Name:_____ Period:_____

DNA, Chromosomes, Karyotypes, and Cell Cycle Review

In the space below, draw a nucleotide and label the phosphate group, the nitrogen-containing base, and the deoxyribose sugar.

Fill in the blank with the word or phrase that best completes the sentence.

2. How many types of nucleotides are present in DNA? _____

3. All nucleotides have two parts that are the same: the deoxyribose sugar and _____. The third part, _____, is different.

4. DNA contains four kinds of nitrohenous bases: _____, _____, _____, _____

5) DNA base pairing results in a molecule that has a uniform width. A sugarphosphate backbone is on the (inside / outside). Circle the best choice

6) The base pairing rules of DNA relate to Chargaff's rules. The base pairing rules state that A only pairs with T and C only pairs with G. Therefore, the amount of A will be _____ the amount of T, and the amount of C will be _____ the amount of G.

a. less than

b. more than

c. equal to

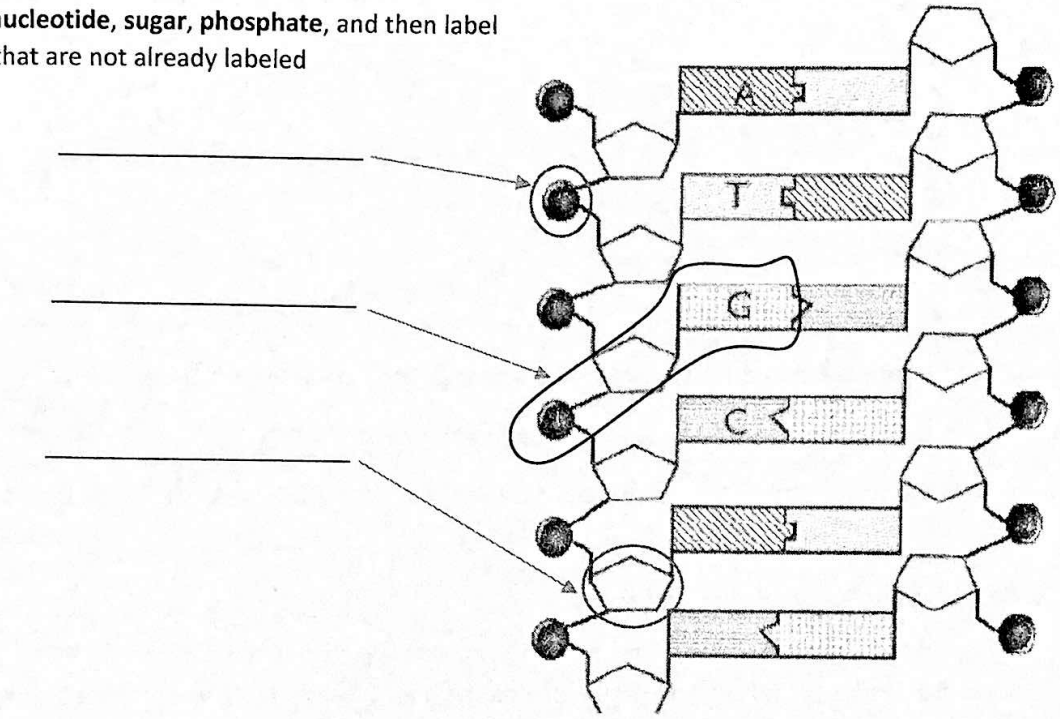
Complete the table to describe each scientist's contribution to solving the structure of DNA

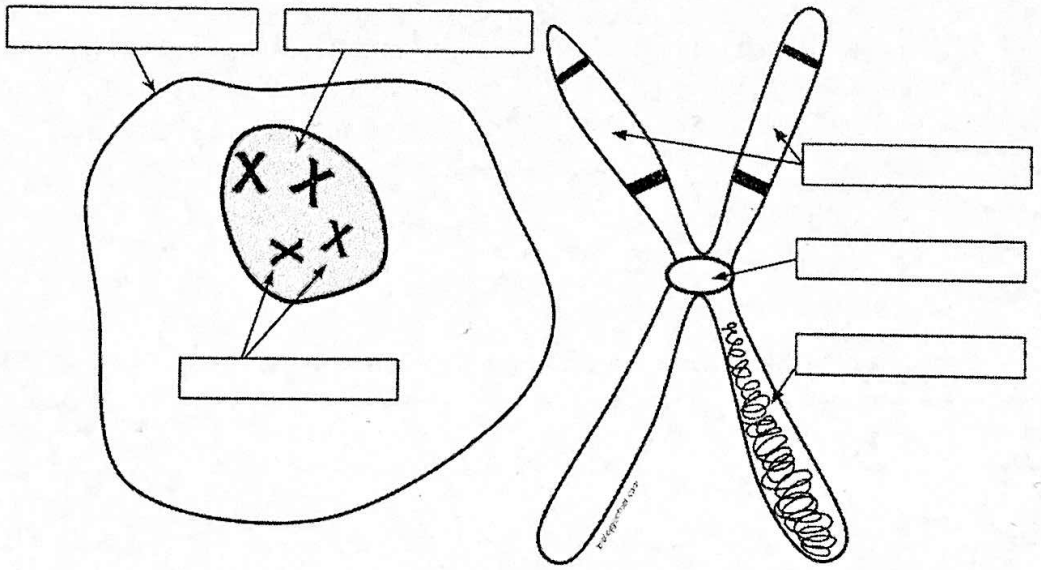
Scientist	Contribution
Rosalind Franklin	

Name:_____ Period:_____

James Watson and Francis Crick	

Label the **nucleotide**, **sugar**, **phosphate**, and then label the **bases** that are not already labeled



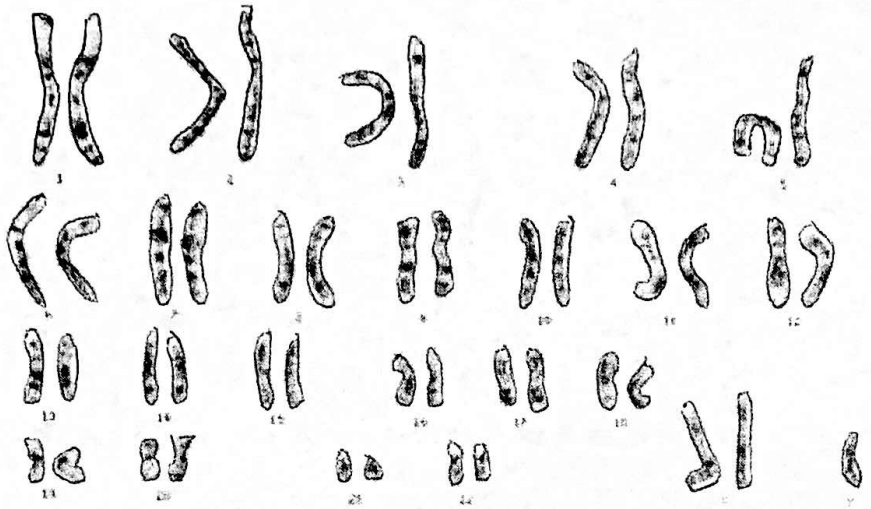


Chromatid
Centromere

Chromosomes
Cell Membrane

DNA
Nucleus

Name:_____ Period:_____



Use the image above to answer the following questions:

What is the picture on the above called?_____

How many total chromosomes do you see? ____

How many total autosomes are there? _____

How many total sex chromosomes are there? _____

Is the organism male or female? _____

Does this person have a genetic disorder? Yes or No

If yes, how do you know?

Directions: Match the description with the part of the cell cycle:

_____1) The chromosomes line up across the middle of the cell.

_____2) The cell grows , matures, and eventually copies its DNA

_____3) The chromatids are pulled apart, to opposite ends of the cell.

_____4) The chromatin forms chromosomes, nuclear membrane goes away.

_____5) The cell membrane pinches in, dividing the cytoplasm into 2 cells.

_____6) A nuclear membrane forms around both sets of chromatids.

A. Interphase

B. Prophase

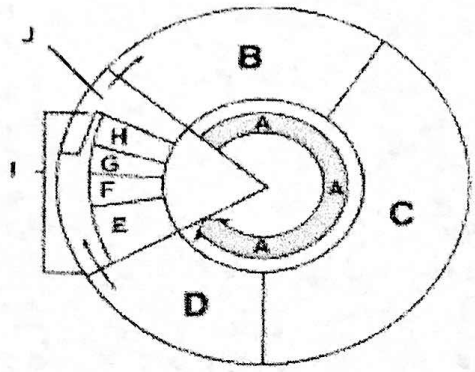
C. Metaphase

D. Anaphase

E. Telophase

F. Cytokinesis

Name:_____ Period:_____



Label the parts of the cell cycle diagram and briefly describe what is occurring.

A	
B	
C	
D	
E	
F	
G	
H	
I	
J	

Vocabulary Words to Study: DNA, Chromosomes, Centromere, Double Helix, Nucleus, Proteins, Genes, Karyotype, Autosomes, Sex Chromosomes, Mutations, Genetic Disorders, Base Pair Rule, Eukaryotic, Chromatin, # of chromosomes, homologous pairs, Haploid, Diploid, Interphase, Mitosis, Prophase, Metaphase, Anaphase, Telophase, Cytokinesis, Cancer

Remember what does and does not cause the cows to have strong muscles!