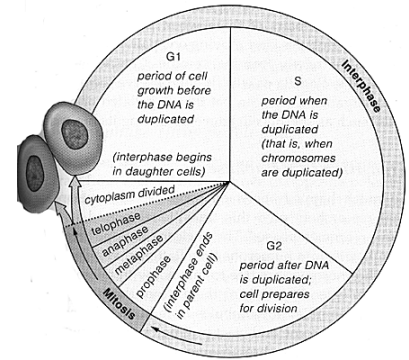


EOC Review Part 4

Continuity of Life

Cell Cycle

Look at the diagram of the cell cycle. When does the duplication of DNA occur? What is this phase called?



What do G1 and G2 represent?

Does mitosis include cytokinesis (division of the cytoplasm)?

What is cancer?

Compare the characteristics between mitosis and meiosis:

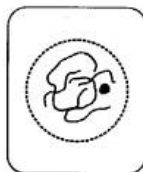
	MITOSIS	MEIOSIS
Type of reproduction (asexual or sexual)?		
Chromosome number of parent cell (1N=haploid or 2N=diploid)		
Chromosome number of daughter cells (1N=haploid or 2N=diploid)		
Number of cell divisions		
Number of cells produced		
When does replication happen?		



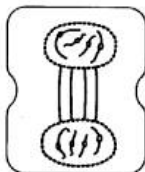
A



B



C



D



E

Put the following stages of the cell cycle (mitosis) in order, then name them.

How many chromosomes do humans have in...

Body cells?

Sex cells?

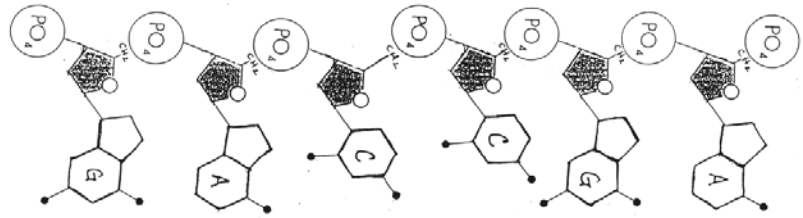
What does diploid mean? What does haploid mean?

During meiosis, when does crossing over take place?

DNA and Protein Synthesis

Describe the structure of the DNA molecule (its shape, what it's made of).

For the single DNA strand below, what do the black pentagons represent?



What kinds of bonds hold the complementary bases together?

Why is it important that these bonds be weak?

For the above DNA strand, write the complementary DNA nucleotide sequence.

If the DNA strand above undergoes transcription, what will the sequence of the mRNA be?

What is a codon?

Compare RNA and DNA in the following table.

	RNA	DNA
Sugar		
Bases		
Strands		
Location in cell		
Function(s)		

What kind of bonds hold the amino acids together in the protein that is formed?

What happens to DNA when a mutation occurs?

How does this affect the mRNA?

How can this affect translation?

How does this affect the structure and shape of the resulting protein?