

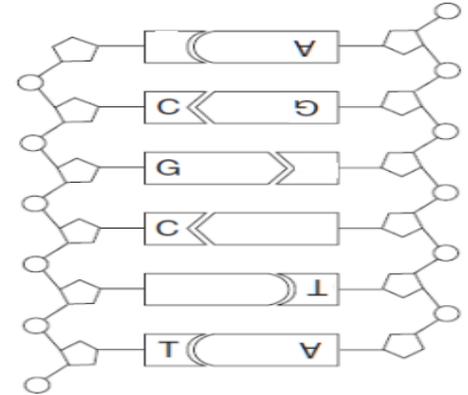
Expectation Sheet

DNA & Cell Cycle

NAME: _____

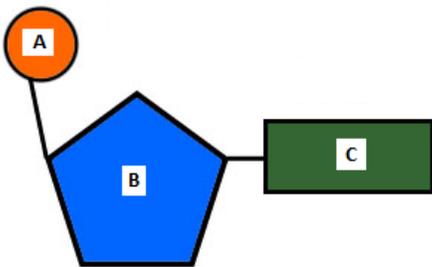
PERIOD _____

Look at the DNA strand on the right.



- Fill in the missing bases . . .
 - Circle one nucleotide . . .
 - What type of bond holds these bases together? _____
 - How many nucleotides are in this image of DNA? _____
 - If there was 26% Adenine, how much thymine would there be? _____
 - If there was 20% guanine, how much Cytosine would be present? _____
 - If there was 14% guanine, how much thymine would there be? (show your math)
-
- If there was 24% adenine, how much guanine would there be? (show your math)
-
- Traits are determined by the genetic code, what part of the DNA actually carries the code? _____
 - What is semi conservative DNA? _____
 - What is anti-parallel DNA? _____
 - Write the complimentary bases for the following strands:
 3' ATC CGG GCA TTC GCC 5' 5' TTA GTA CCC TAG GGT AAC 3'

 - What determines what an organism is and their specific traits? _____
 - (YES / NO) Does a human and potato have the same DNA molecular parts?
 - (YES / NO) Does a human and a potato have the same nitrogenous base sequence within their DNA?
 - What is the monomer of a DNA molecule? _____
 - What is the polymer of a DNA molecule? _____

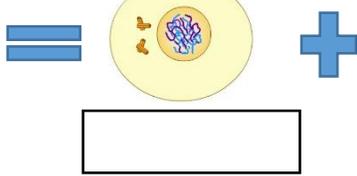


- What is the name of this structure? _____
- Name structure A _____
- Name structure B _____
- Name structure C _____
- What is the polymer of this structure? _____
- Which part of this structure carries the genetic code

- What are the four bases possible on a DNA nucleotide?

24. Fill in the steps to this cellular process:

Cell Cycle =



What happens at the very end of mitosis to split the cells?

25. In which stage does DNA replicate? _____

26. What is the longest stage of the cell cycle? _____

27. What process is DNA preparing for when it replicates? _____

28. Why does DNA replicate before cell division? _____

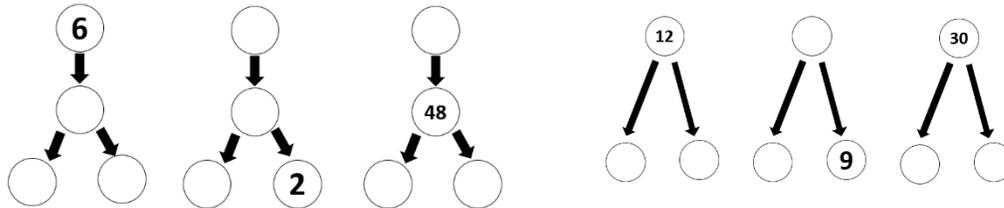
29. Which enzyme unzips DNA? _____

30. Which enzyme adds new nucleotides to the original "parent" strands?

31. The end result of replication is _____

32. Cancer cells do not enter the Go phase (the resting period), what do they do? _____

33. Fill in the chromosomal number for each cellular division if mitosis occurred.

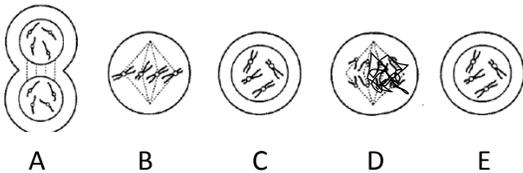


34. How do the daughter cells compare to each other after mitosis? _____

35. How do the daughter cells compare to the original cell after mitosis? _____

36. How many times did the cell divide during mitosis? _____

37. Put the following mitosis phases in the correct order. _____, _____, _____, _____, _____



38. Circle the Answer that describes what is happening in each of the following stages of the cell cycle:

Interphase: DNA is (REPLICATING / UNWINDING / SEPERATING)

Prophase: The (RIBOSOMES / CELL MEMBRANES / CHROMATIN) is condensing into chromosomes and the nucleus is (DISAPPEARING / GETTING BIGGER / DOUBLING)

Metaphase: The chromosomes are migrating to the (TOP / MIDDLE / BOTTOM)

Anaphase: Chromosome get (PULLED APART / PUSHED TOGETHER / DISAPPEAR)

Telophase: The cell starts to (GROW BIGGER / DIVIDE / SHRINK) and the nucleus (REAPPEARS / DISAPPEARS)

Use the image to left to answer questions 39-41

39. Circle the "original" strands in the resulting DNA.

40. How do the 2 new DNA strands compare to each other?

41. What is meant by DNA being a "Semi-Conservative" model?

