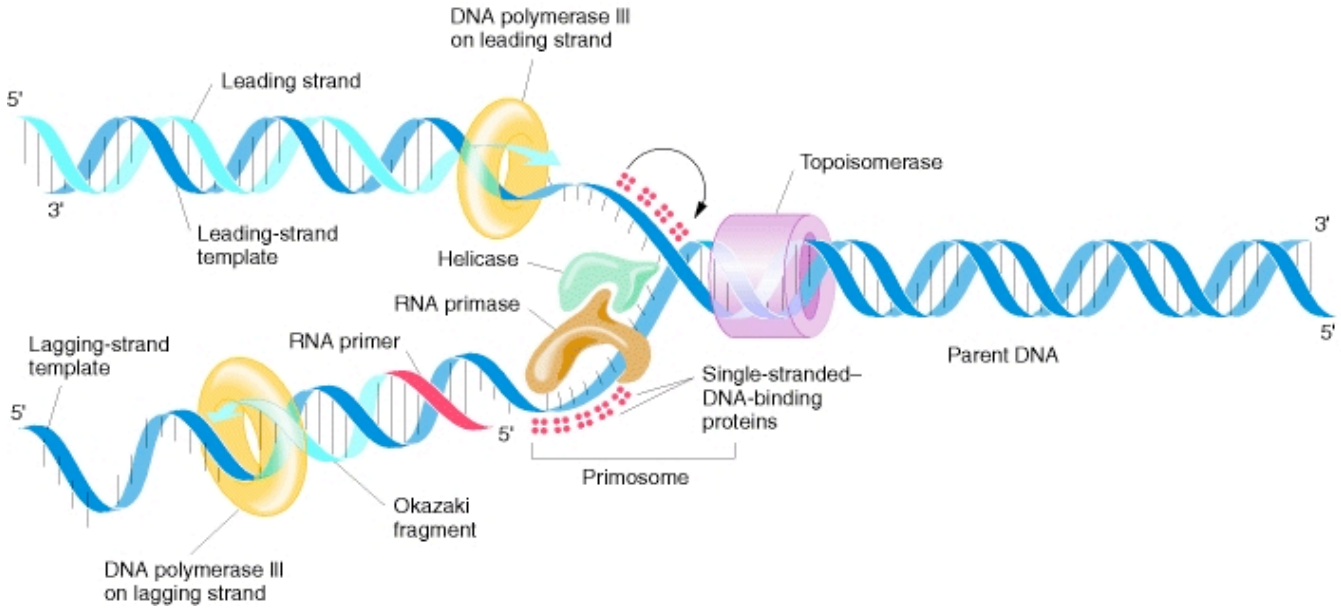
What keeps the DNA from re-annealing?

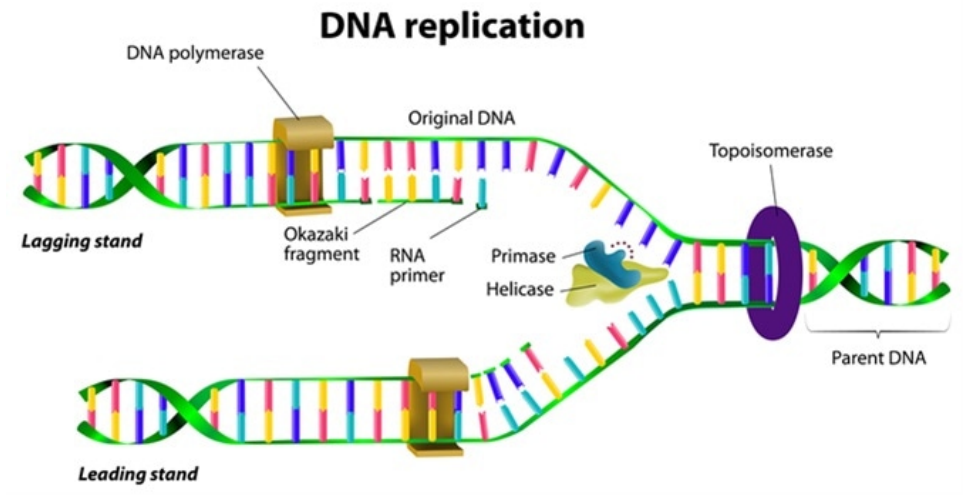
Describe how DNA Polymerase copies the leading strand of the DNA?

Why is it so easy?

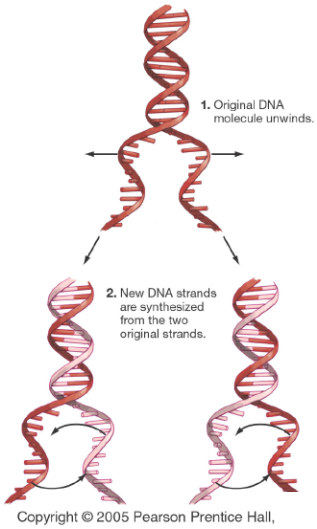
The other strand is not so easy. Here are the steps:

1. _____ lays down an RNA primer.
2. _____ will bind and begin to make pieces called _____.
3. This will continue over and over.
4. _____ will replace the RNA primer with _____ on the lagging strand.
5. _____ will fuse the small Okazaki Fragments.





Why is DNA replication considered semi-conservative?



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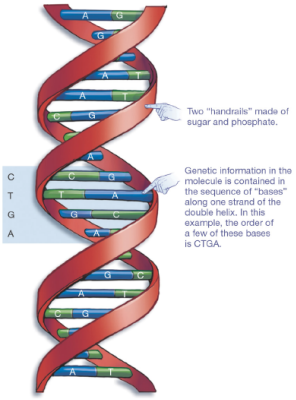

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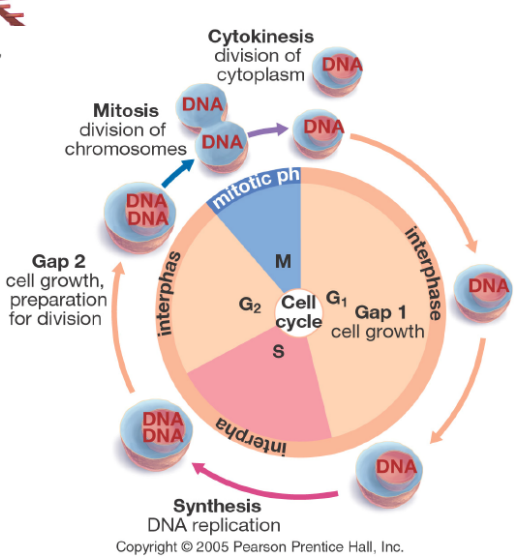

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