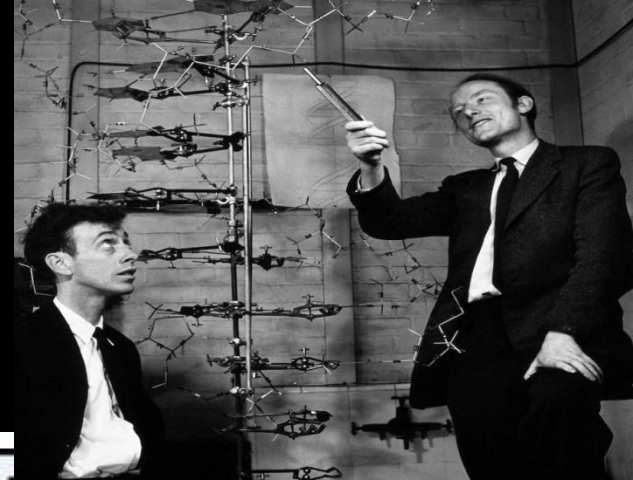




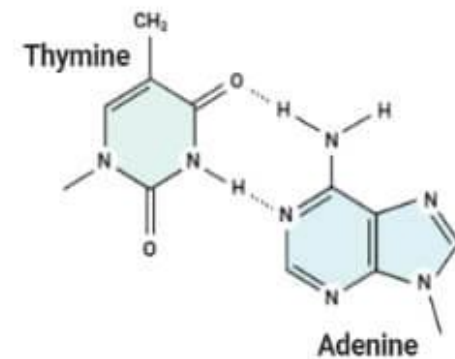
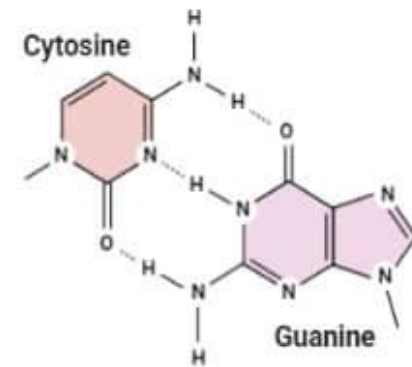
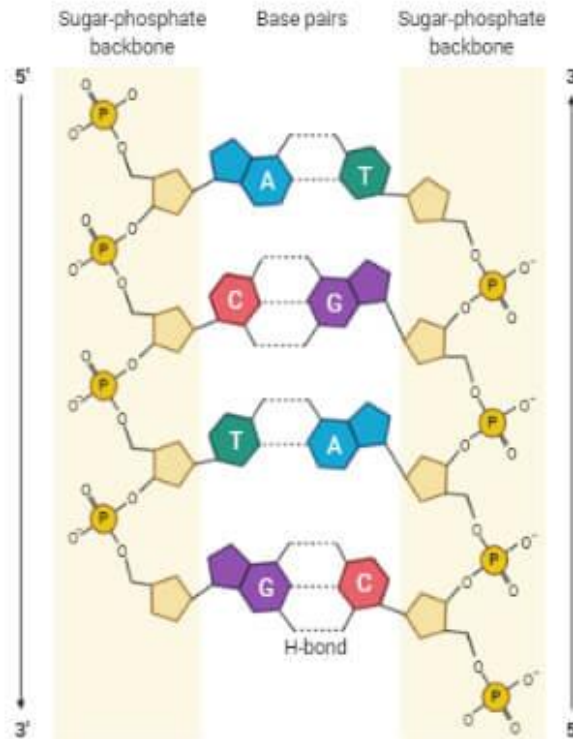
Class 12 BIOLOGY

MOLECULAR BASIS OF INHERITANCE

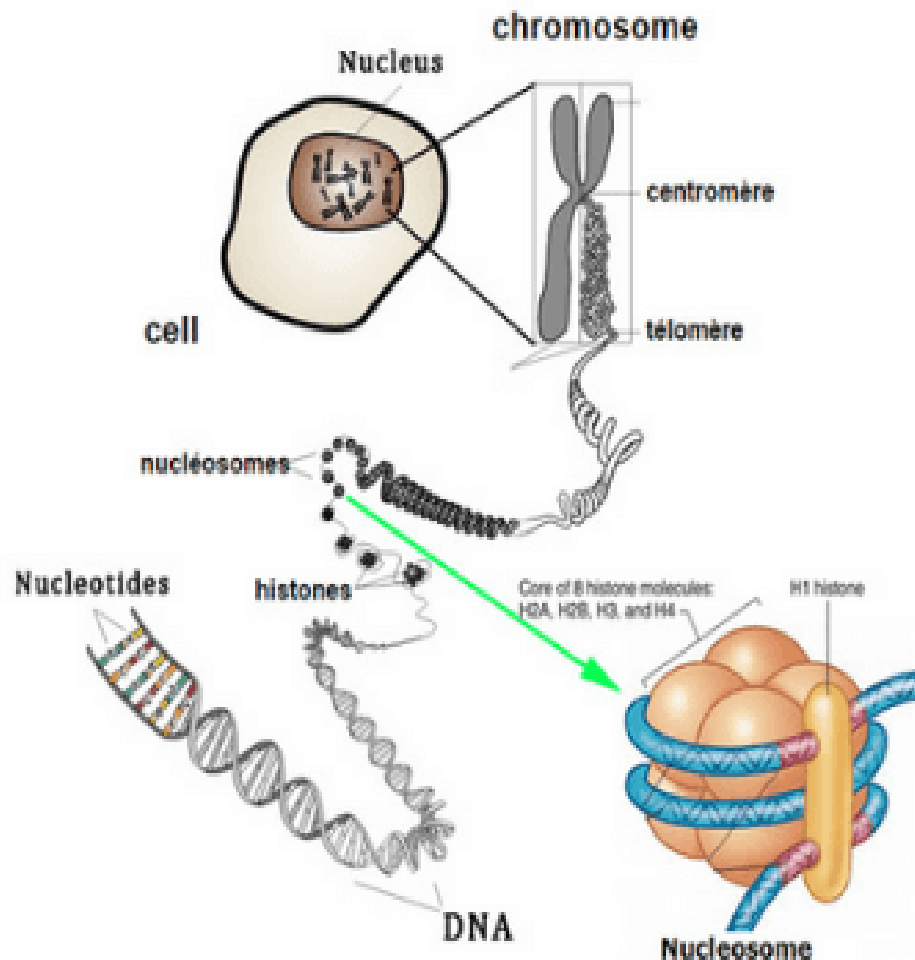
The Search Of Genetic Material.....



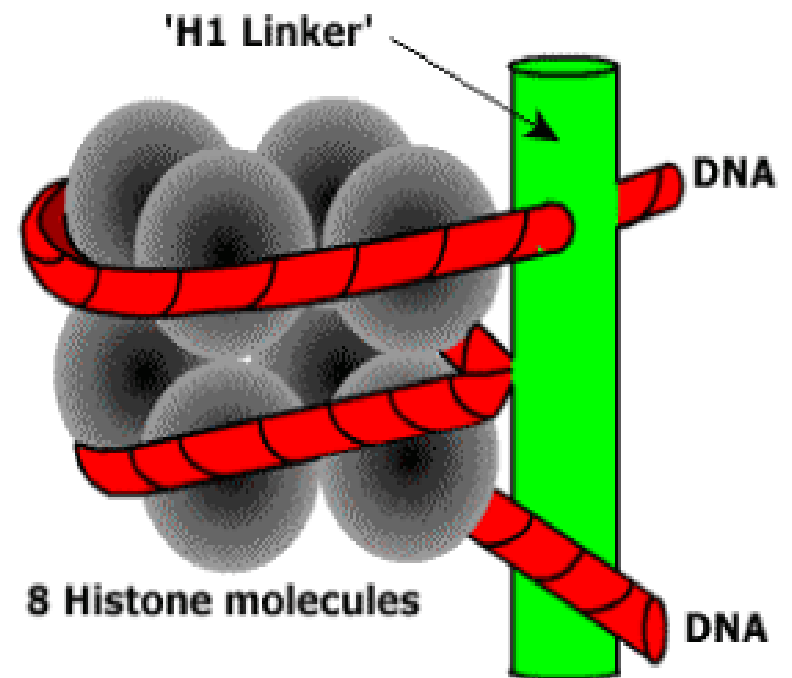
Watson and Crick DNA Model



Nucleosome Model of Chromosome



Nucleosome structure





A **shy** but **intelligent** Swiss boy with
hearing handicap



Isolated a unique chemical substance
from nucleus of the WBCs called **nuclein**,
now known as DNA



Characterized nuclein to have
phosphorus and nitrogen, but not sulfur



**Never believed his own discovered
nuclein to be hereditary molecule**

GRIFFITH'S "TRANSFORMING PRINCIPLE"

LIVE
R-STRAIN



MOUSE LIVED

LIVE
S-STRAIN



MOUSE DIED

HEAT KILLED
S-STRAIN

AWESOME!



MOUSE LIVED

HEAT KILLED
S-STRAIN
LIVE
R-STRAIN



MOUSE DIED

LIVE
S-STRAIN
FROM
GROUP 4



MOUSE DIED

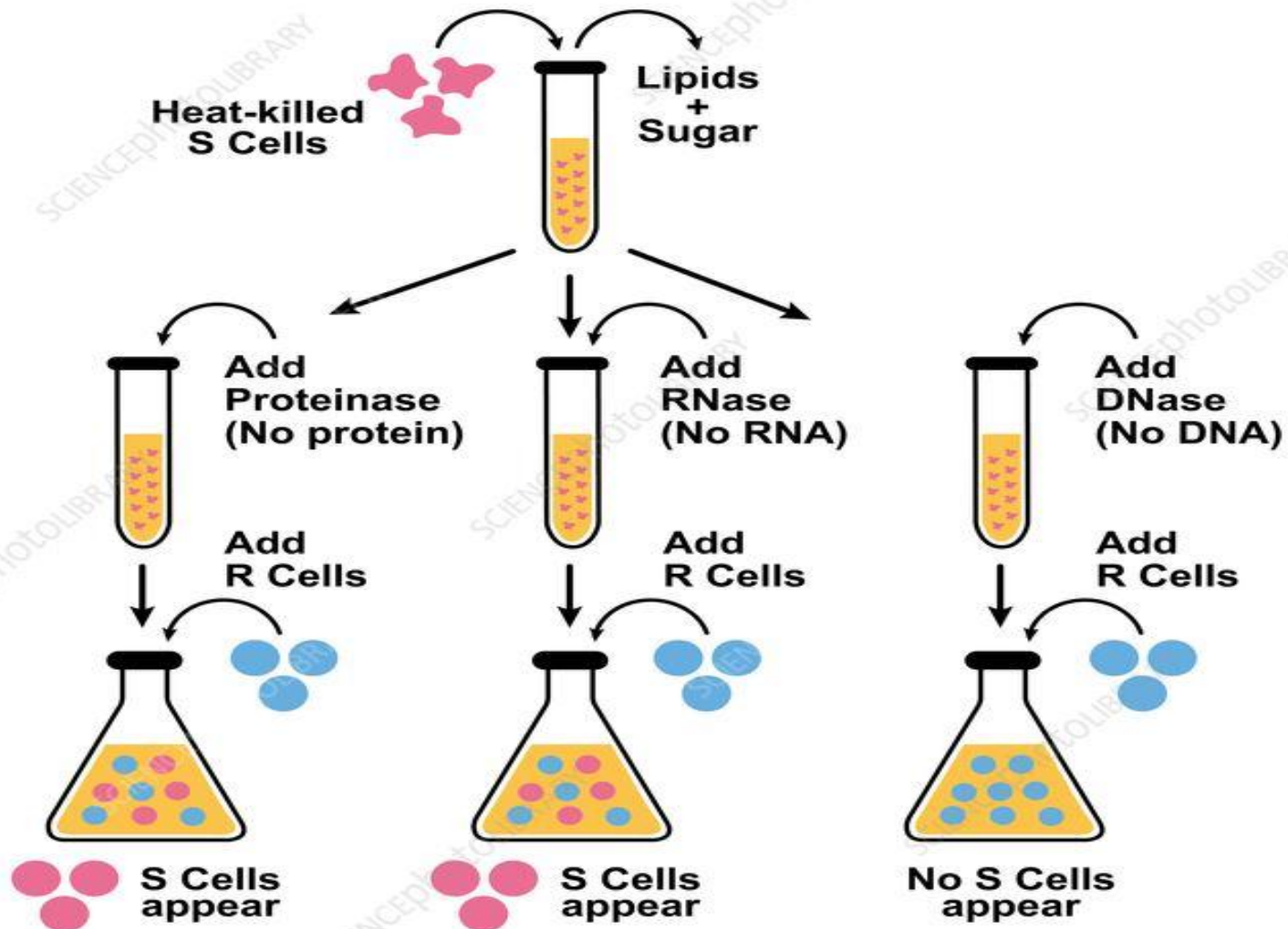


A-VIRULENT
R-STRAIN



VIRULENT
S-STRAIN

Avery MacLeod McCarty Experiment



Bacteriophages

sulfur labeled protein capsule (red)



phosphorus labeled DNA (green)

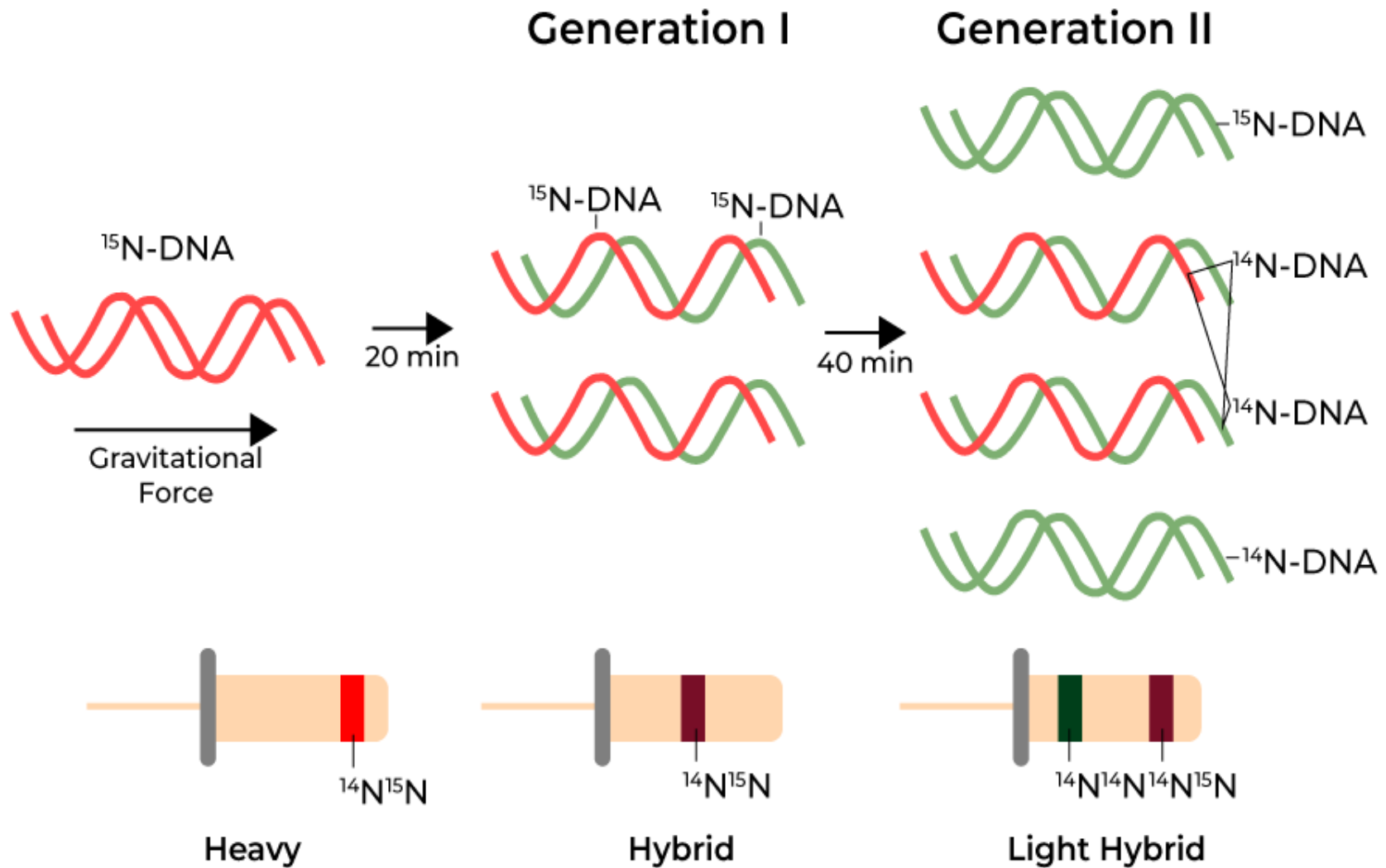
1. Infection

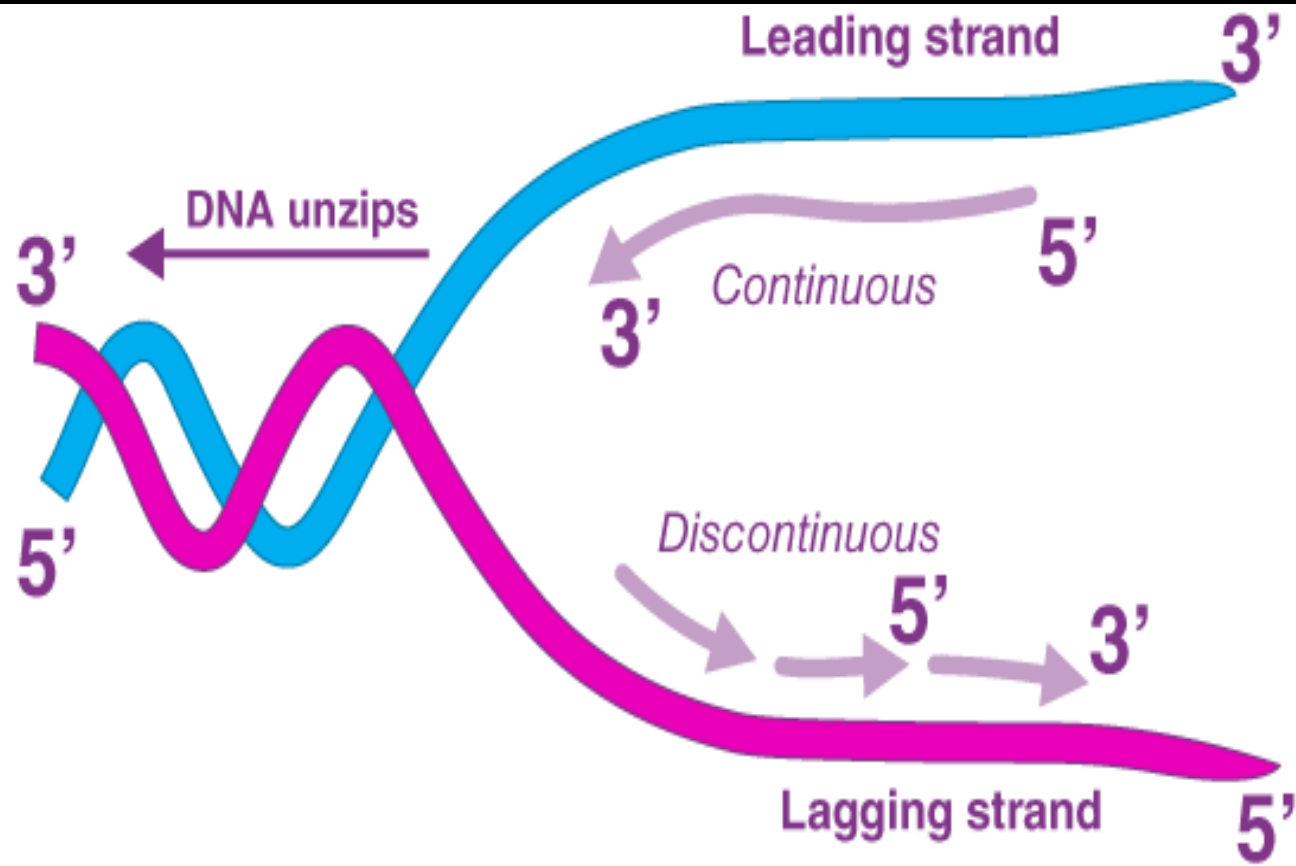
2. Blending

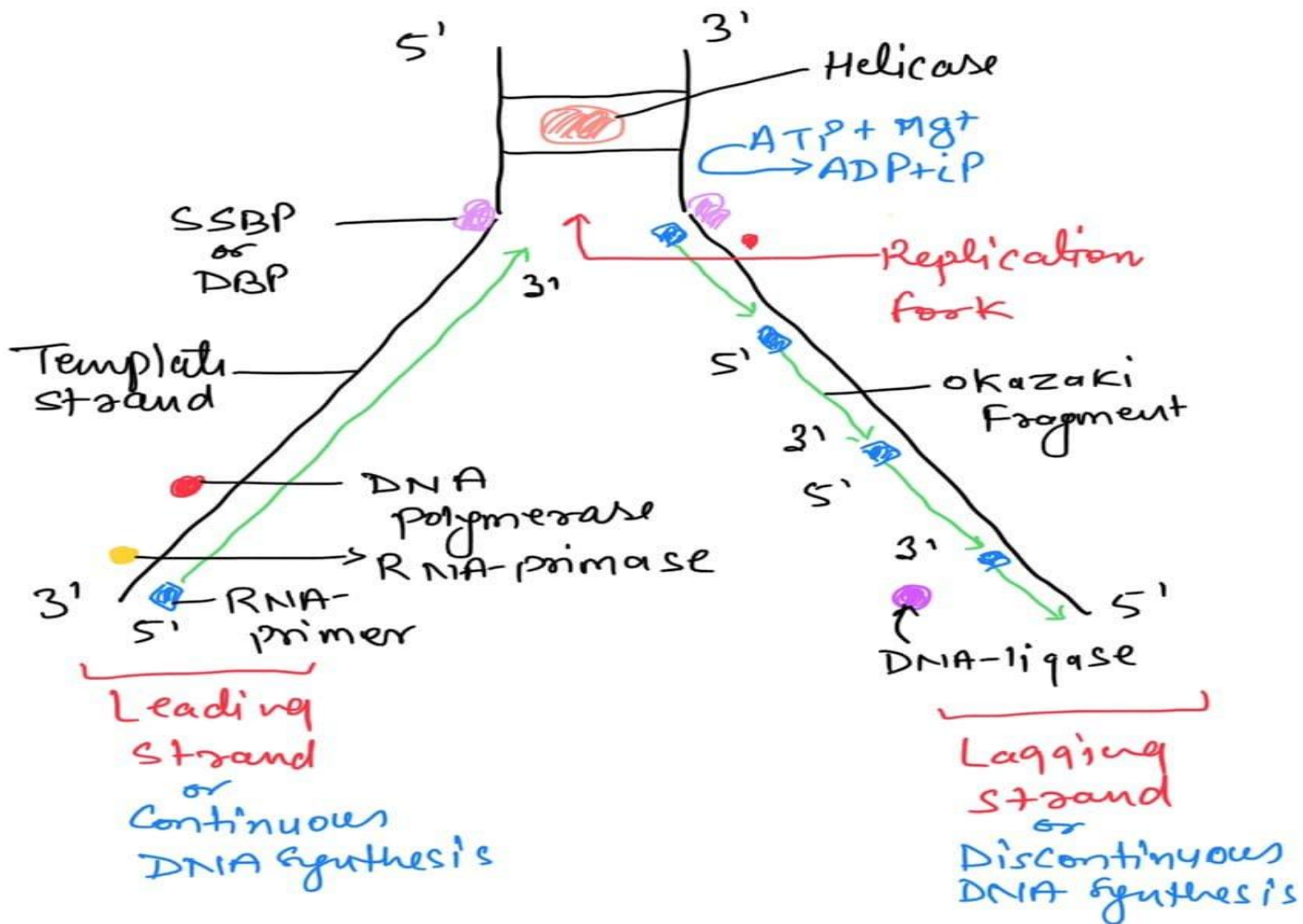
3. Centrifugation

After centrifugation no sulfur in cells.

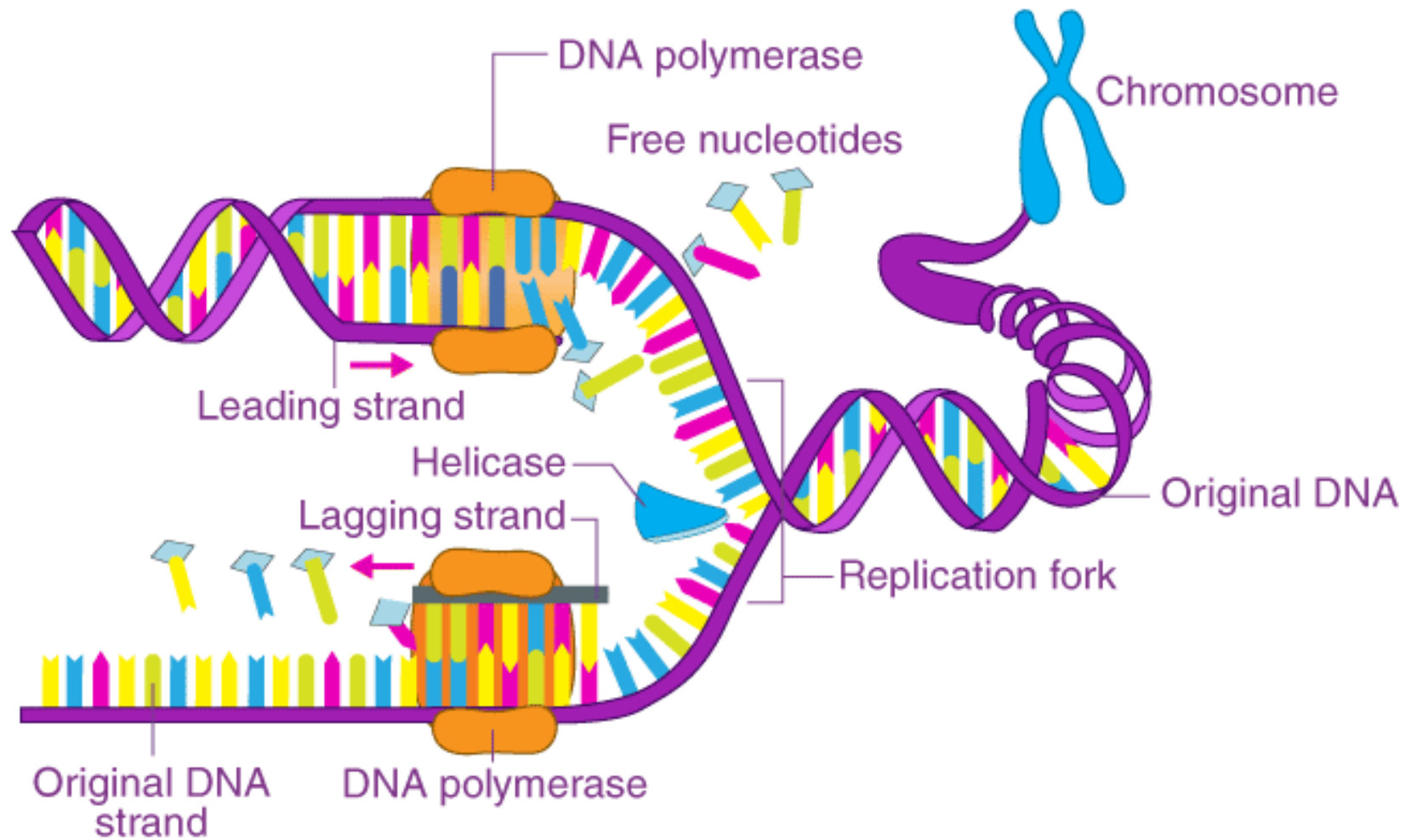
After centrifugation phosphorus in cells





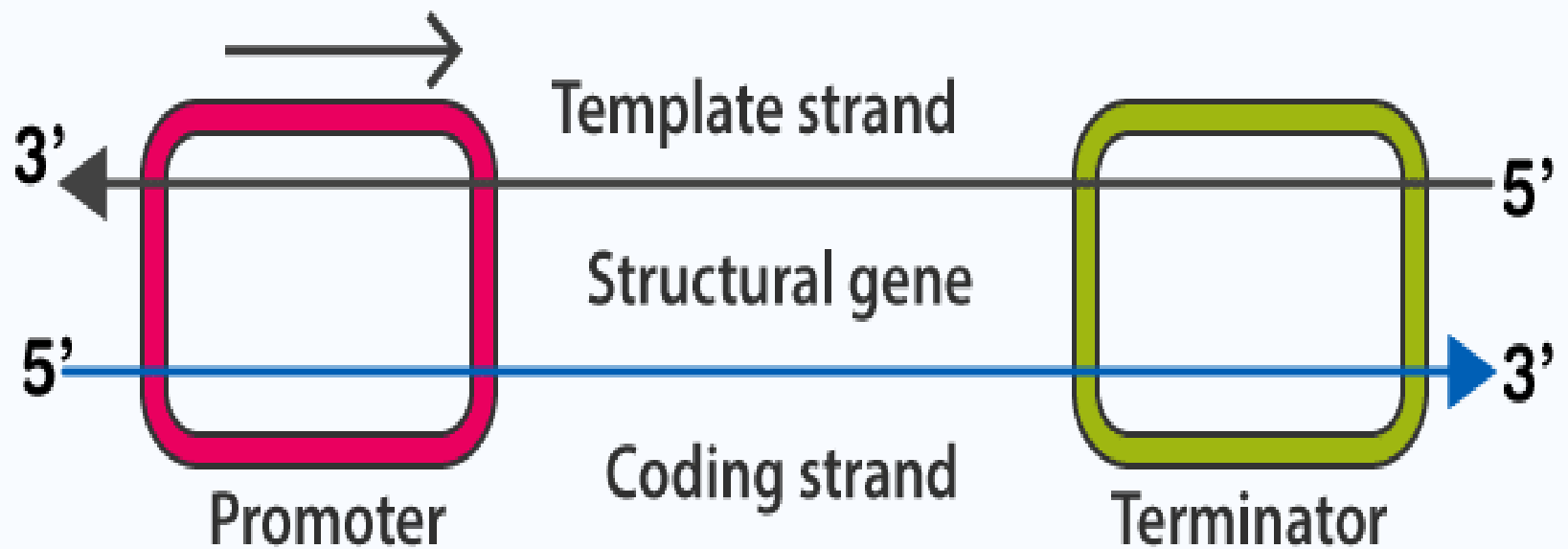


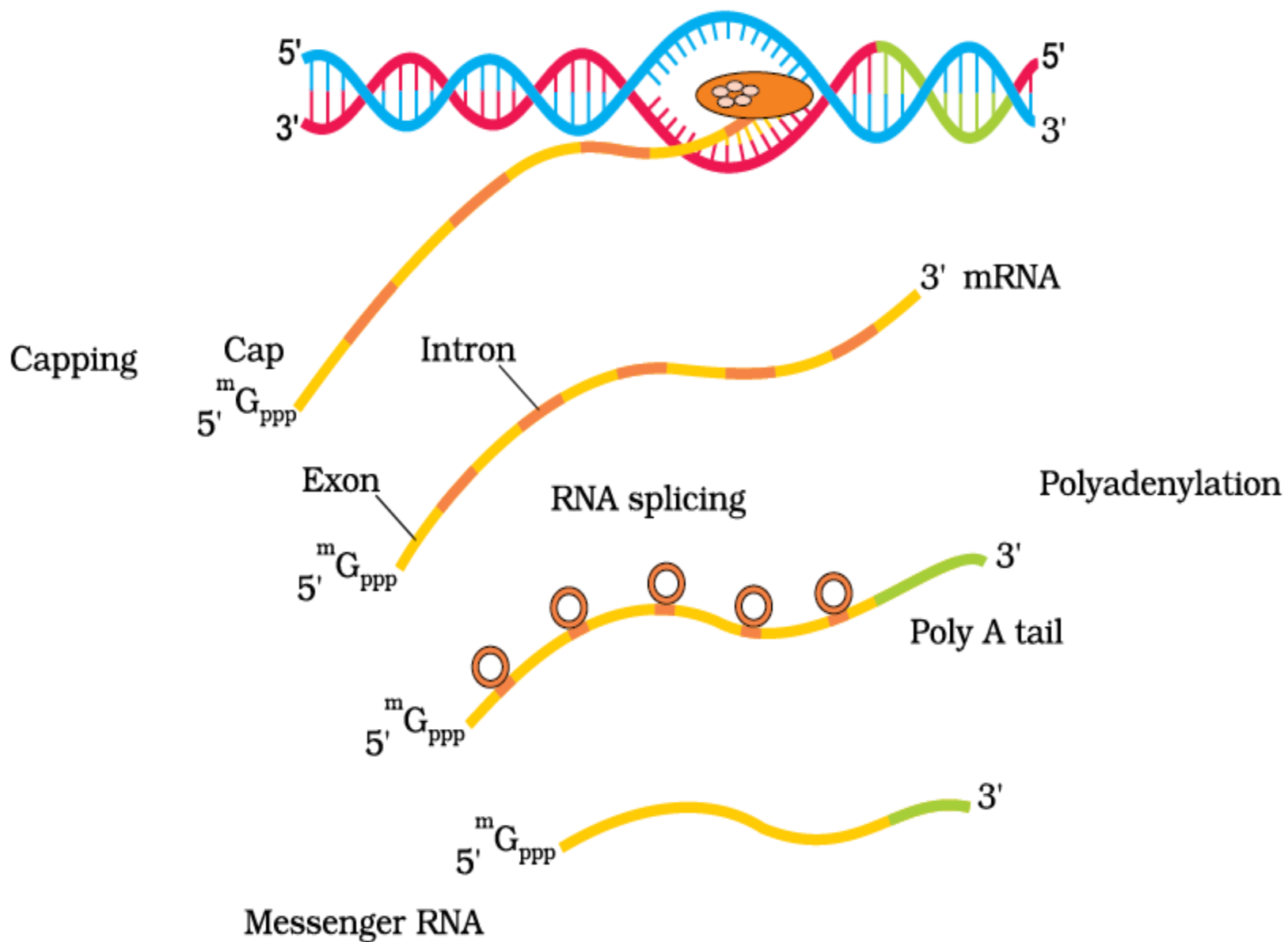
DNA Replication Simplified Diagram



Adenine Thymine Cytosine Guanine

Enzyme	Function
DNA polymerase III	The 'replicase' enzyme
DNA polymerase I	A repair enzyme involved in removing errors and filling in gaps in the sequence
DNA ligase	Seals 'nicks' in the sugar-phosphate backbone
RNA polymerase or RNA primase	Make RNA primers to get the DNA polymerase III started
RNAse H	Removes the RNA primers once they have completed their function
DNA helicase and DNA gyrase	Unwind the DNA duplex
Helix-destabilizing protein	Prevents the unwound DNA from immediately rewinding





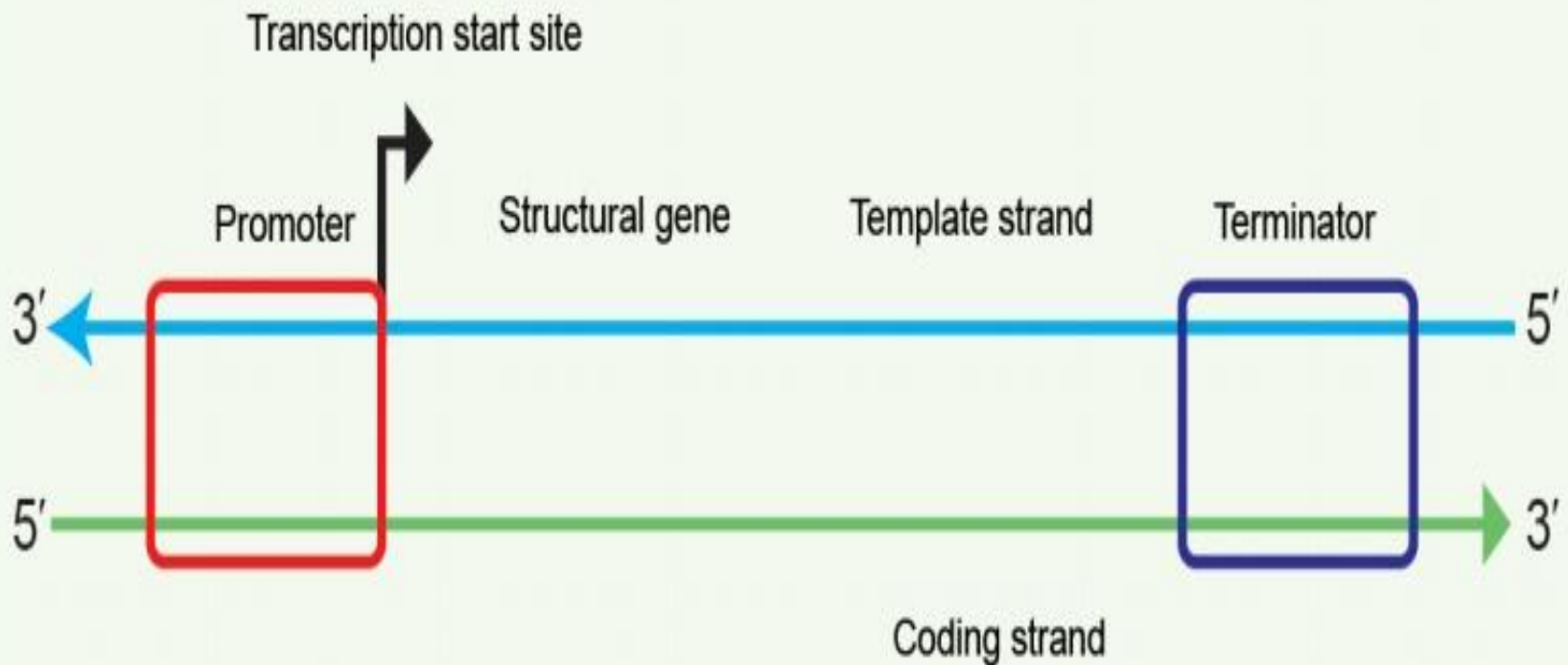


Fig. 5. 7 Schematic structure of a transcription unit

