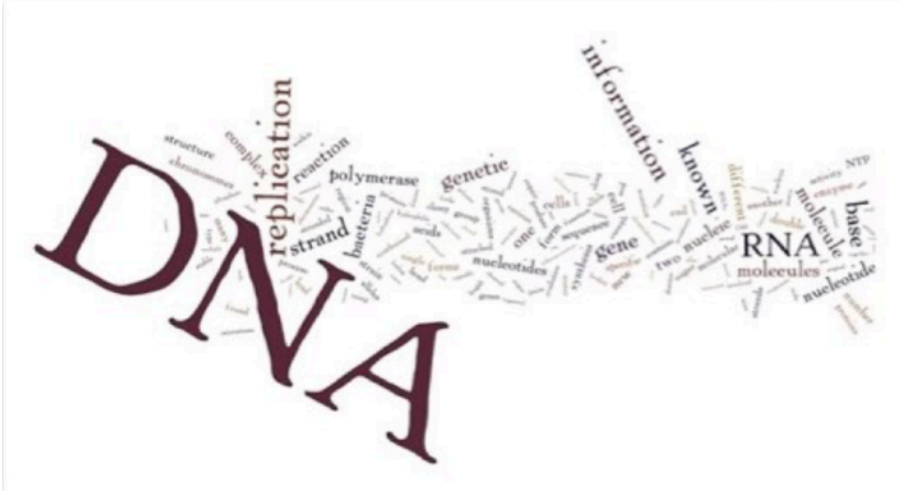
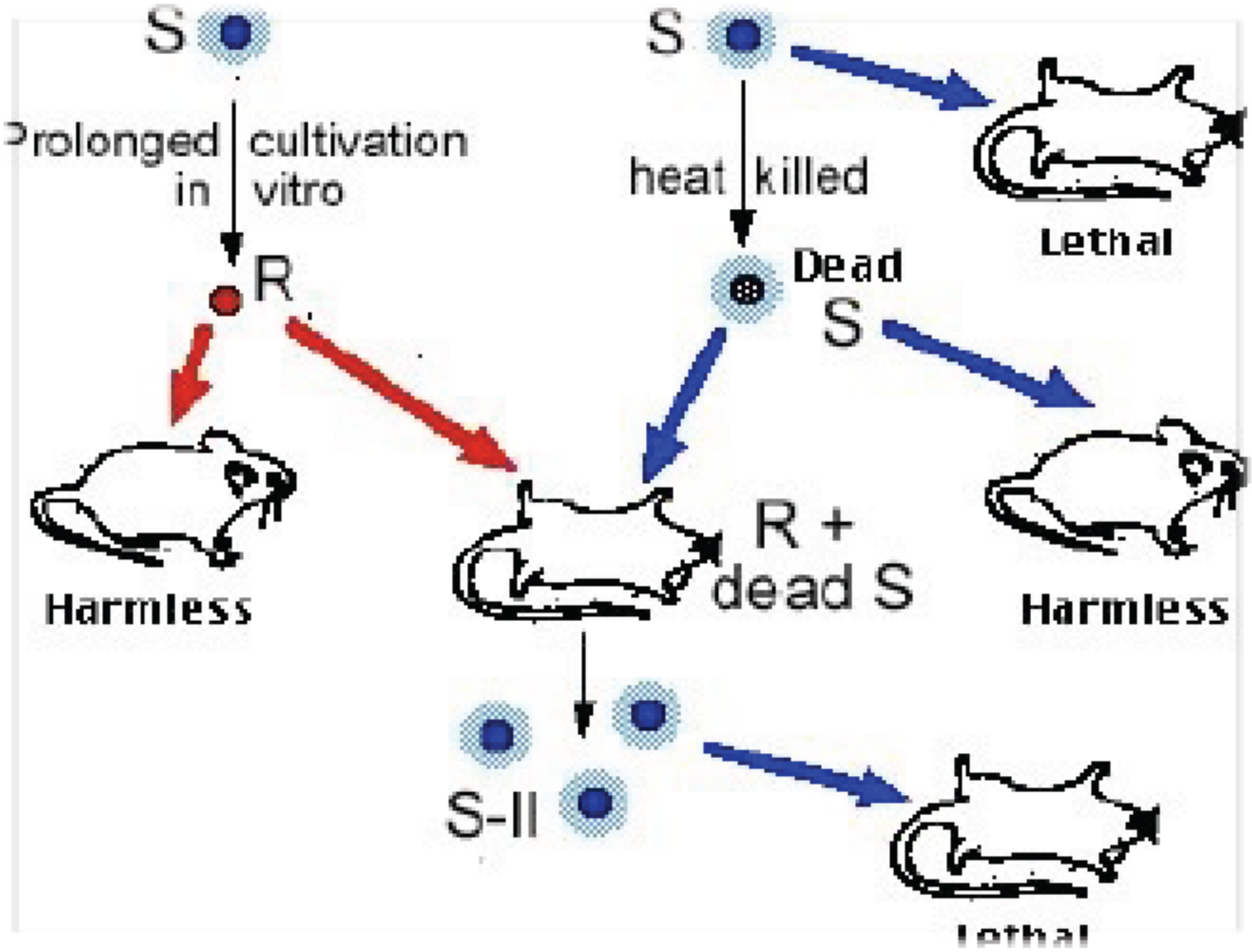
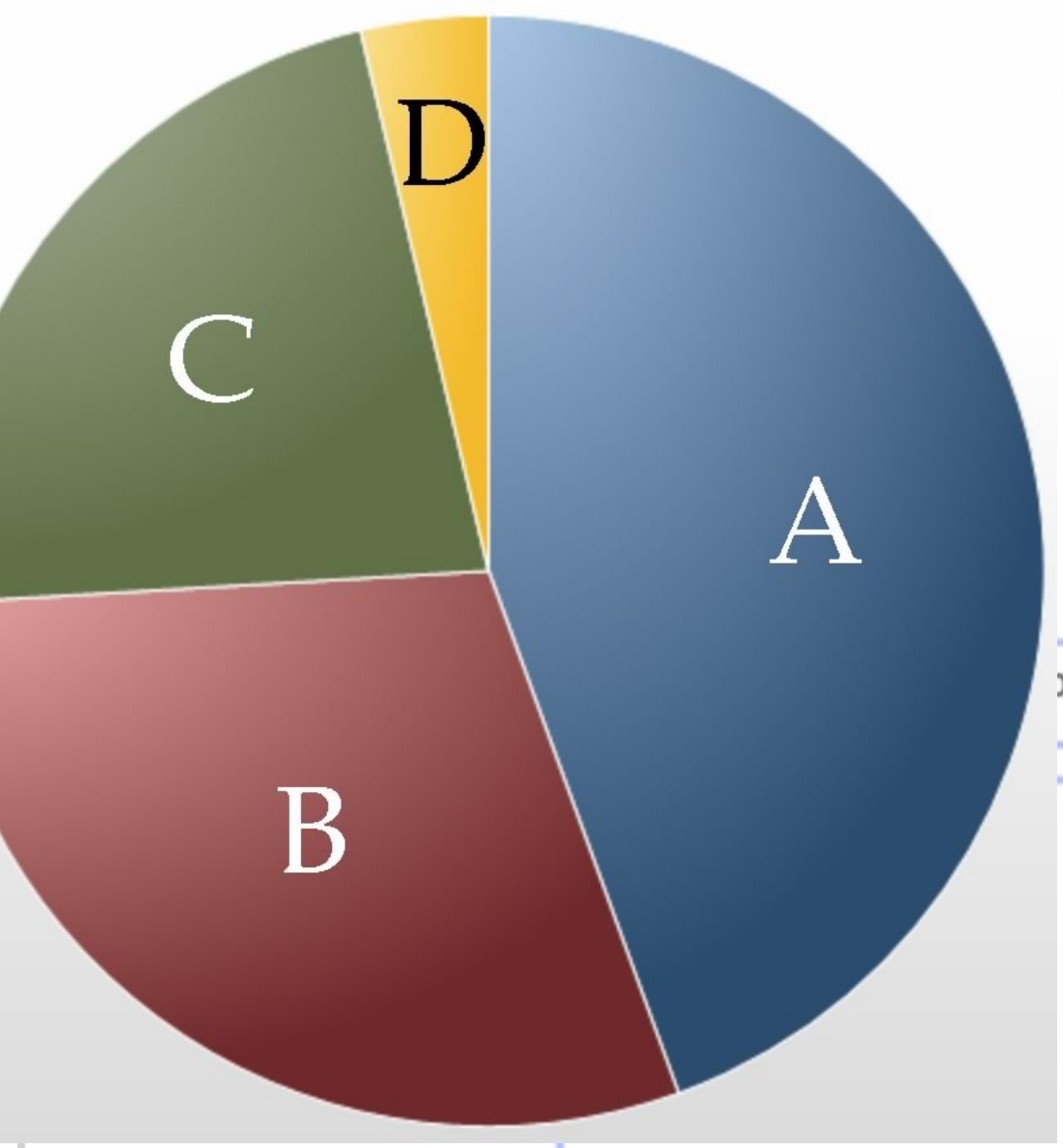


Chapter 7.2 pp. 158-162


S
Prolonged in cultivation vitro
R
Harmless
S
heat killed
Dead S
Lethal
R + dead S
Harmless
S-II
Lethal

In Griffith's transformation experiment, what was the negative control?



A. injection of dead S bacteria alone

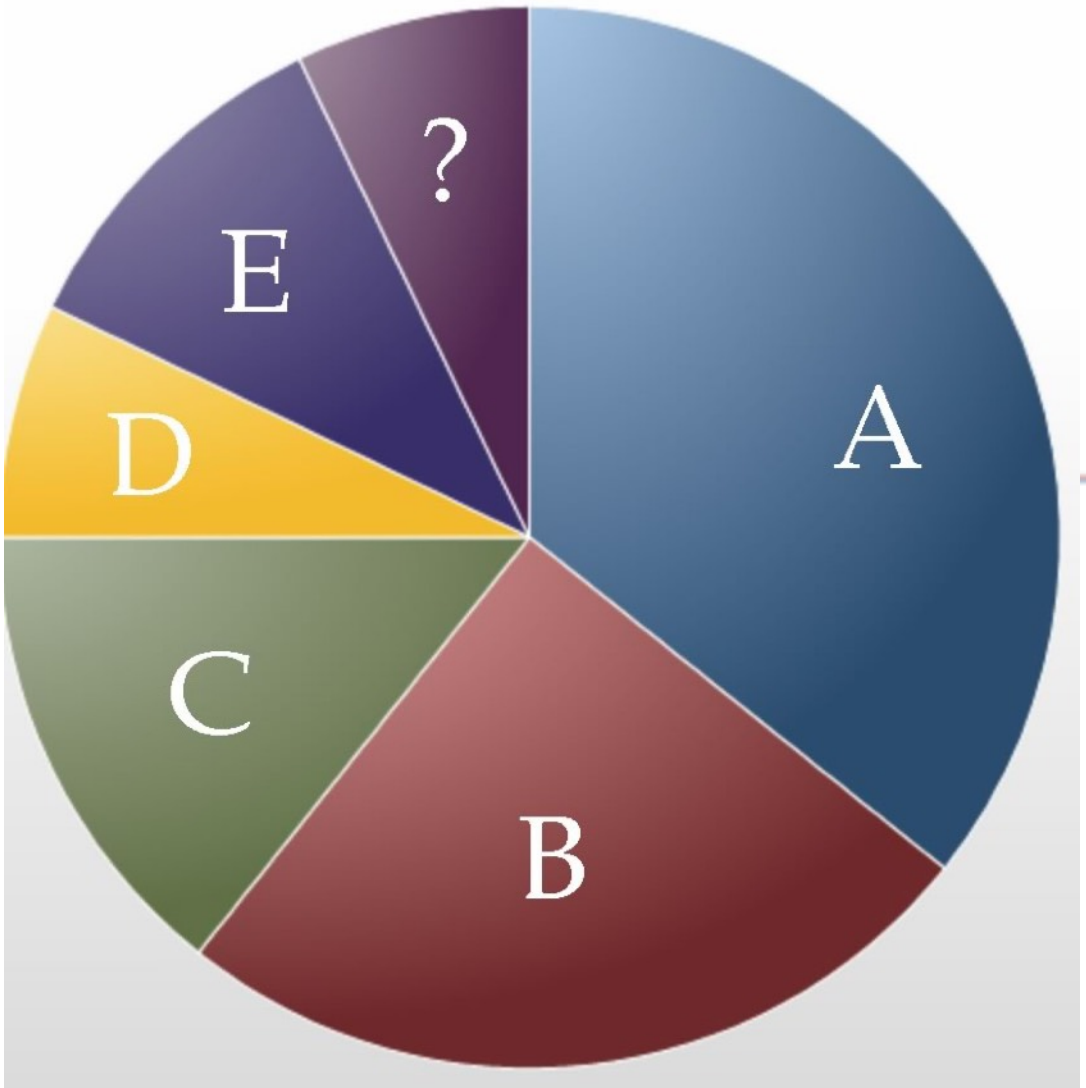
B. injection of living R bacteria alone

C. injection of dead R + dead S bacteria

D. injection of living R + living S bacteria

ositive control for Griffith's studies?

Predict the relative frequency of the mutation(s) responsible for S to R strain conversion.



a. S to R is much more common

b. R to S is much more common

c. S to R and R to S are equally common

d. R cannot possibly revert to S

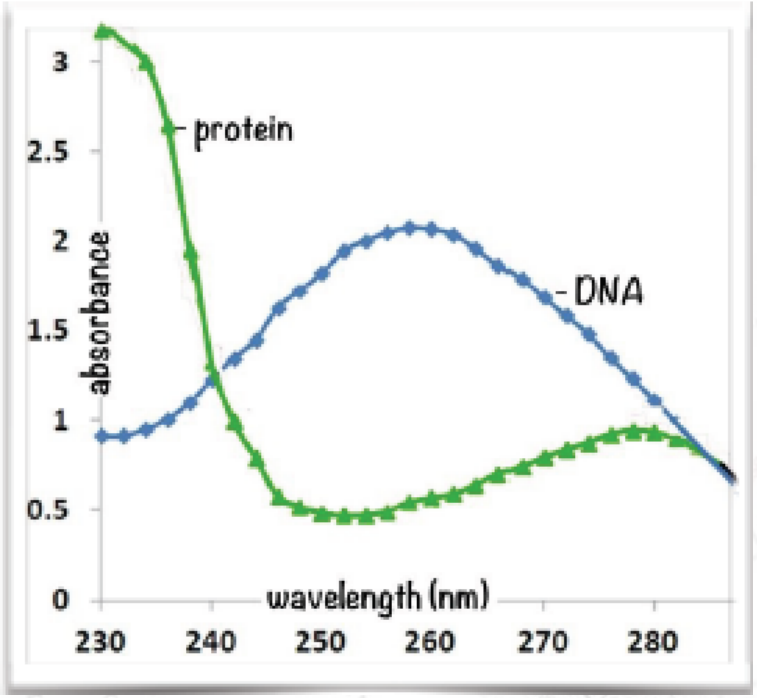
e. impossible to predict

How did Avery et al come to the conclusion that the "transforming substance" was a nucleic acid?

hydrolytic enzymes

proteases
nucleases
lipases

spectroscopy



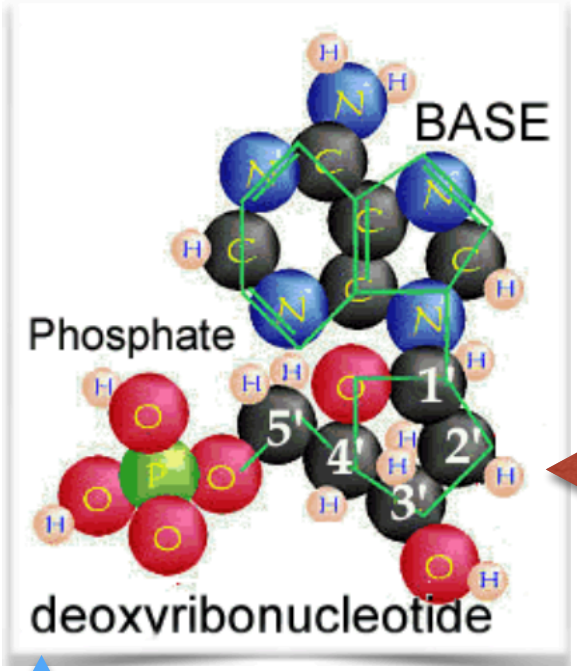
Questions to answer:

Would DNA from an unrelated species of bacteria give the same result?

other questions?

What is a polymer?

Draw out a generic polymer reaction…



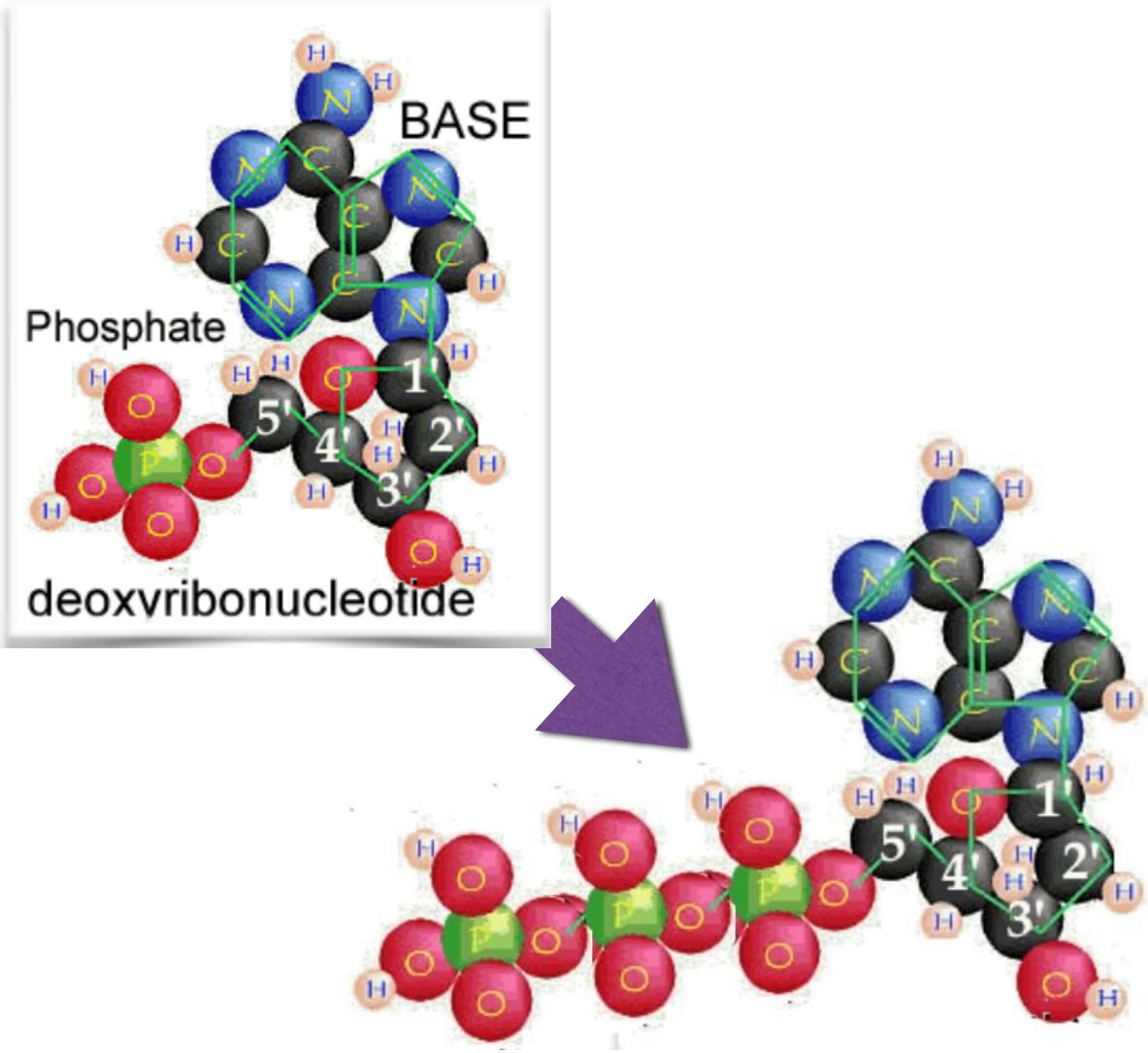
-OH group in RNA
(ribonucleotide)

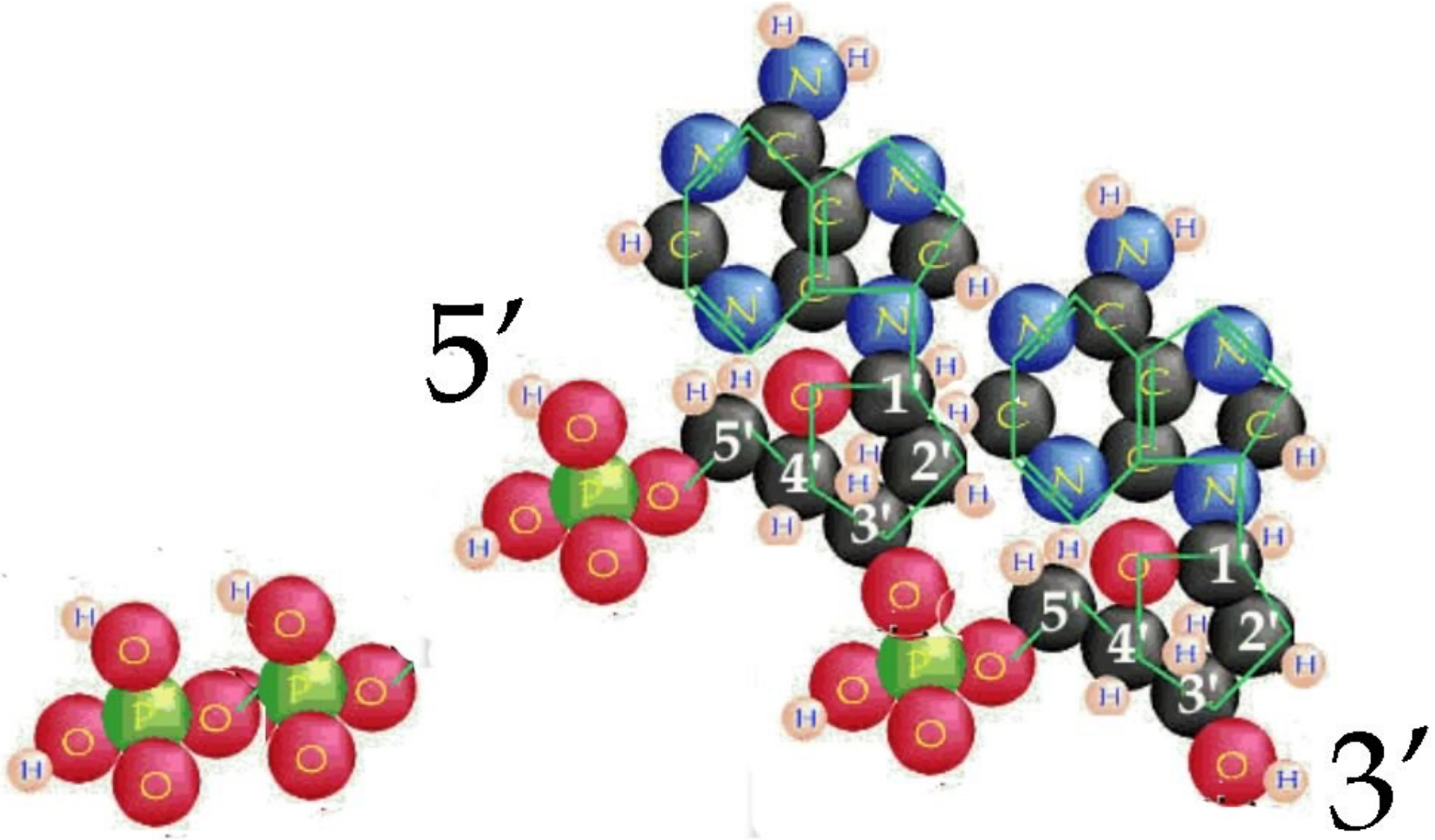
mono- di- or tri- phosphate

What is a polymer?

Draw out a generic polymer reaction…

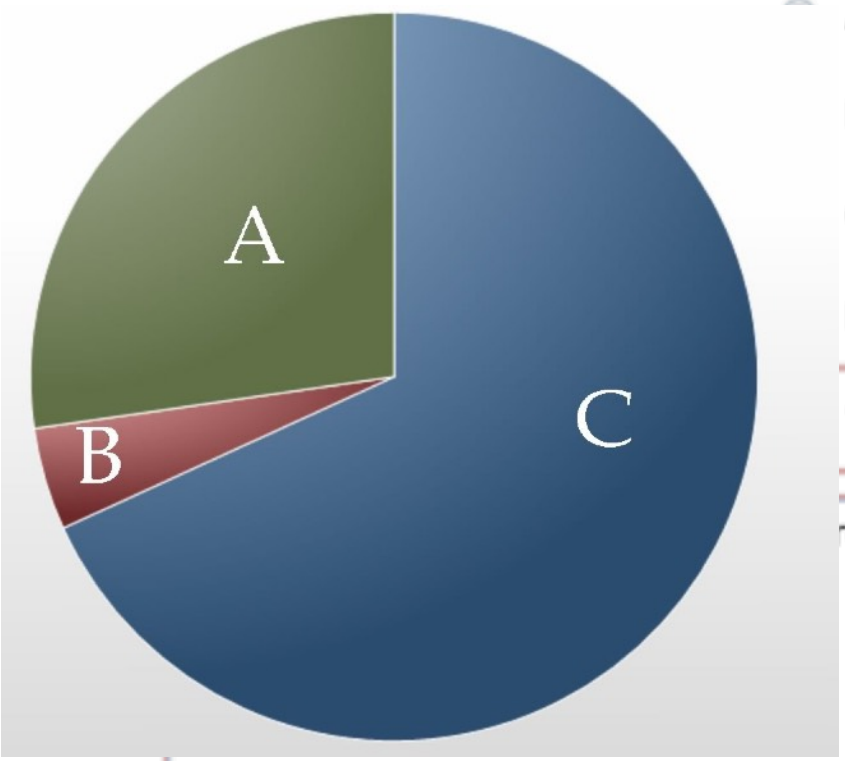
nucleic acid polymers: monomer interactions




5′
3′
+H2O

Chapter 7.2 read 158-162 first

According to Chargaff's rules about the base composition of double-stranded DNA, which is always true ?



A. the percentage of A = percentage of T

B. the percentage of A = percentage of G

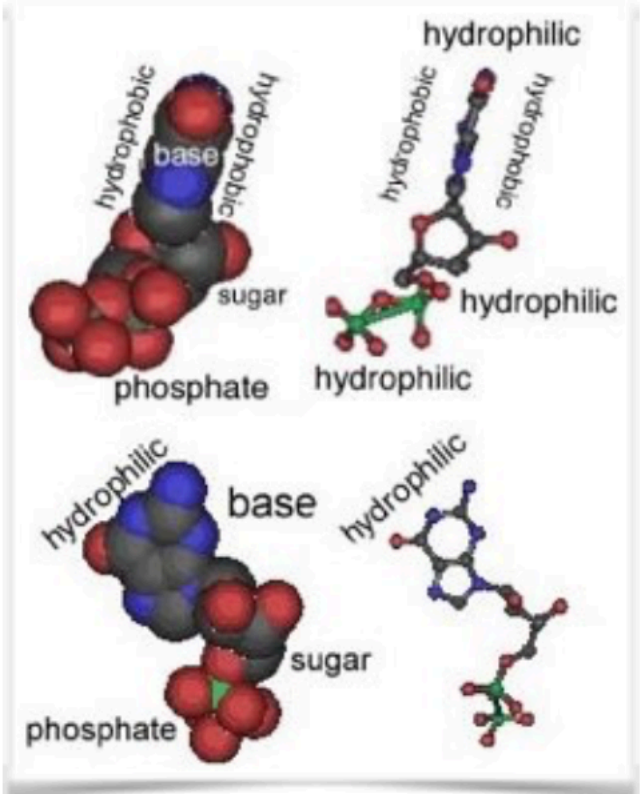
C. the percentage of A + T = percentage of G + C

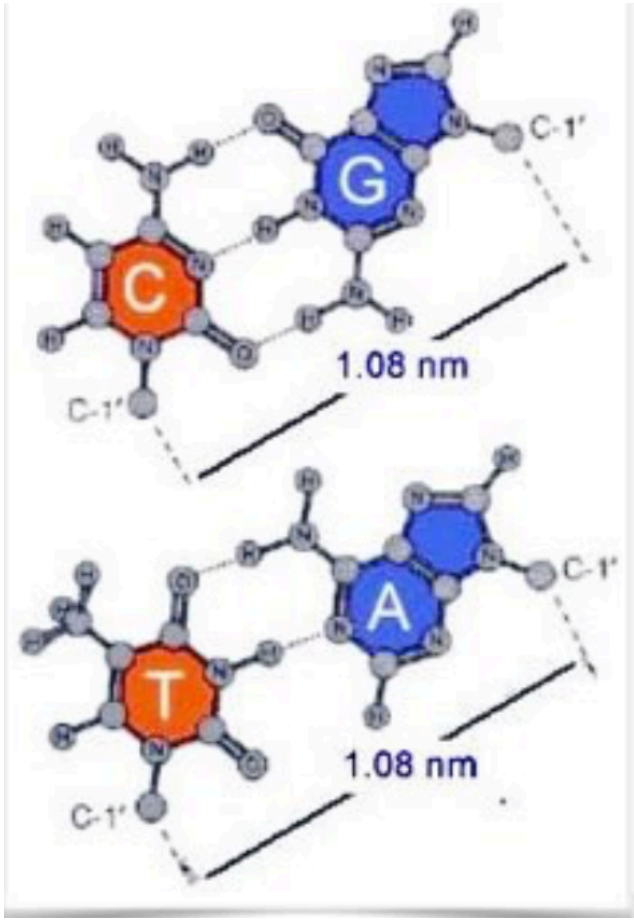
D. no idea

are (must be) incorrect

re always equal to 1.

nucleic acid polymers: monomer interactions

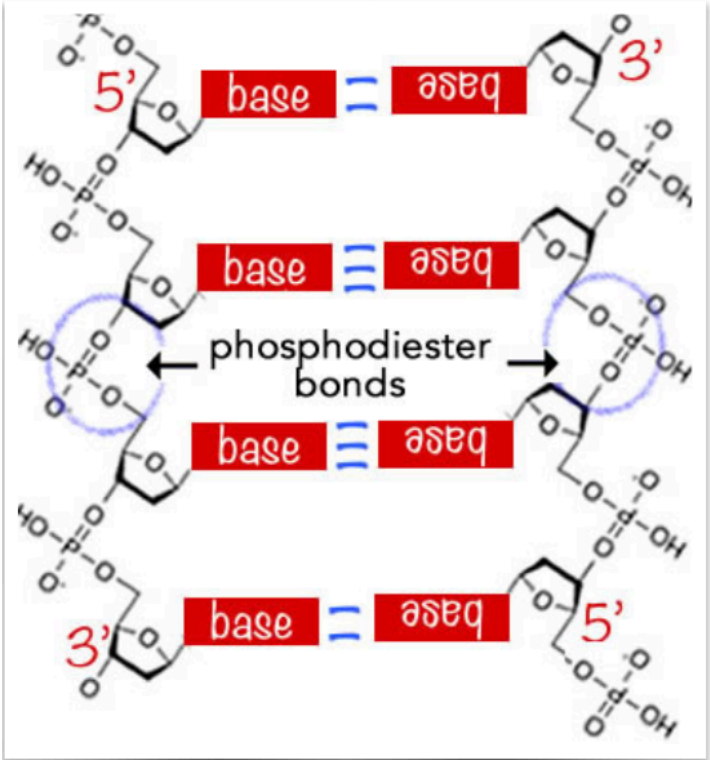


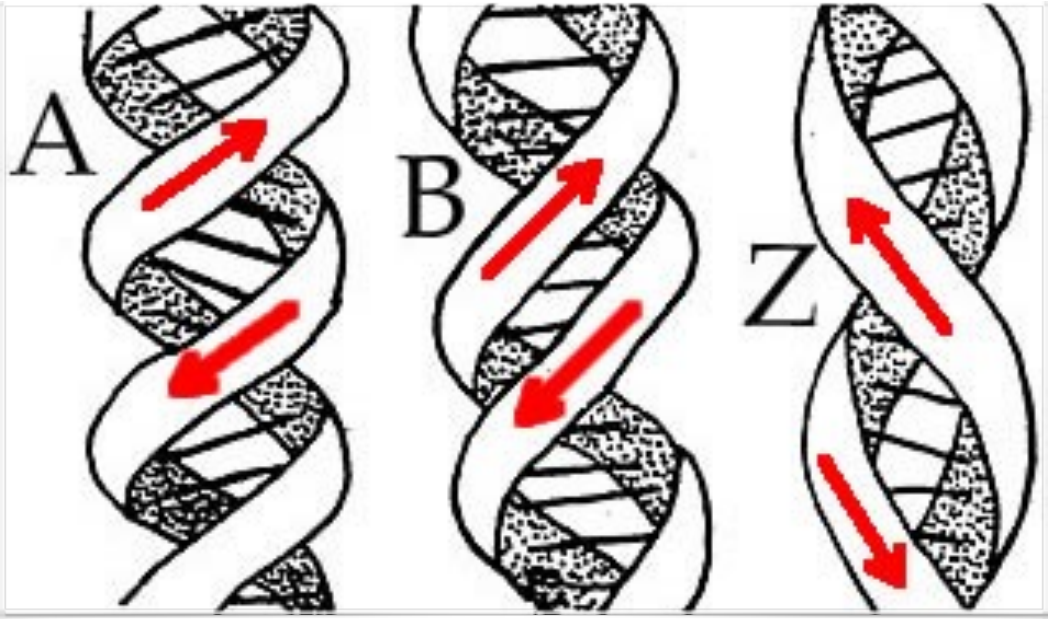


Questions to answer: How is a DNA molecule analogous to a lipid bilayer? how is it different?

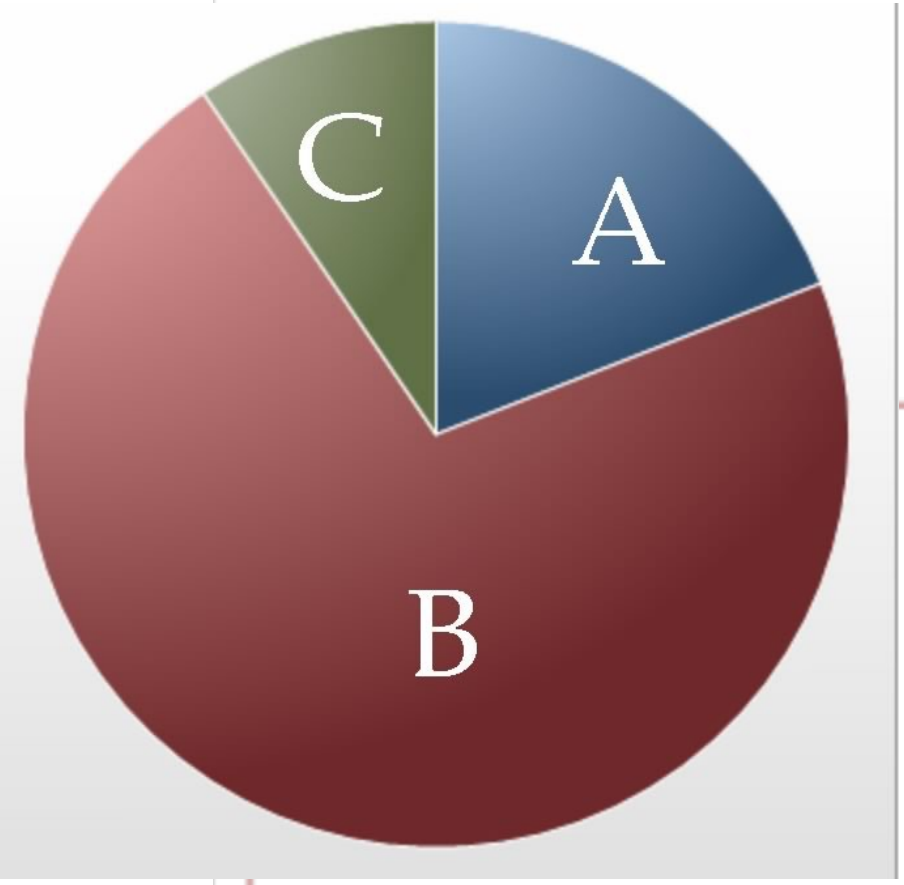
Draw a model of a double stranded DNA molecular and indicate the polarity of the two strands.

Draw | Adjust | Erase | ✕Reset


5'
3'
base
base
base
base
base
base
base
base
phosphodiester
bonds
3'
5'


A
B
Z

What makes DNA a good place to store information?

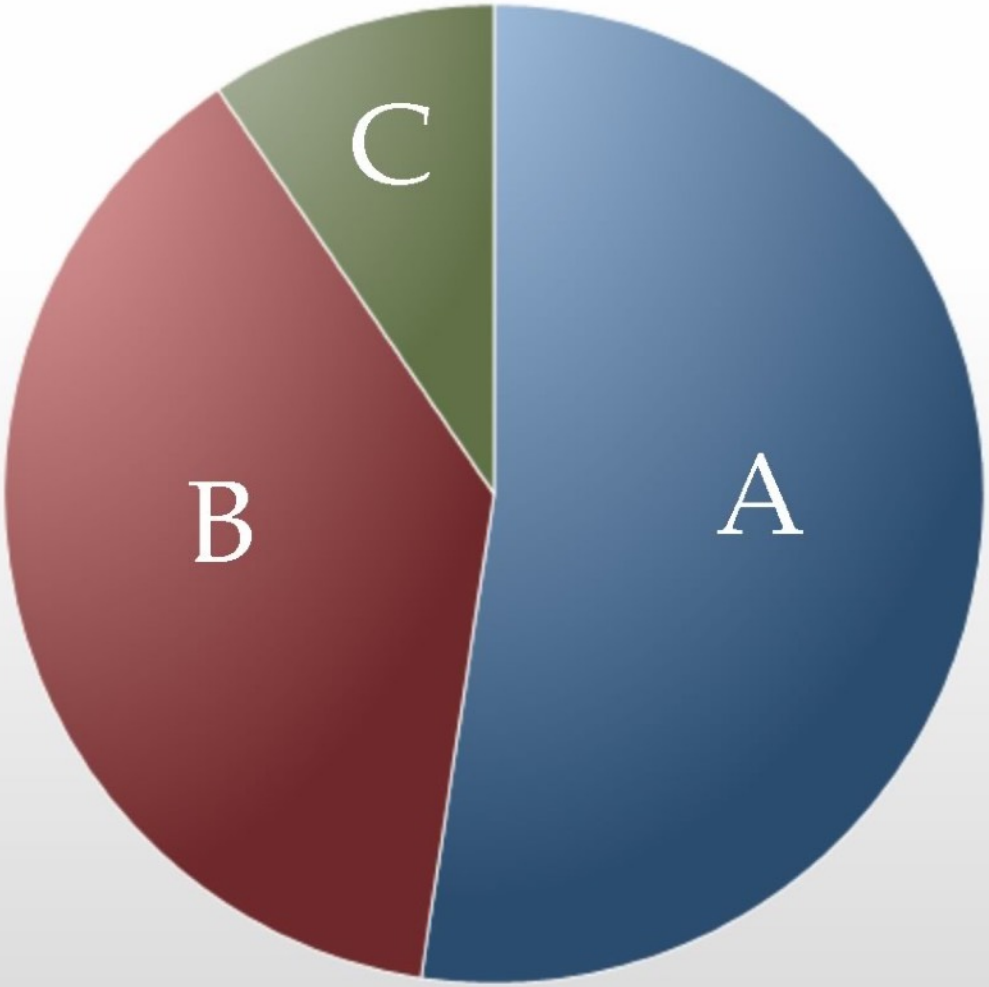


A. The hydrogen bonds that hold it together are very stable and difficult to break.

B. The sequence of bases does not greatly influence the structure of the molecule.

C. The overall shape of the molecule reflects the information stored in it.

What is it about nucleic acids that makes copying genetic information straightforward?



A. The binding of bases to one another is specific.

B. The sequence of bases encodes information.

C. The three dimensional shape of the molecule encodes information

no idea

Here is a short stretch of one strand (listed 5' to 3') of a double-stranded DNA molecule, what is the nucleotide sequence of the other strand (and please label the ends of that stand).

A A T G C C T T T A G G G G C C

- sorry, not enough information to answer the question

Which of the two DNA molecules (only one strand shown of each) would melt (separate) at the higher temperature.

- A A T G C C T T T A G G A G C C
- G G C G G A G A C G G T A G G A
- sorry, not enough information to answe

explain your thinking