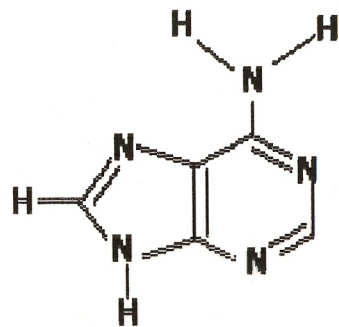
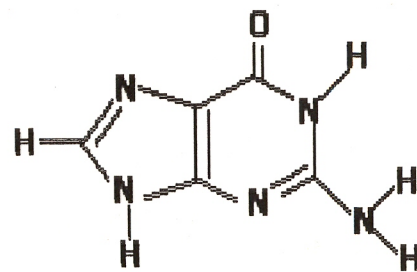


Figure 11.7 Base Pairing in DNA Is Complementary (Part 1)

Purines

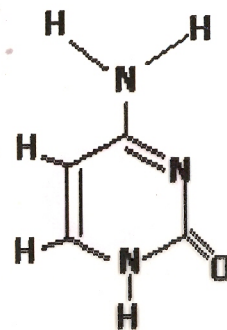


Adenine

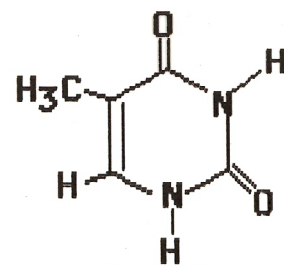


Guanine

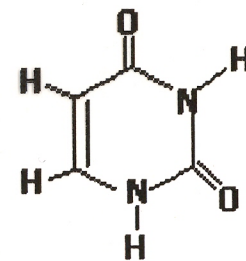
Pyrimidines



Cytosine

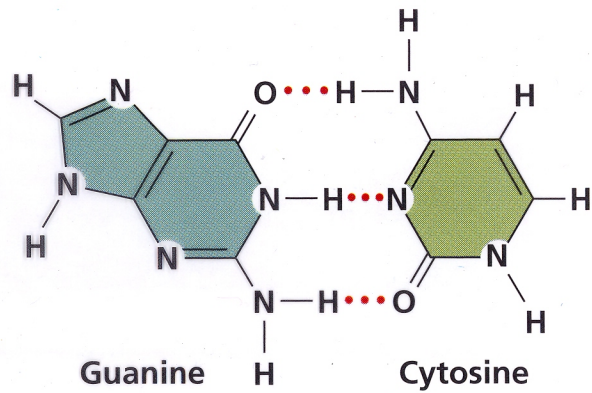


Thymine

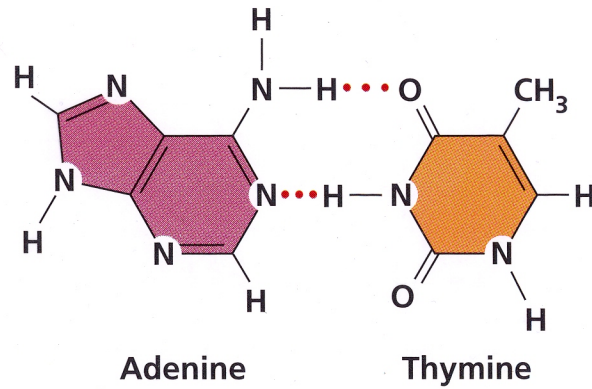


Uracil

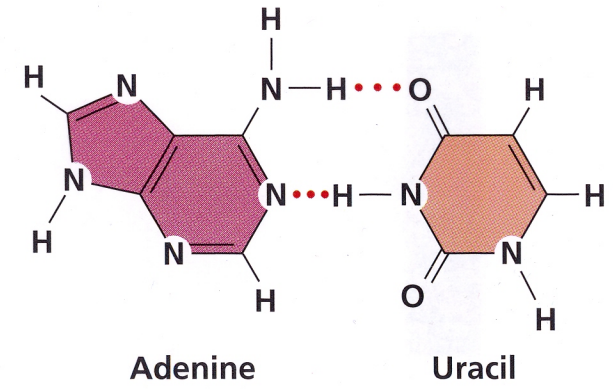
Figure 7.1a-c: The structure of nucleic acids



(a) G-C base pair (DNA and RNA)

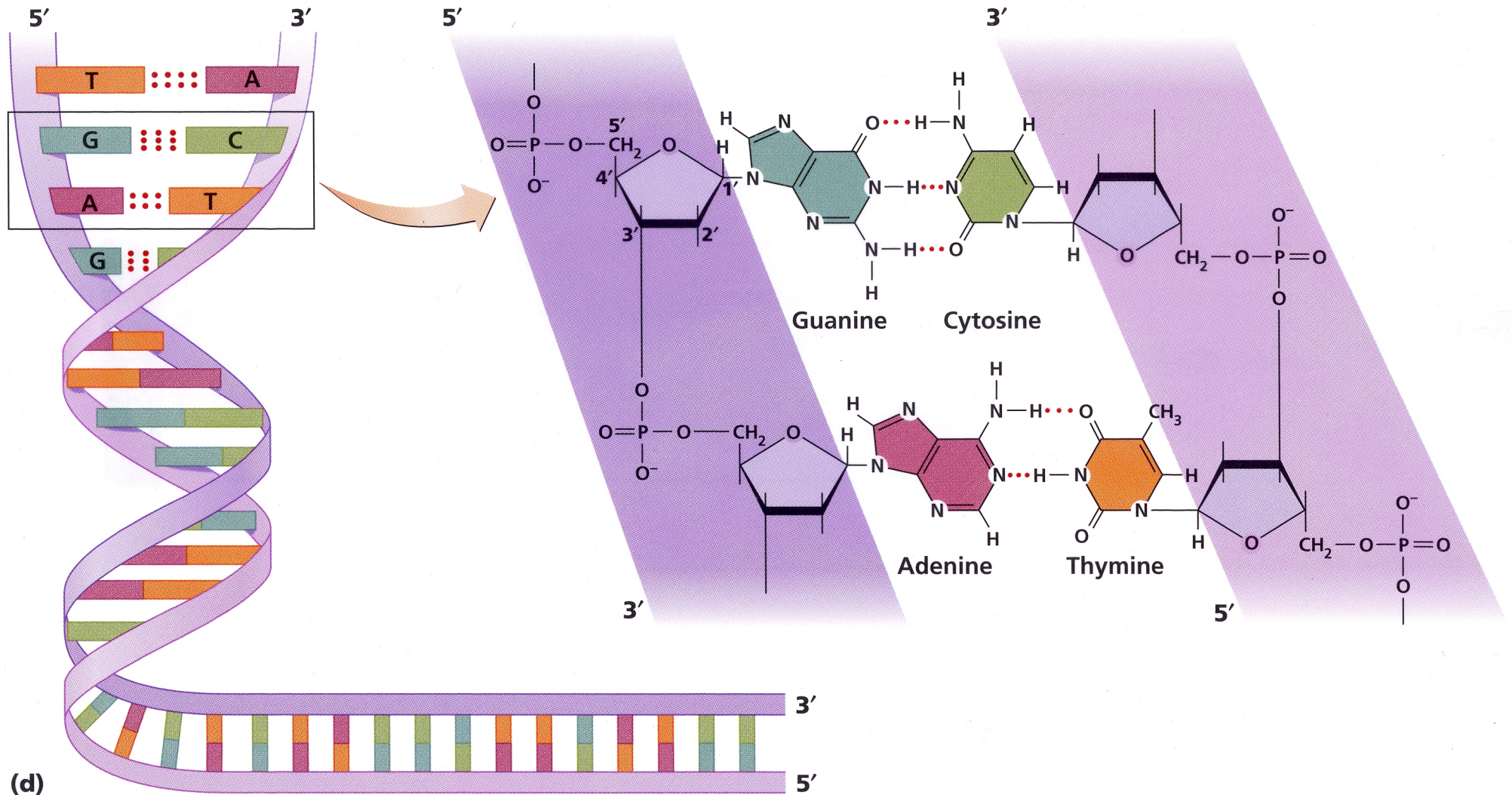


(b) A-T base pair (DNA)



(c) A-U base pair (RNA)

Figure 7.1d: The structure of nucleic acids



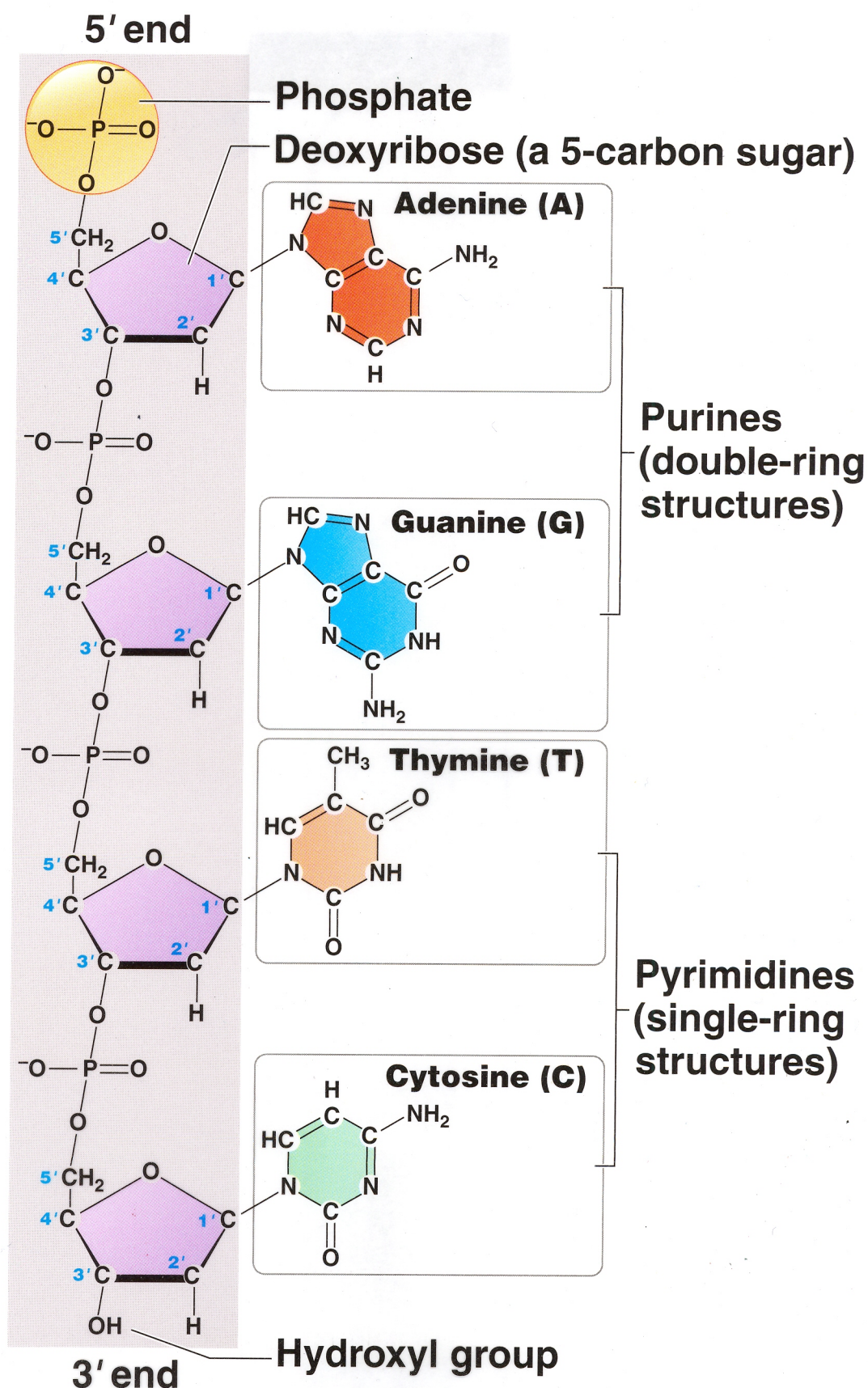


Fig. 14.4 The four nucleotide subunits of DNA, linked into a polynucleotide chain

5' end

3' end

Strand continues

Strand continues

5'-to-3' direction

5'-to-3' direction

From Part 1

Strand continues

Strand continues

3' end

5' end

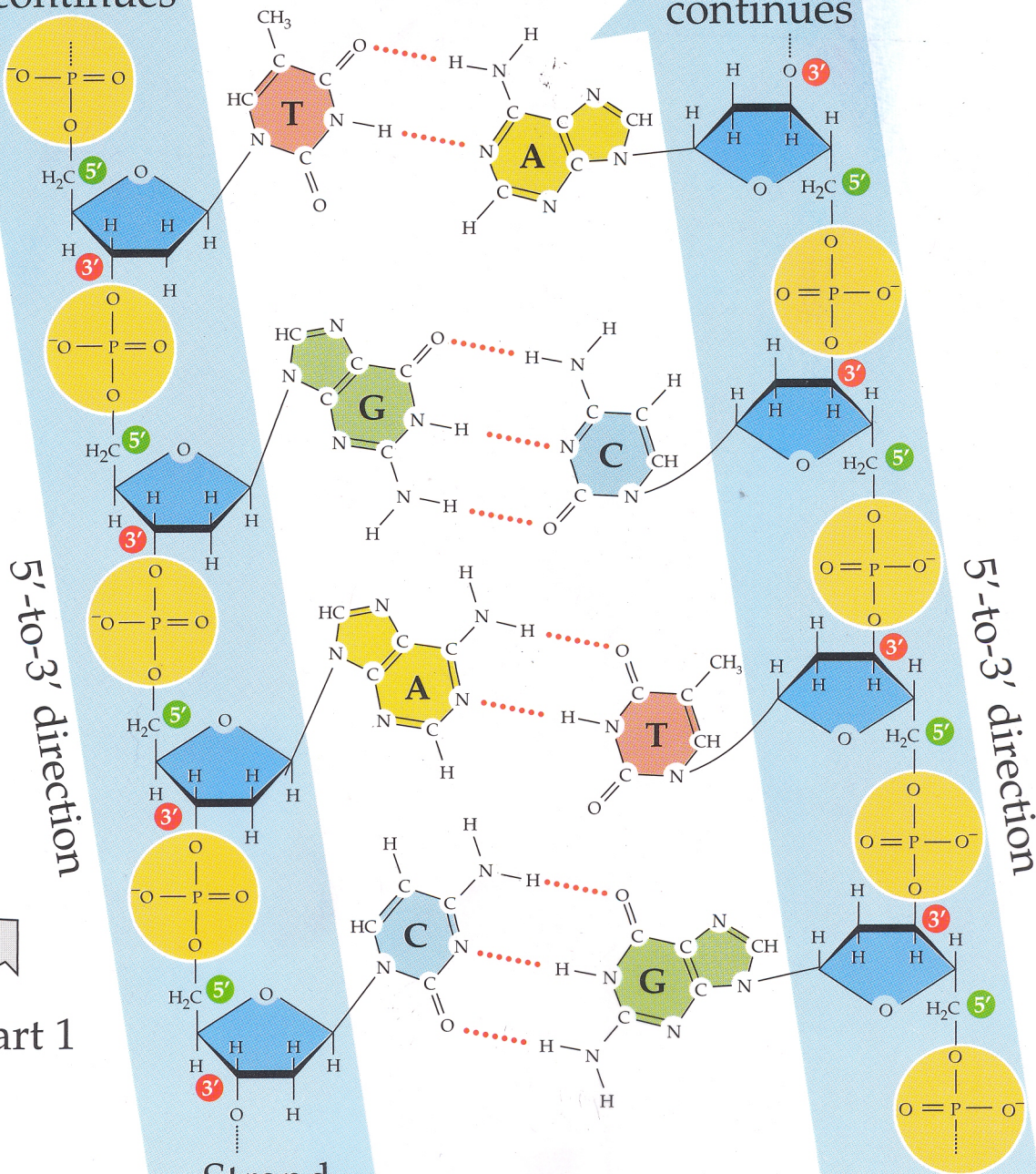
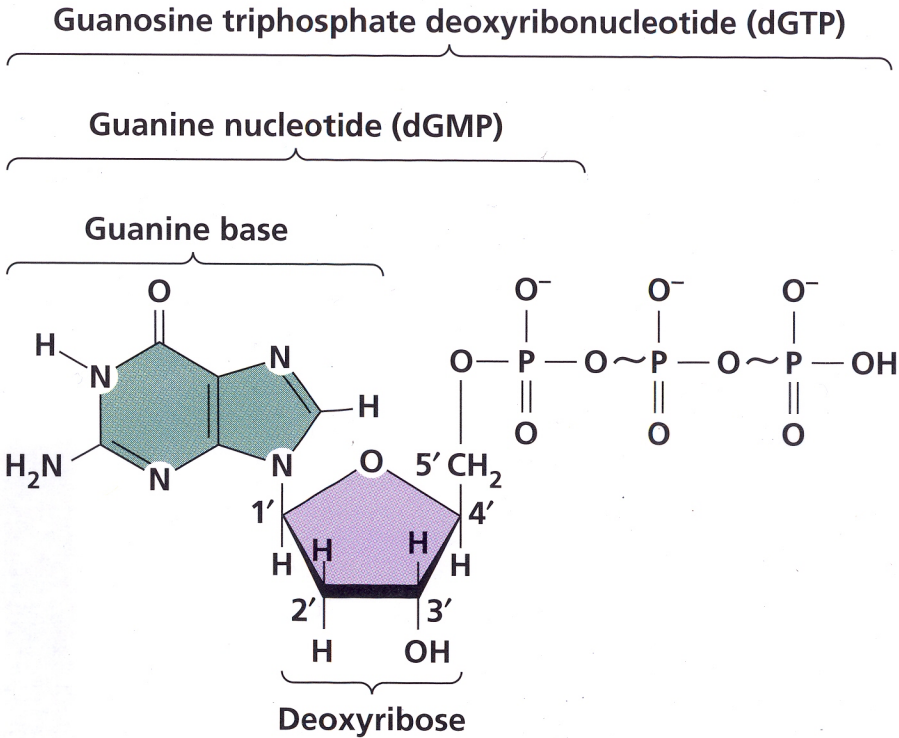
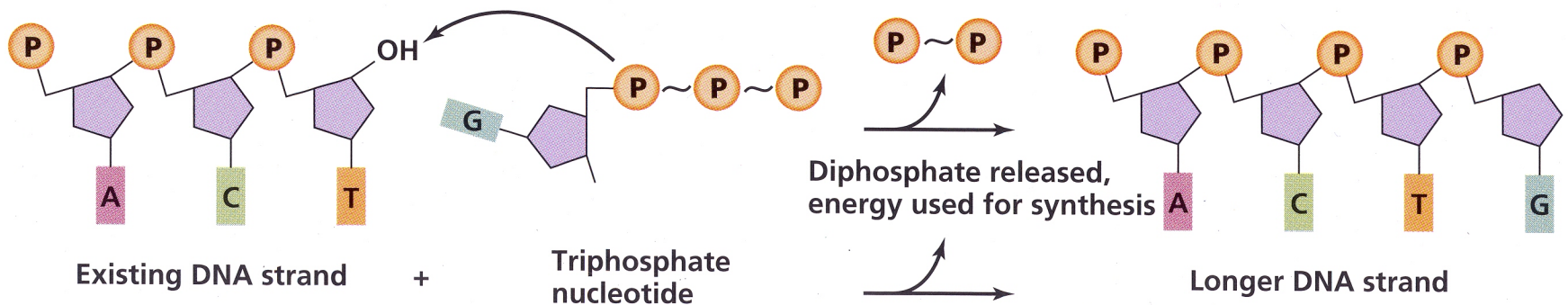


Figure 11.7 Base Pairing in DNA Is Complementary (Part 2)

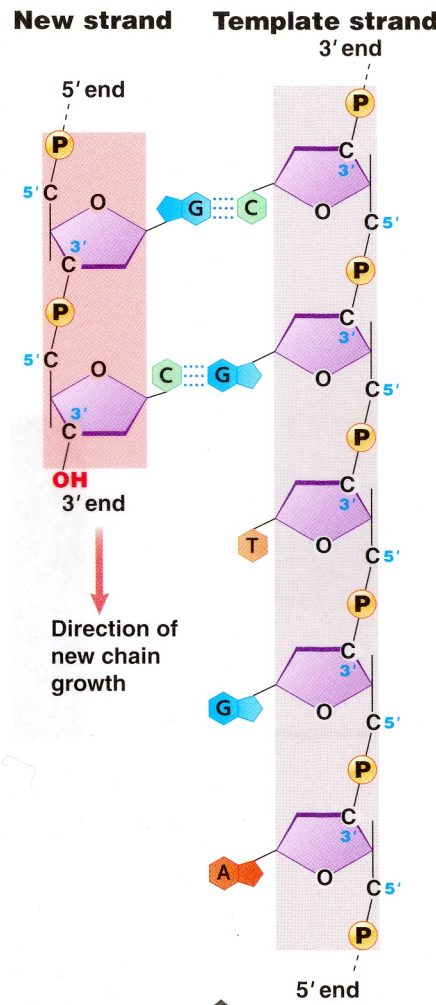
Figure 7.4: Triphosphate deoxyribonucleotides as building blocks and energy sources in DNA synthesis



(a)

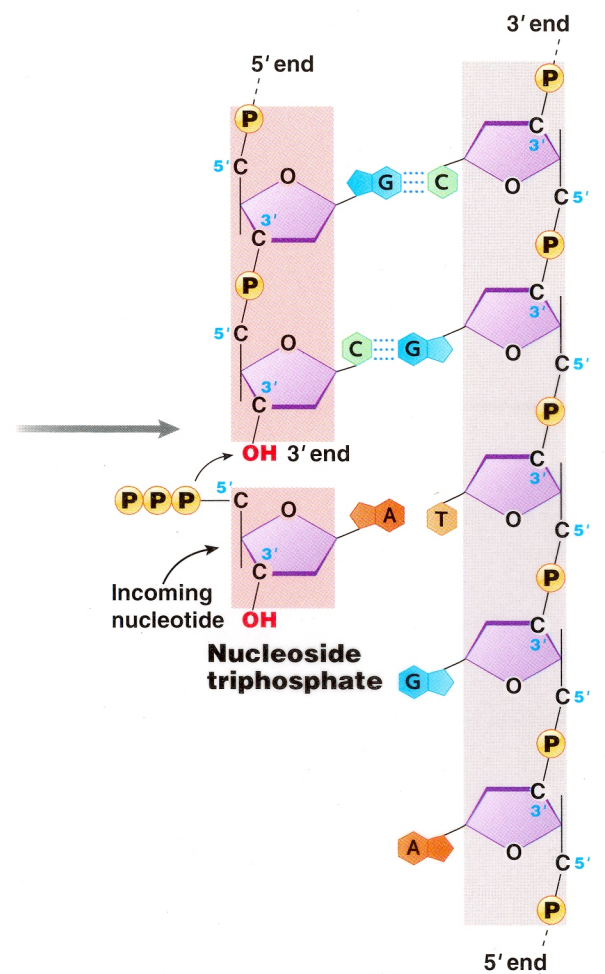


(b)



1 The template strand with two nucleotides of the new strand assembled.

Fig. 14.10 Reactions assembling a complementary chain in the 5'→3' direction on a template DNA strand, showing the phosphodiester linkage created when the DNA polymerase enzyme adds each nucleotide to the chain (Layer 1)



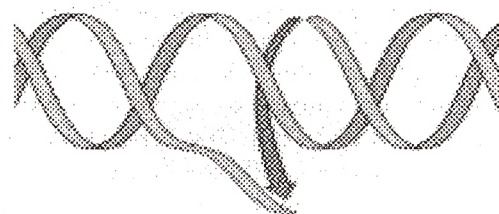
2 A nucleoside triphosphate with an A base forms a complementary base pair with the next nucleotide of the template strand.

Fig. 14.10 Reactions assembling a complementary chain in the 5'→3' direction on a template DNA strand, showing the phosphodiester linkage created when the DNA polymerase enzyme adds each nucleotide to the chain (Layer 2)

break opened

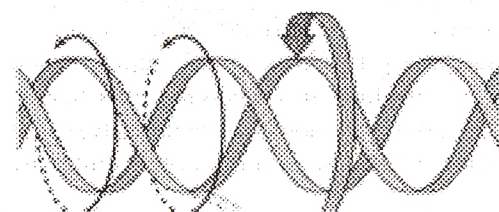


a



b

break sealed



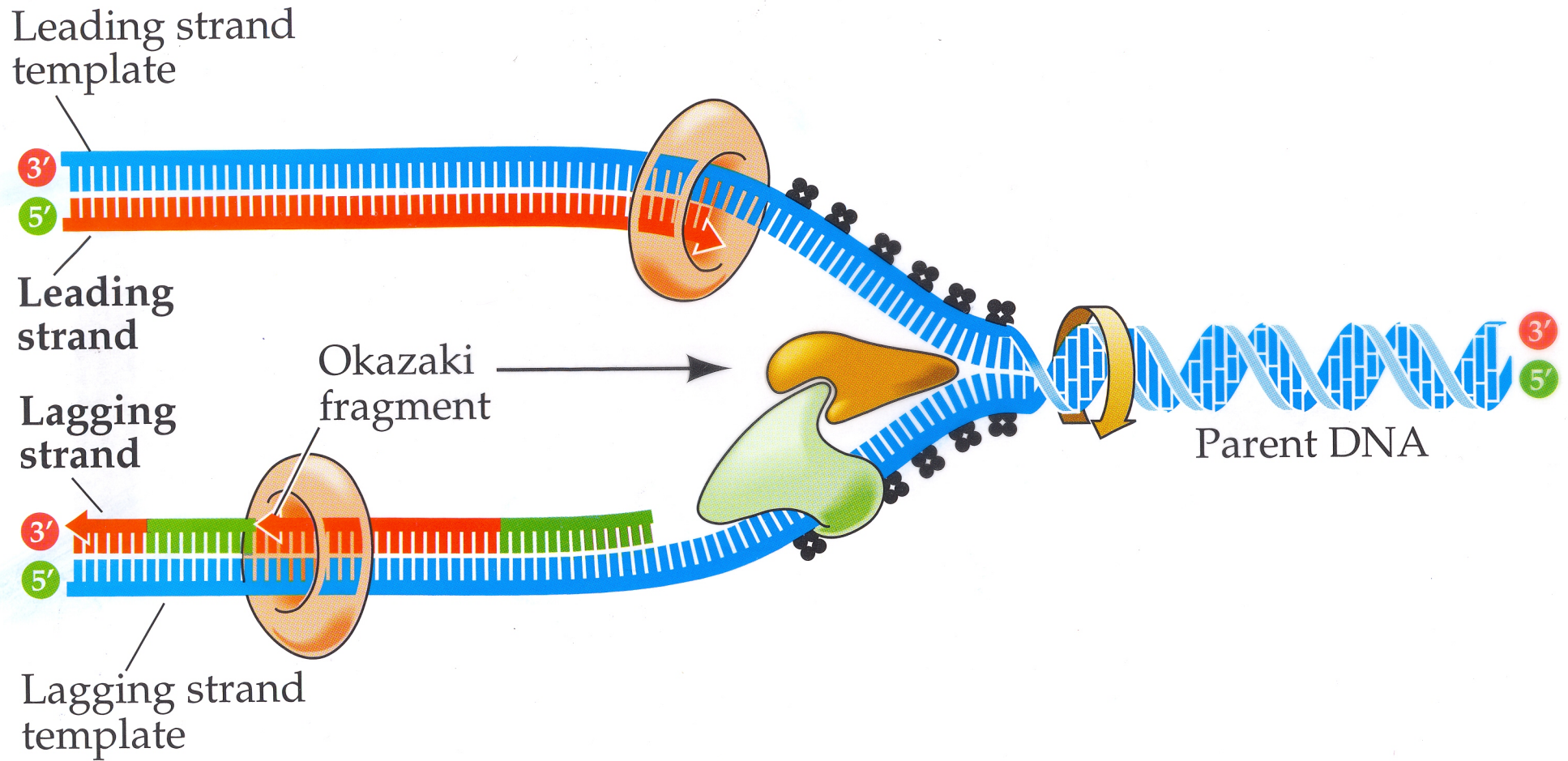


Figure 11.16 Many Proteins Collaborate at the Replication Fork

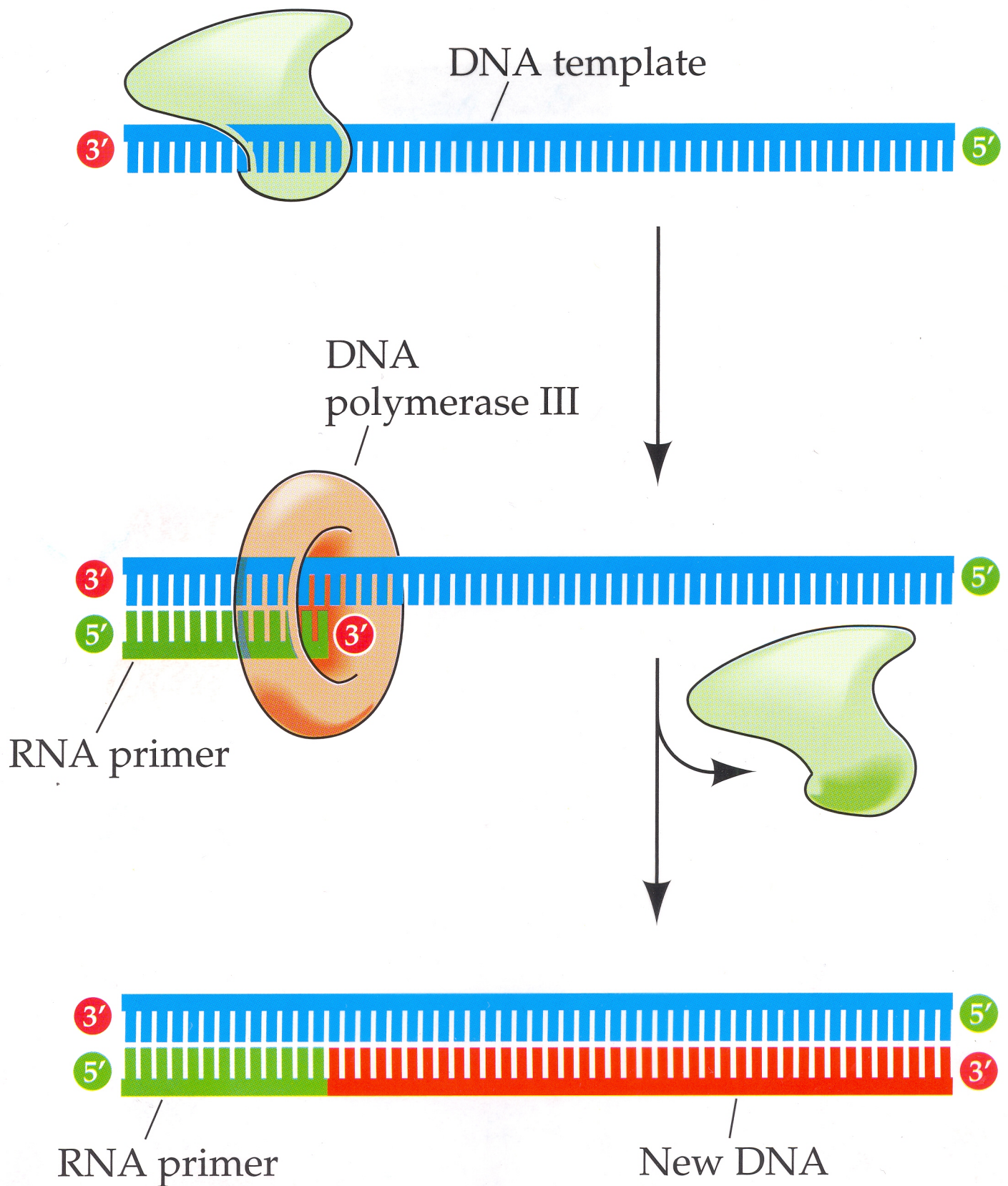


Figure 11.15 No DNA Forms without a Primer

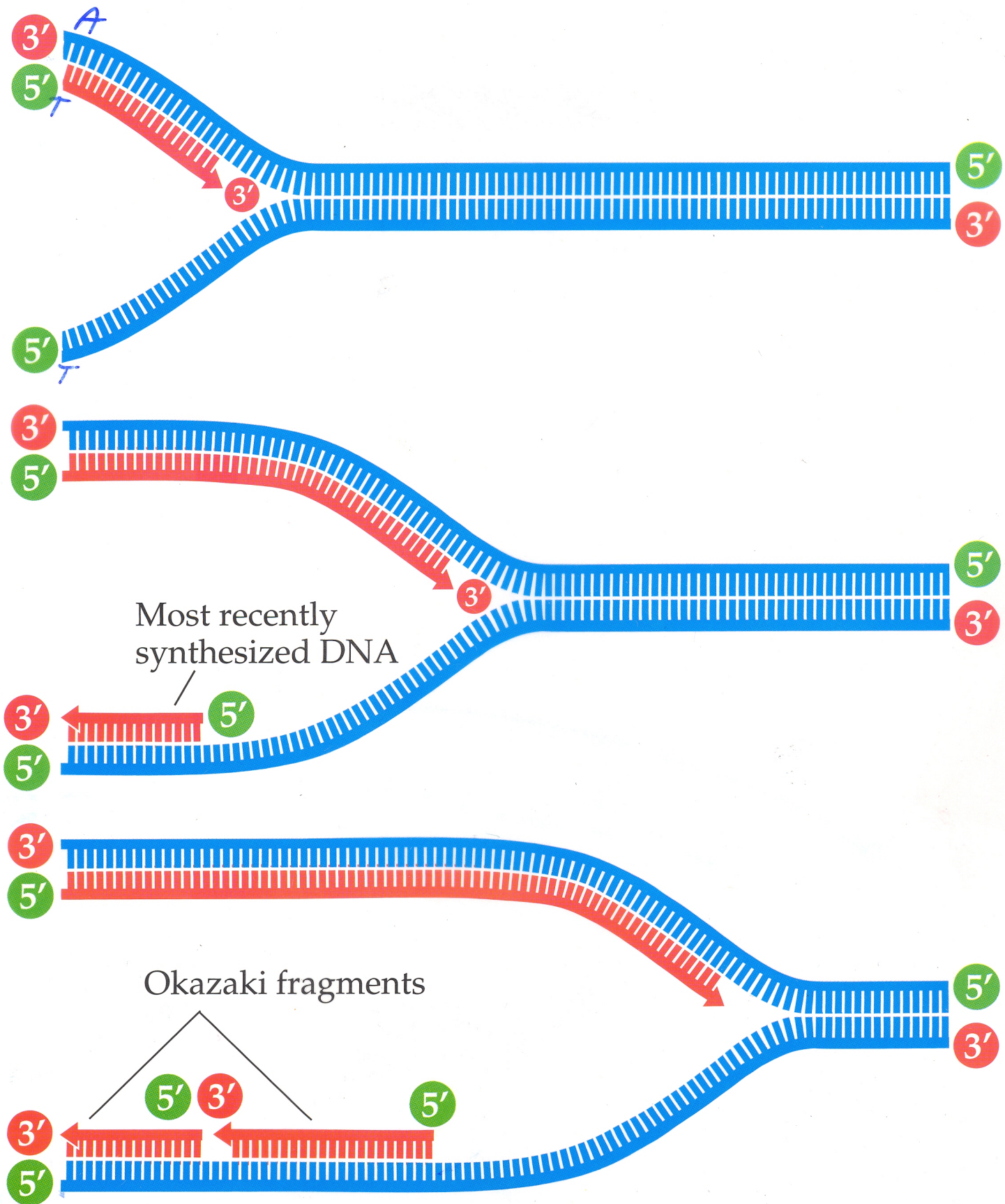


Figure 11.17 The Two Daughter Strands Form in Different Ways

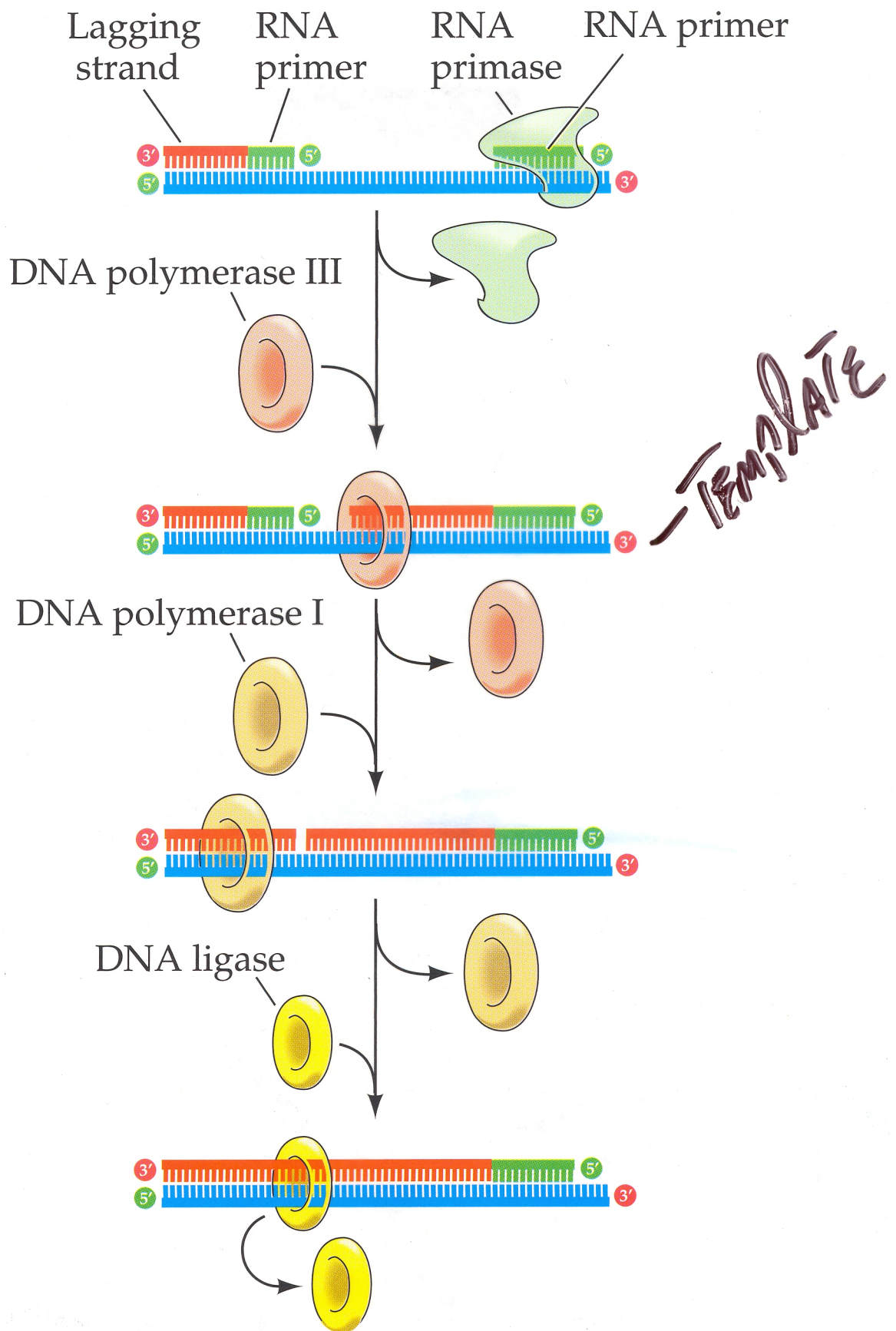
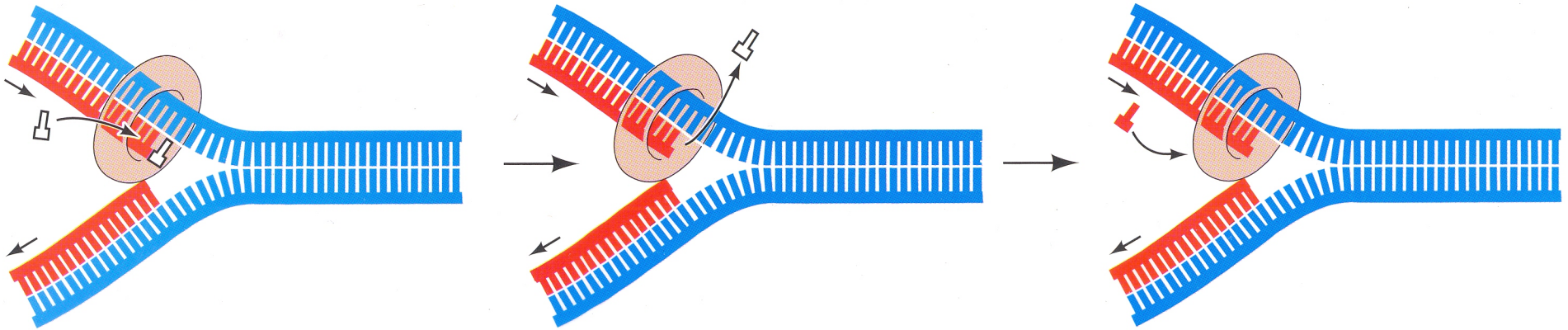
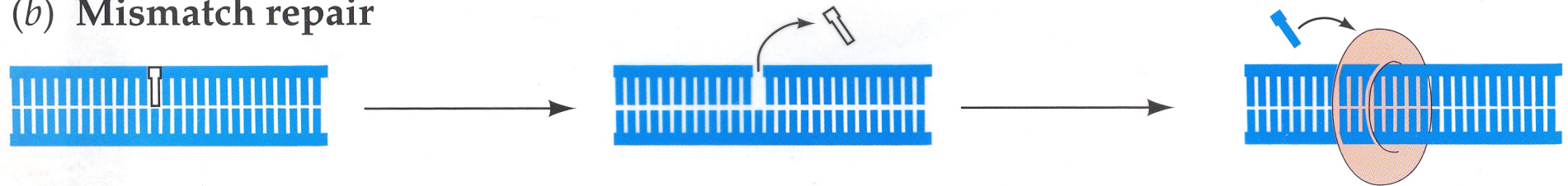


Figure 11.18 The Lagging Strand Story

(a) DNA proofreading



(b) Mismatch repair



(c) Excision repair

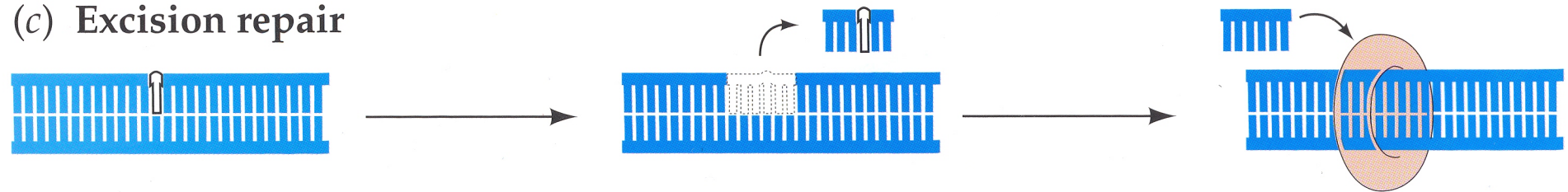
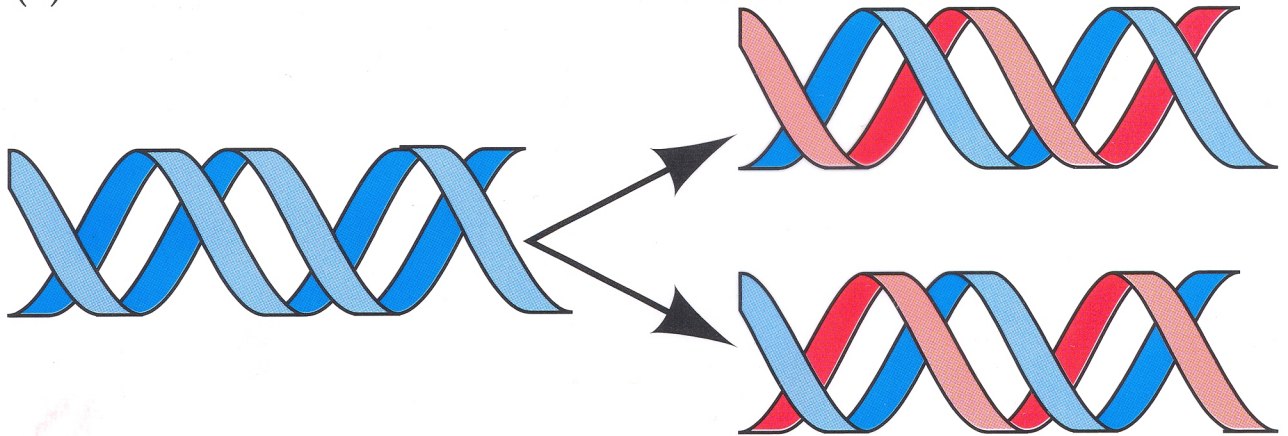


Figure 11.19 DNA Repair Mechanisms

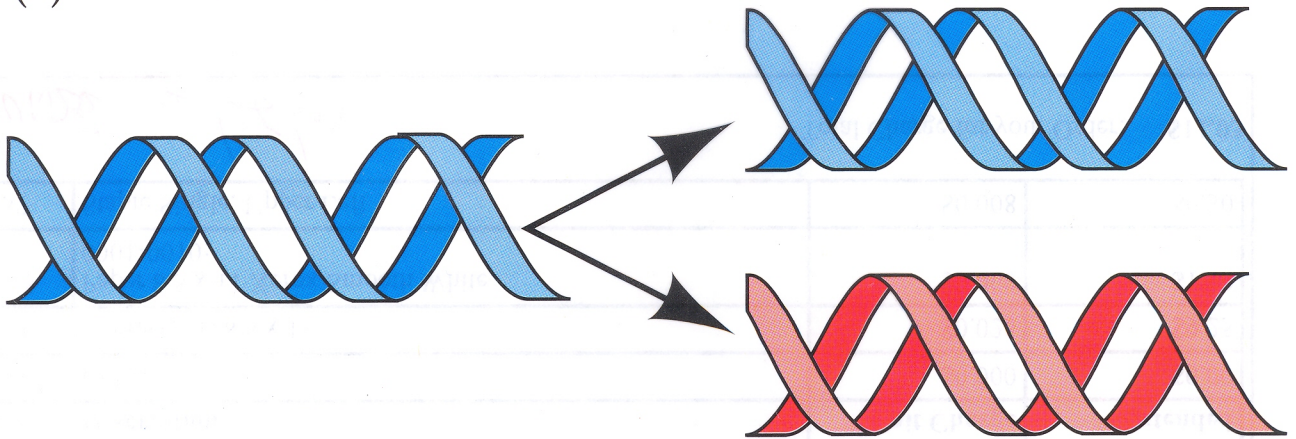
Original DNA

**After one round
of replication**

(a) Semiconservative



(b) Conservative



(c) Dispersive

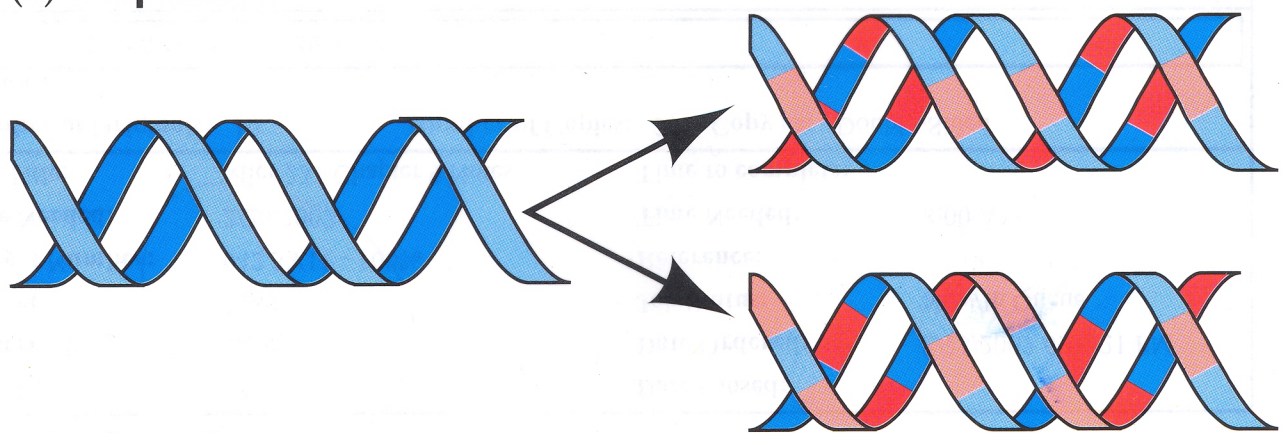


Figure 11.8 Three Models for DNA Replication

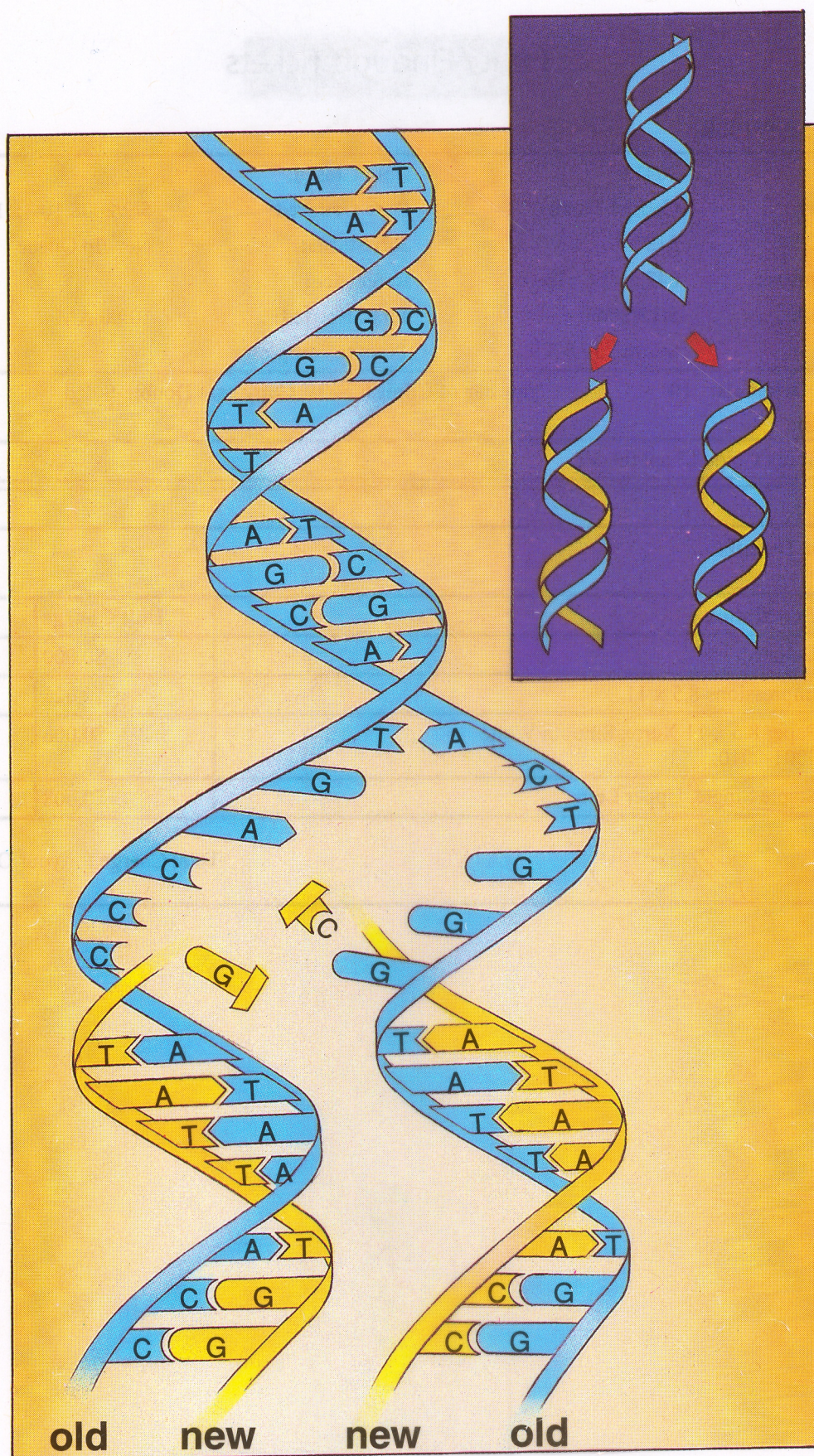


Fig. 13.7 Semiconservative nature of DNA replication.

Figure 7.6: The bidirectionality of DNA replication

