CONCEPT: CHARGAFF"S RULES

●In the early 1950's, Erwin Chargaff made two important discoveries related to DNA:

1) DNA base composition _____ between different species.

2) For each species, the % of A & _____ bases are roughly *equal*, as are the % of G & _____ bases.

EXAMPLE: Chargaff's Data.

DNA Composition in Different Species

Species	% Compostion			
	A	T	G	C
Homo sapiens (human)	31.0	31.5	19.1	18.4
Drosophila melanogaster (fruit fly)	27.3	27.6	22.5	22.5
Zea mays (corn)	25.6	25.3	24.5	24.6
Neurospora crassa (fungus)	23.0	23.3	27.1	26.6
Escherichia coli (bacteria)	24.6	24.3	25.5	25.6

*The percentages are not exactly the same because of limitations in Chargaff's techniques.

PRACTICE: Cytosine (C) makes up 42% of the nucleotides in a sample of DNA from an organism. Approximately what percentage of the nucleotides in this sample will be thymine (T)?

a) 8%.
b) 16%.
c) 21%.
d) 60%.

PRACTICE: Thymine (T) makes up 28% of the nucleotides in a sample of DNA from an organism. Approximately what percentage of the nucleotides in this sample will be guanine (G)?

a) 14%.
b) 56%.
c) 22%.
d) 72%.