

GRADE 12 CODE OF LIFE

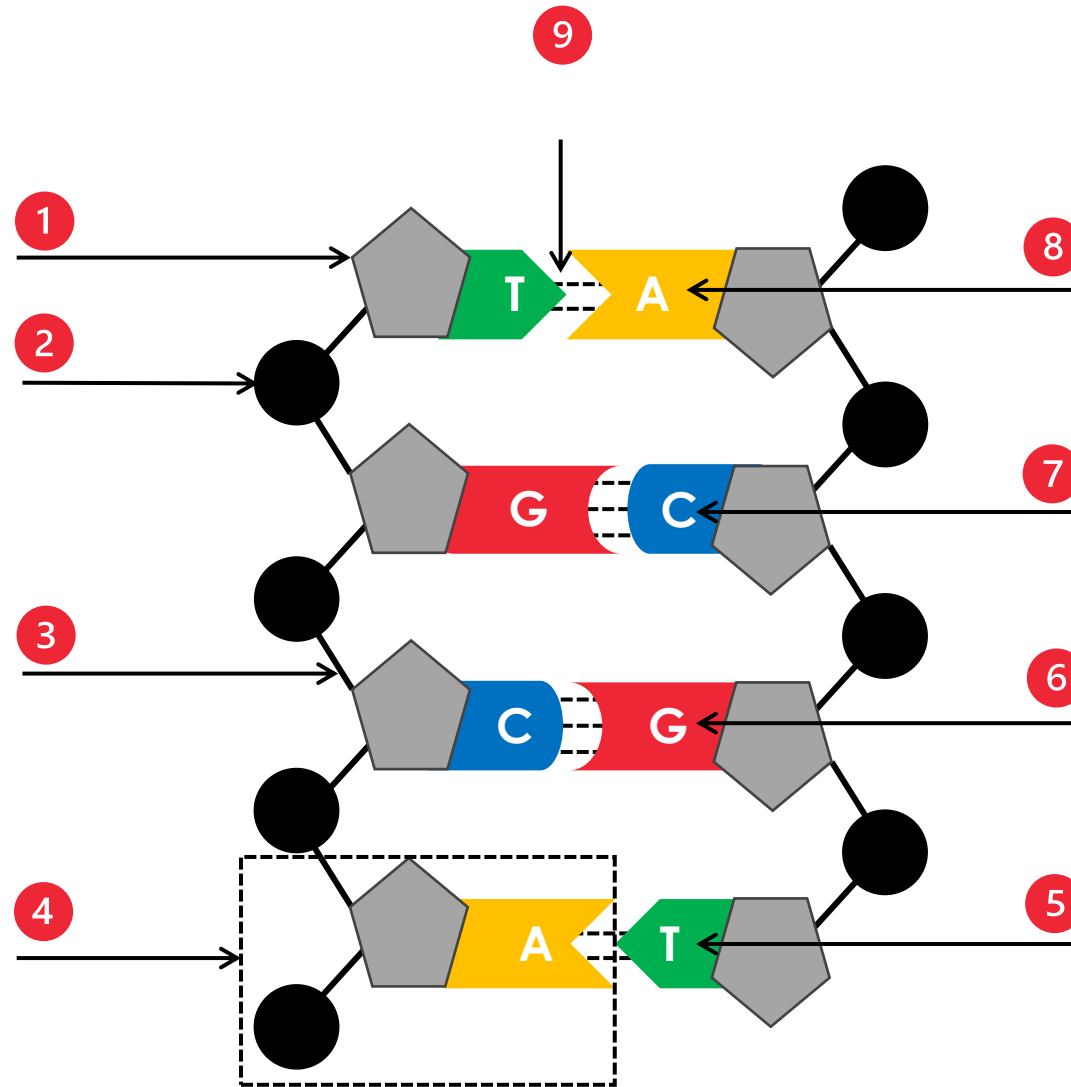
REVISION



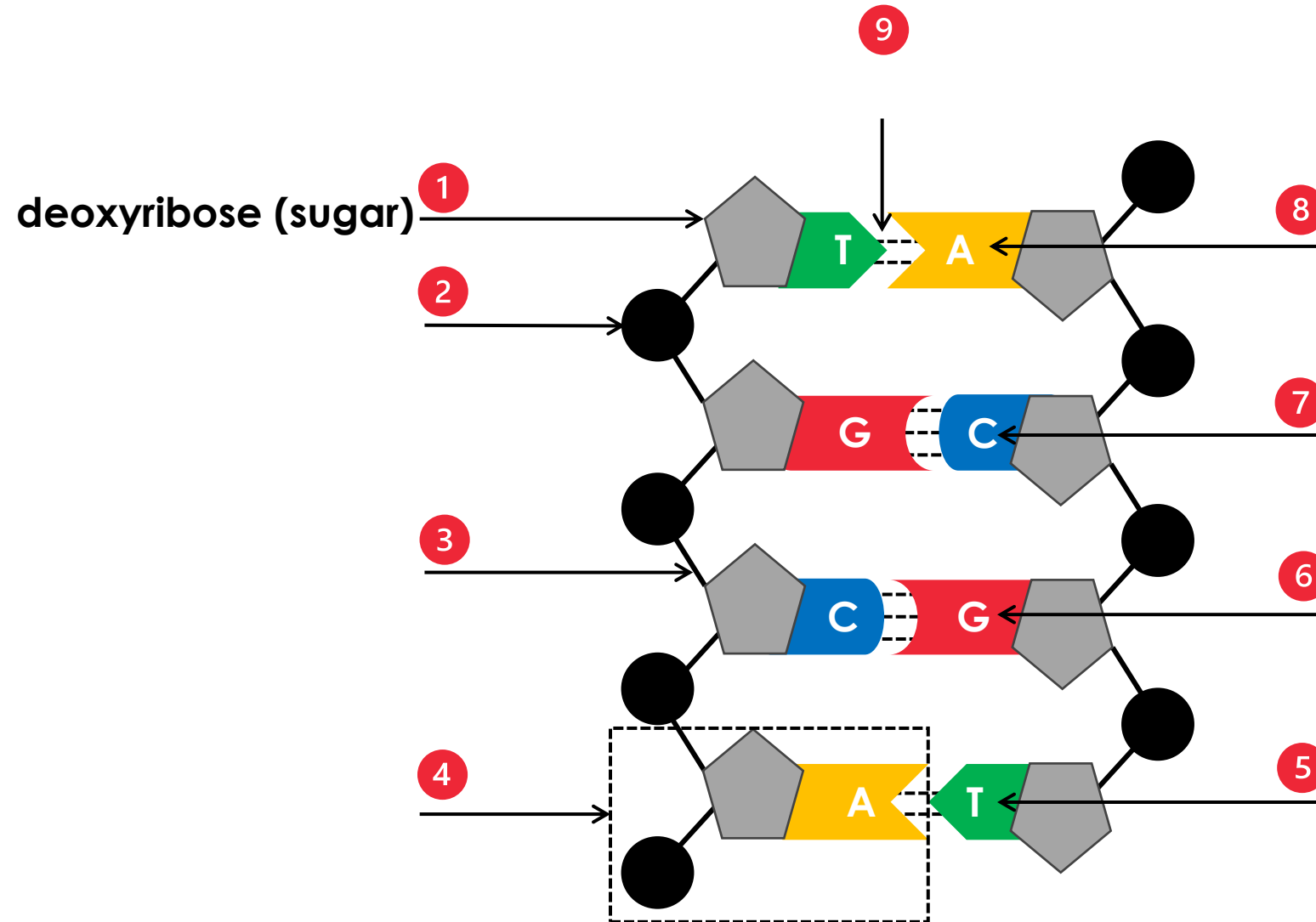
The background features a light gray collage of various scientific and nature-related icons. These include a globe with a pink and blue pattern, two test tubes containing dark liquid with bubbles, a large green leaf, a cartoon scientist with glasses and a lab coat, a DNA double helix, a flower, a sun with rays, a cartoon lizard, a cartoon atom with a central nucleus and orbiting electrons, a cartoon person with a lightbulb above their head, and various other leaves and plants.

DNA STRUCTURE

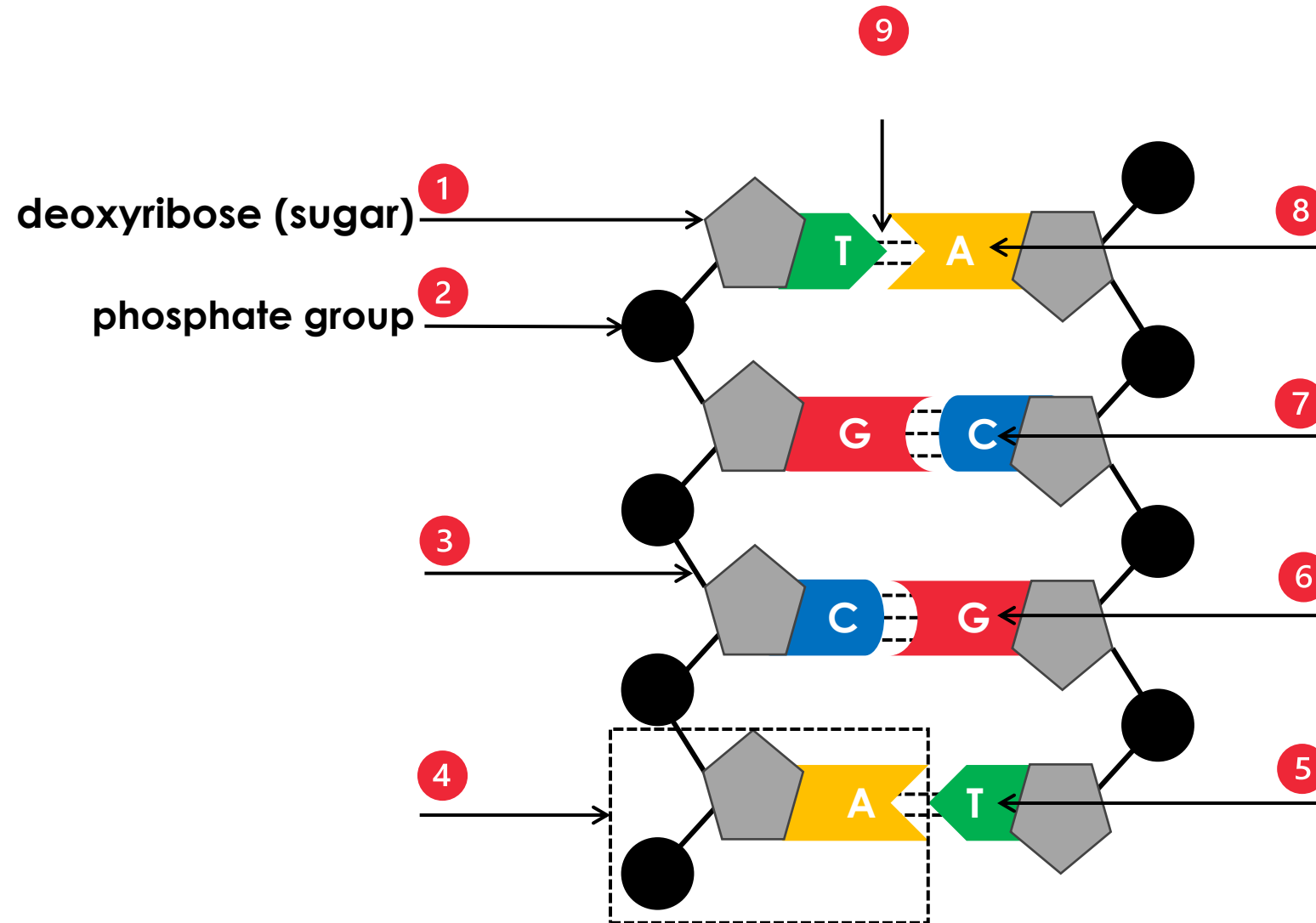
Provide labels for the structure of DNA.



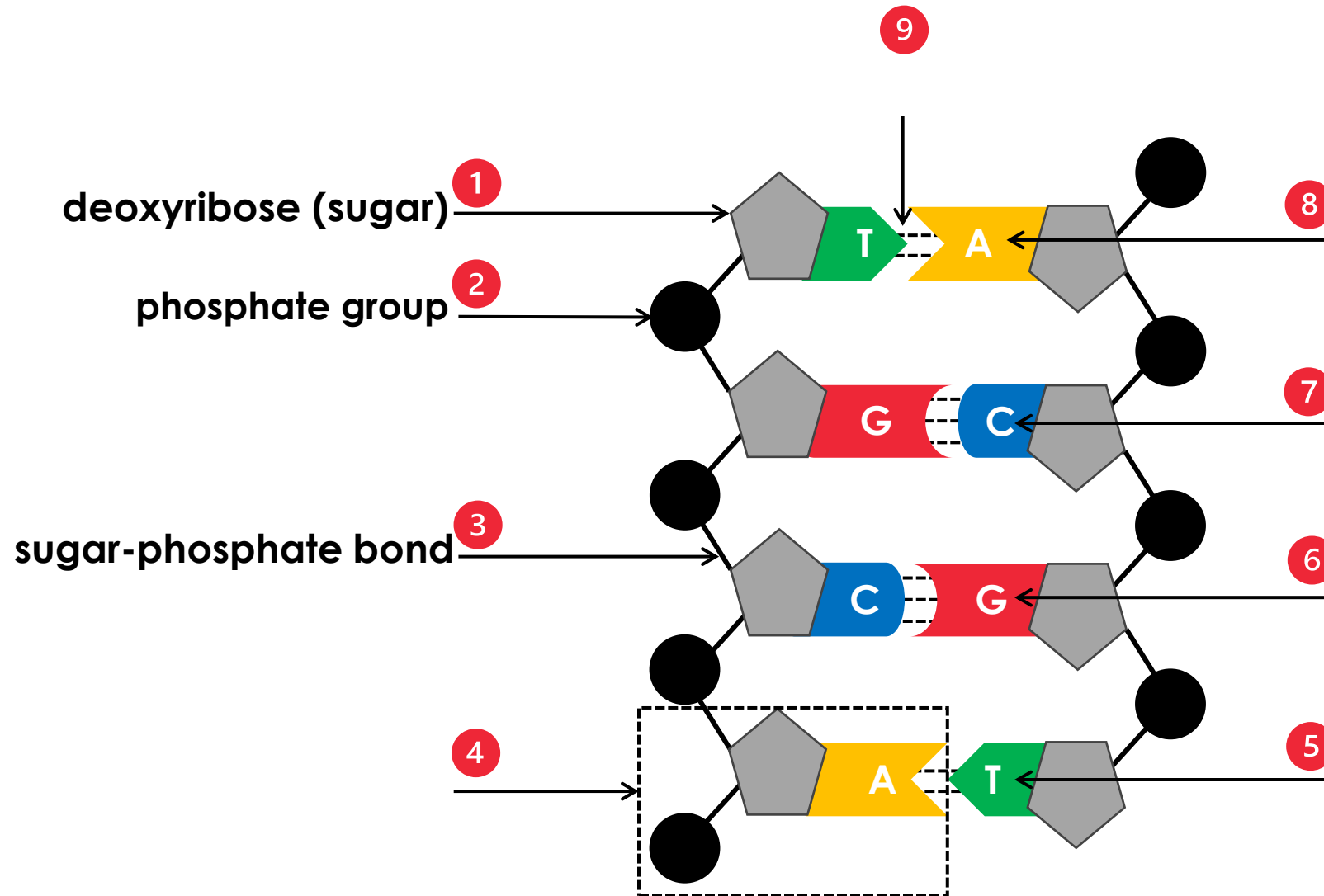
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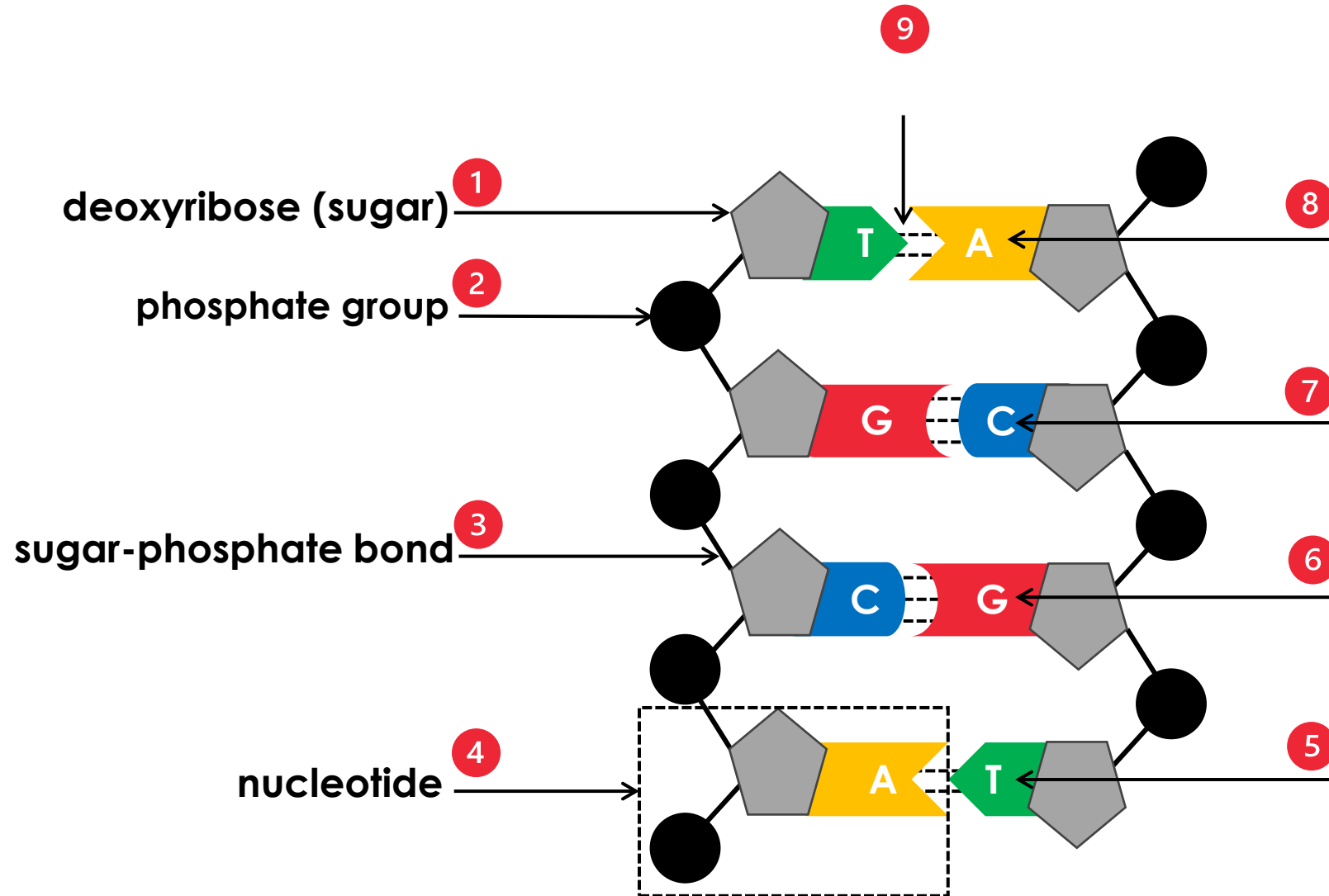
Provide labels for the structure of DNA.



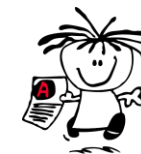
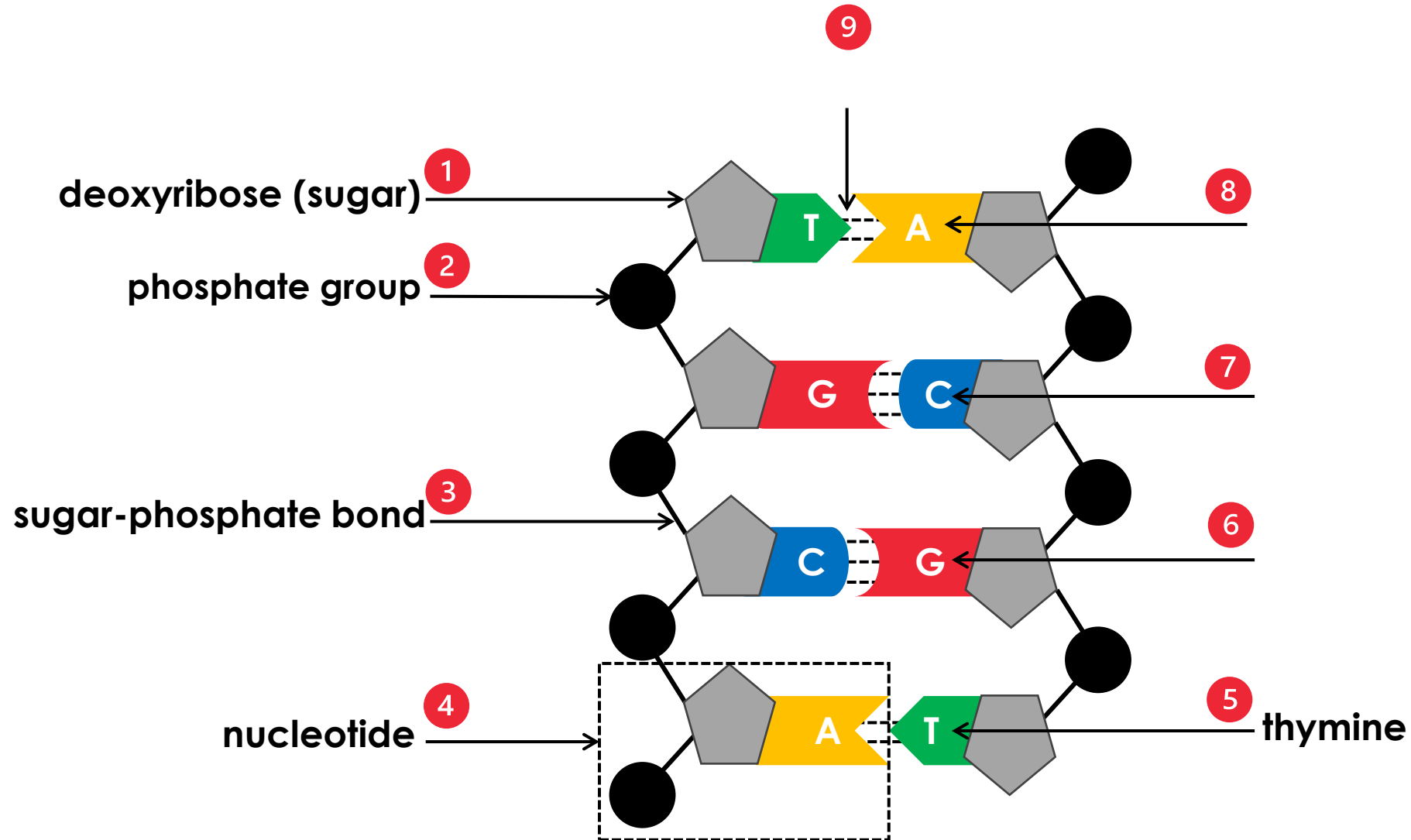
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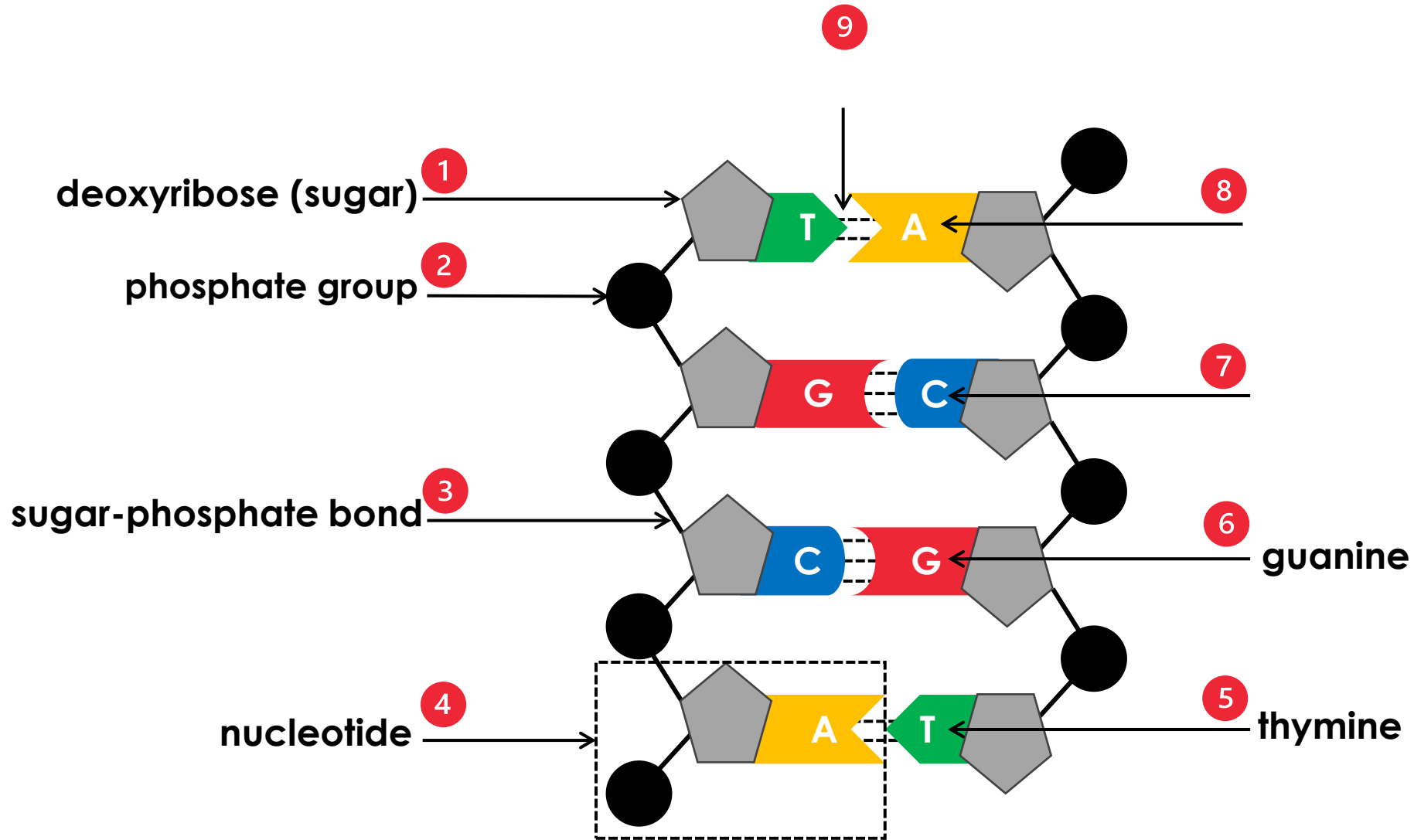
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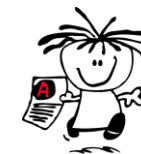
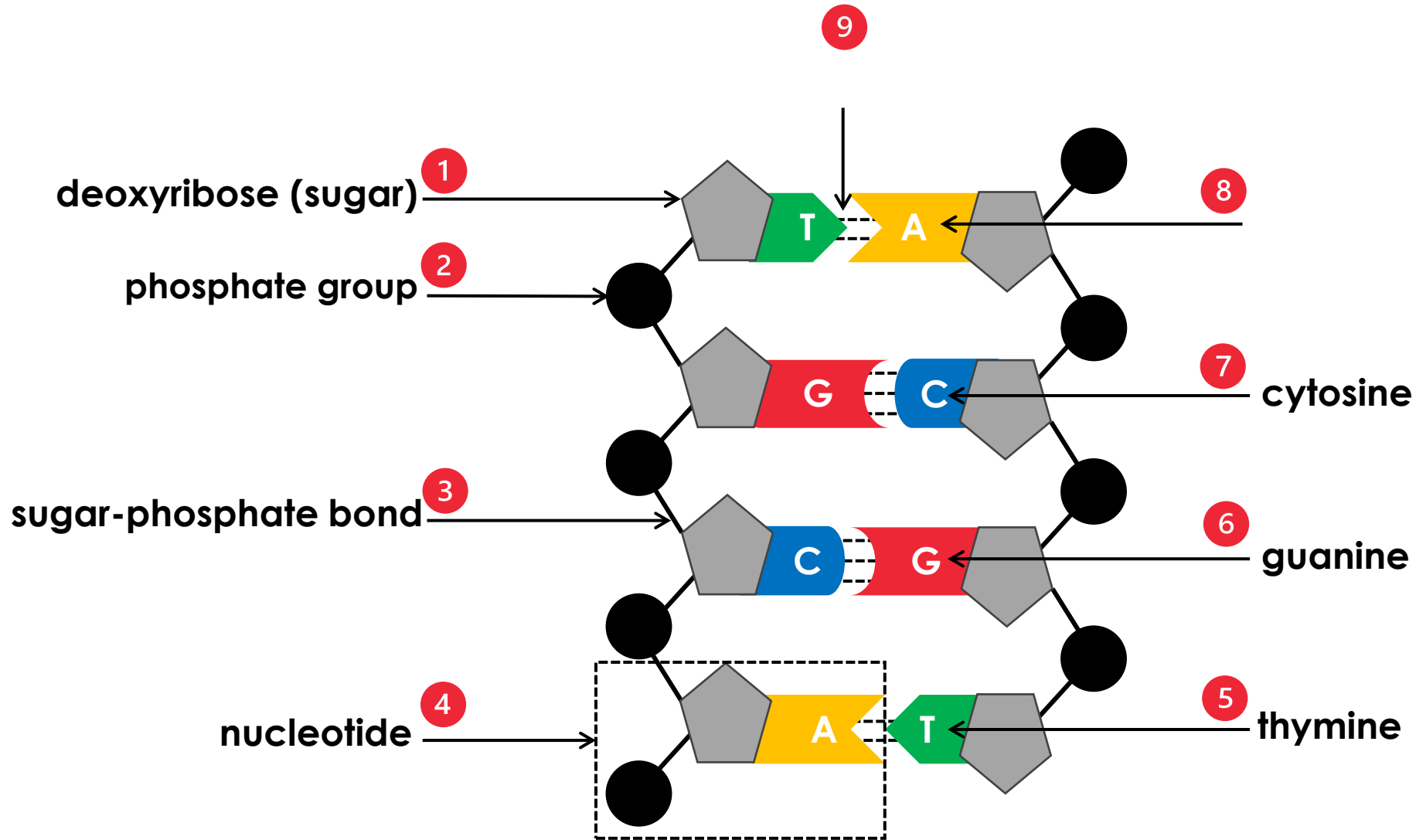
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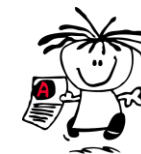
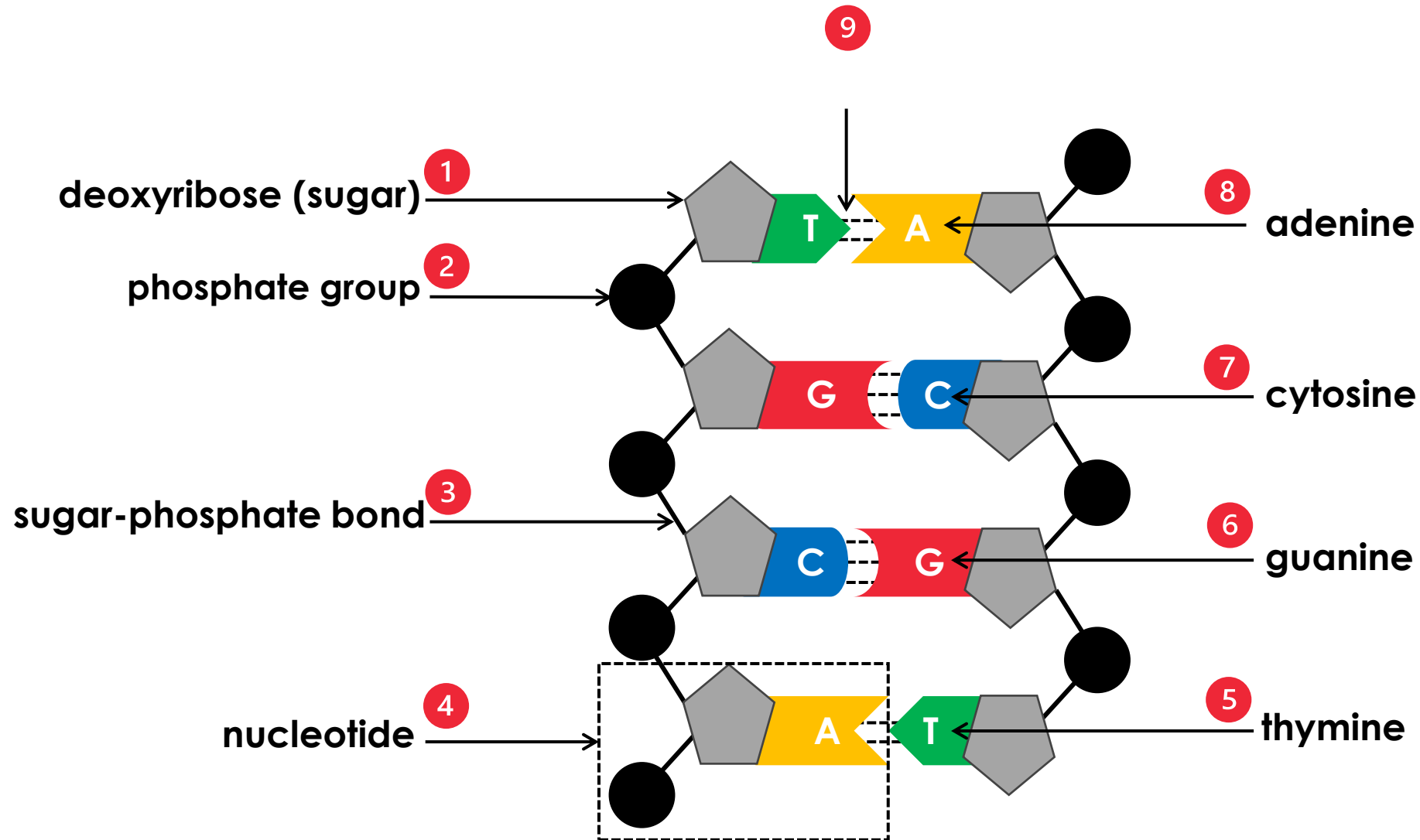
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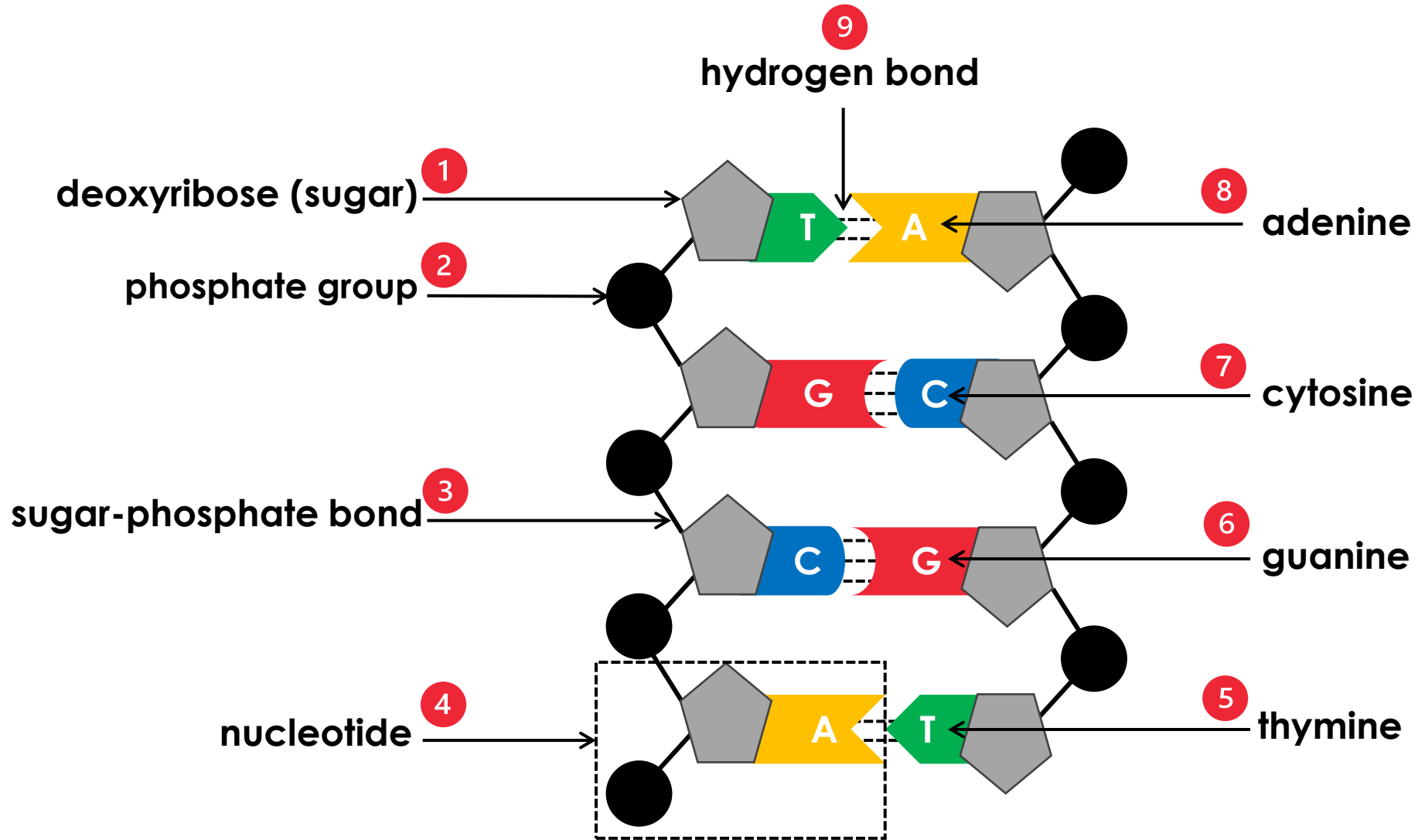
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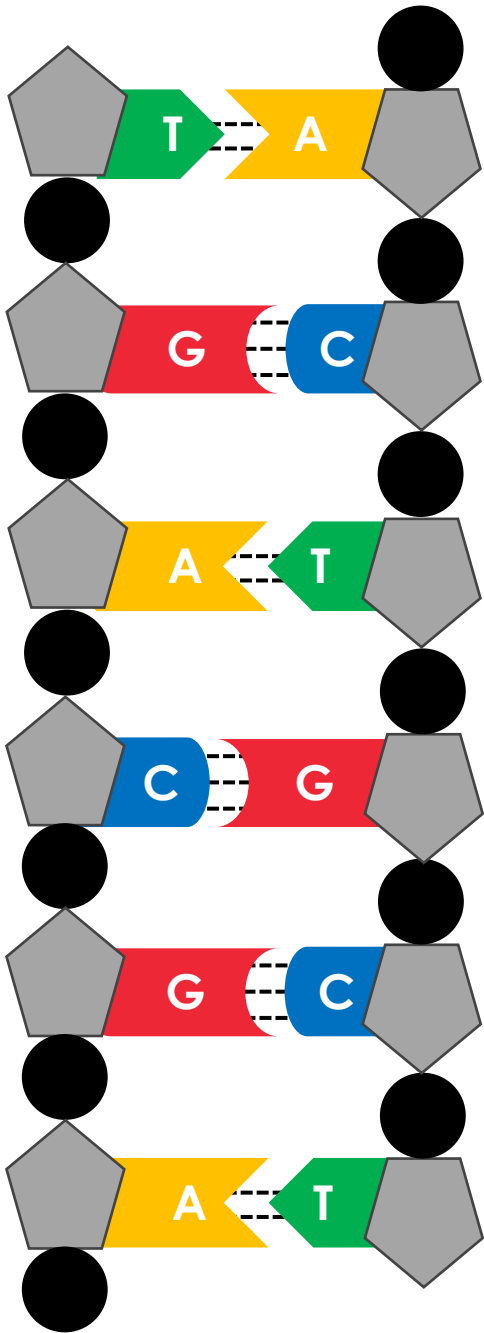
Provide labels for the structure of DNA.

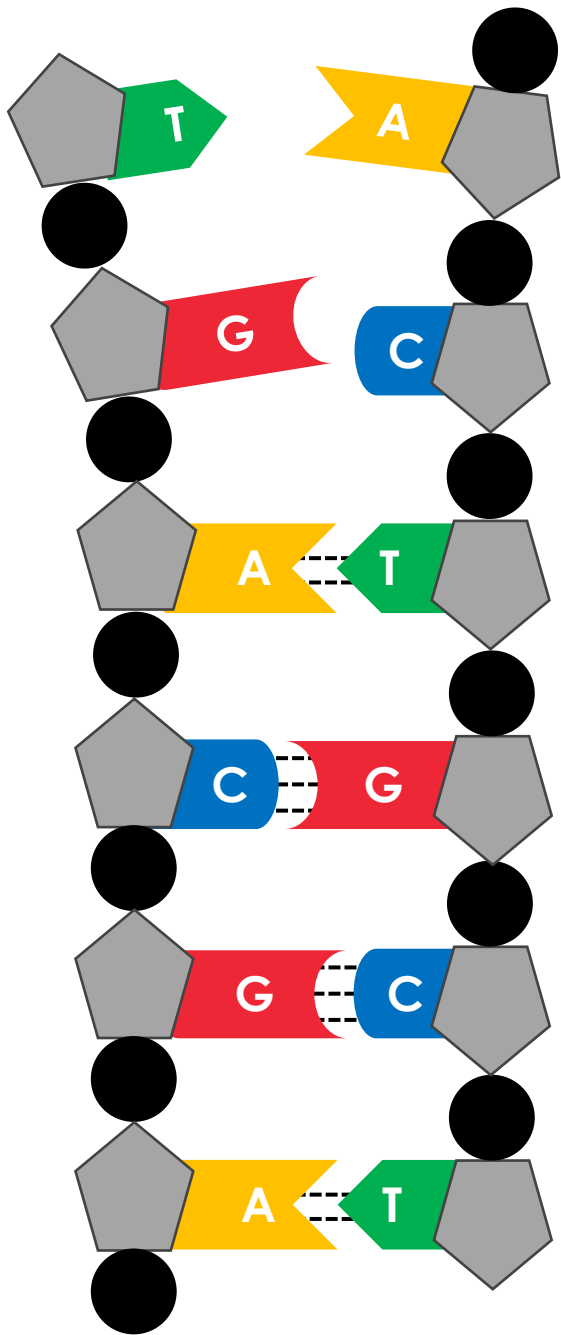


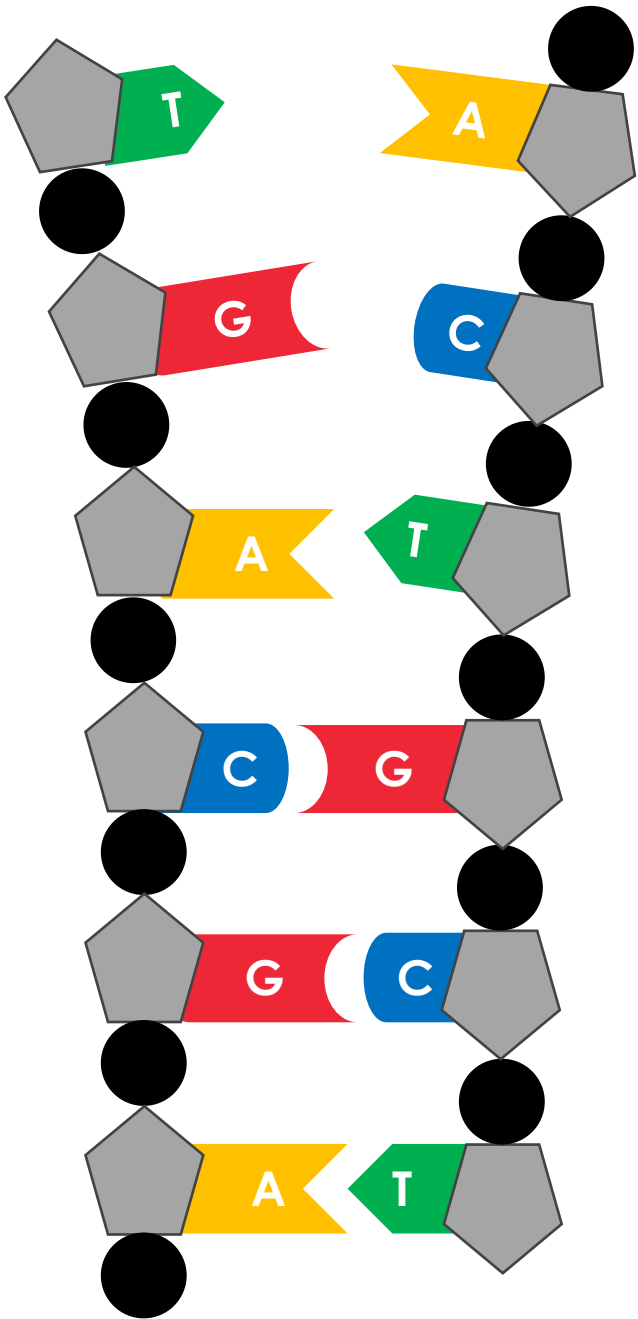
Provide labels for the structure of DNA.

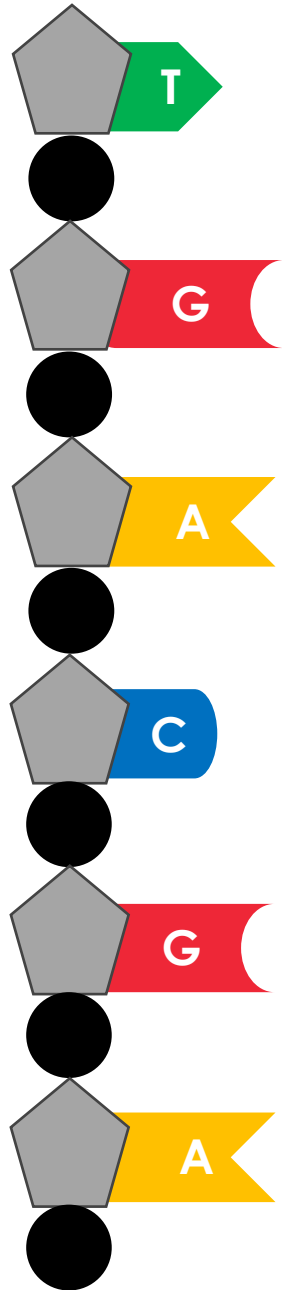


DNA REPLICATION

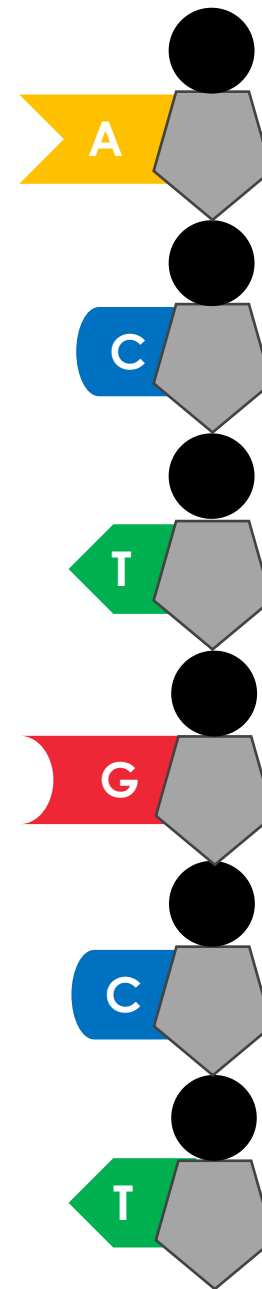


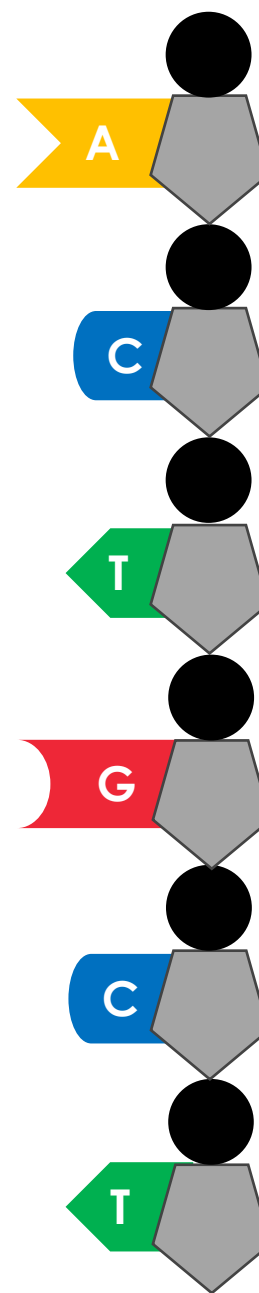
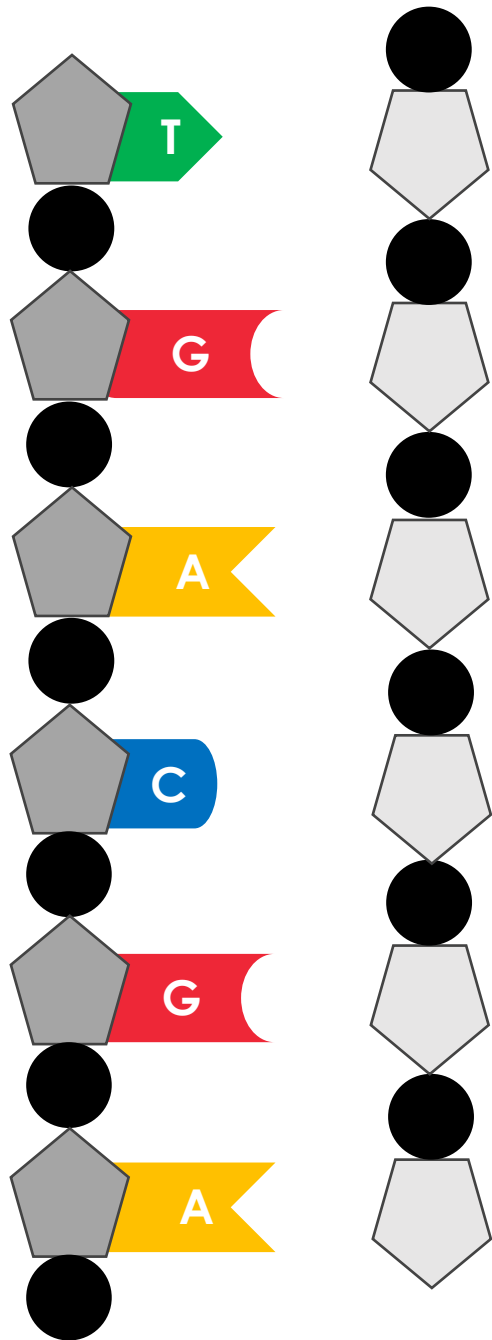


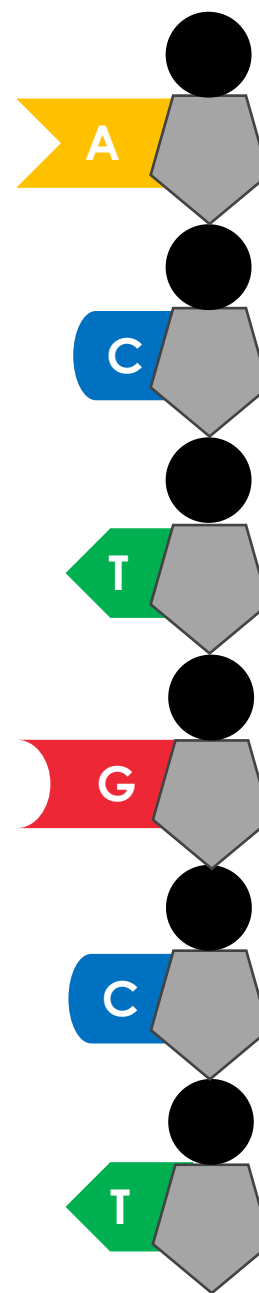
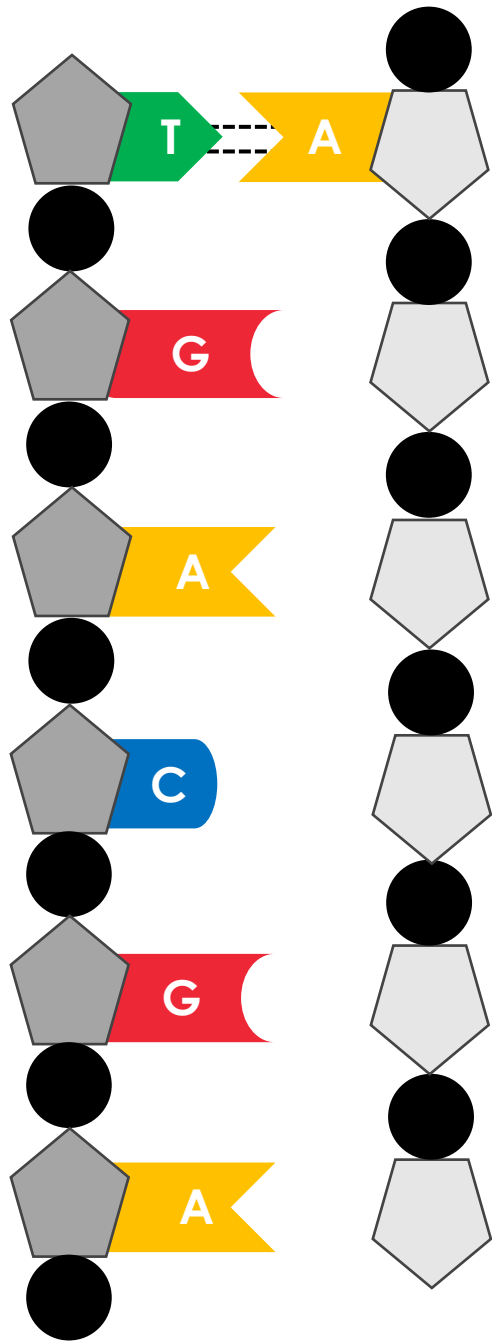


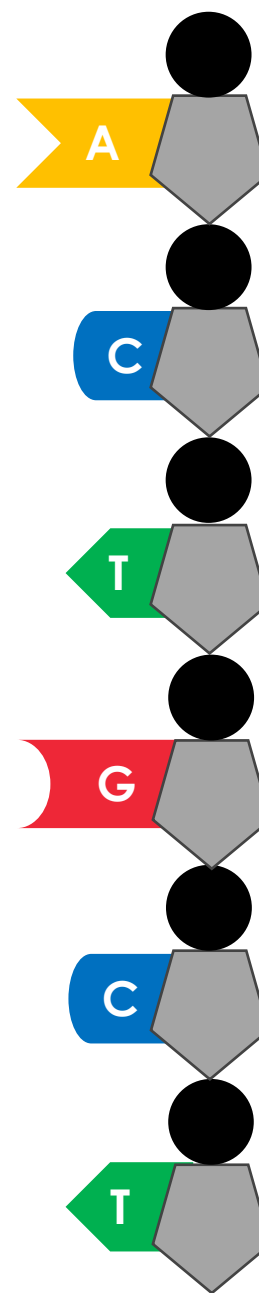
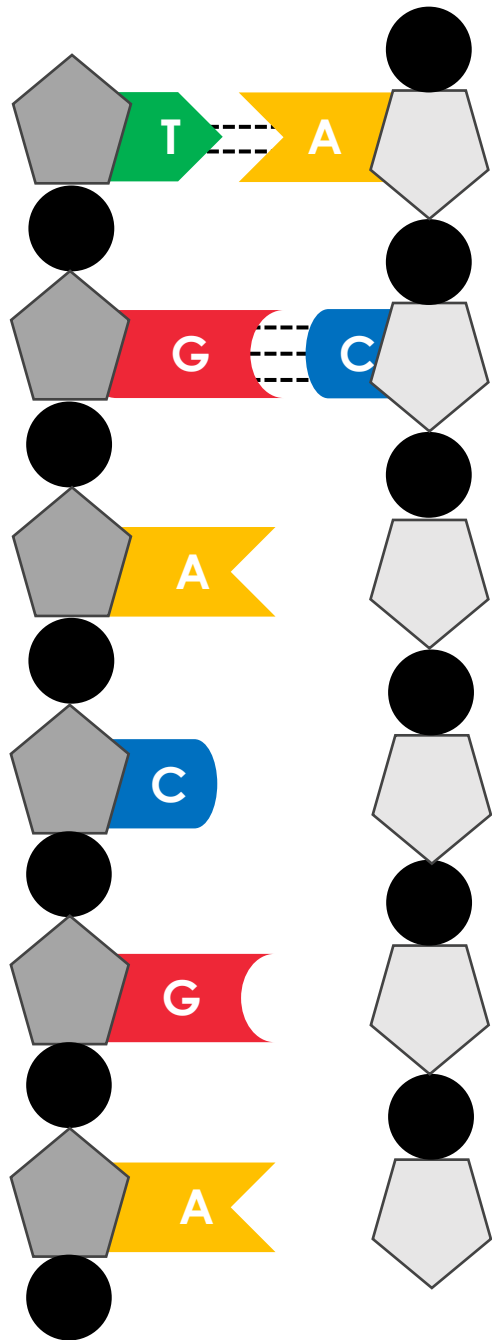


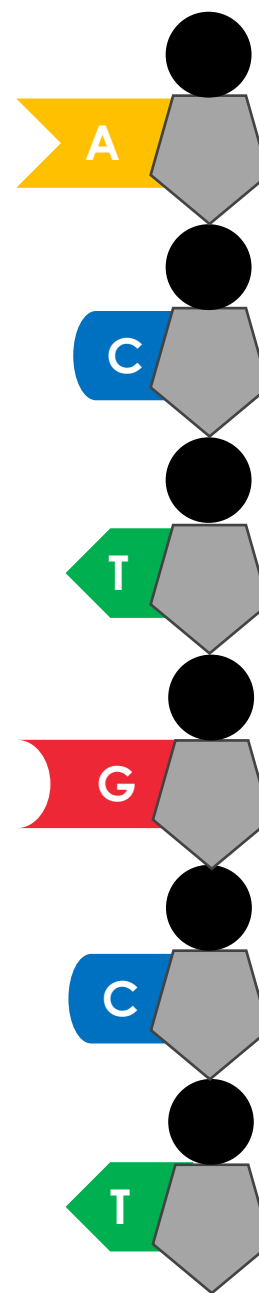
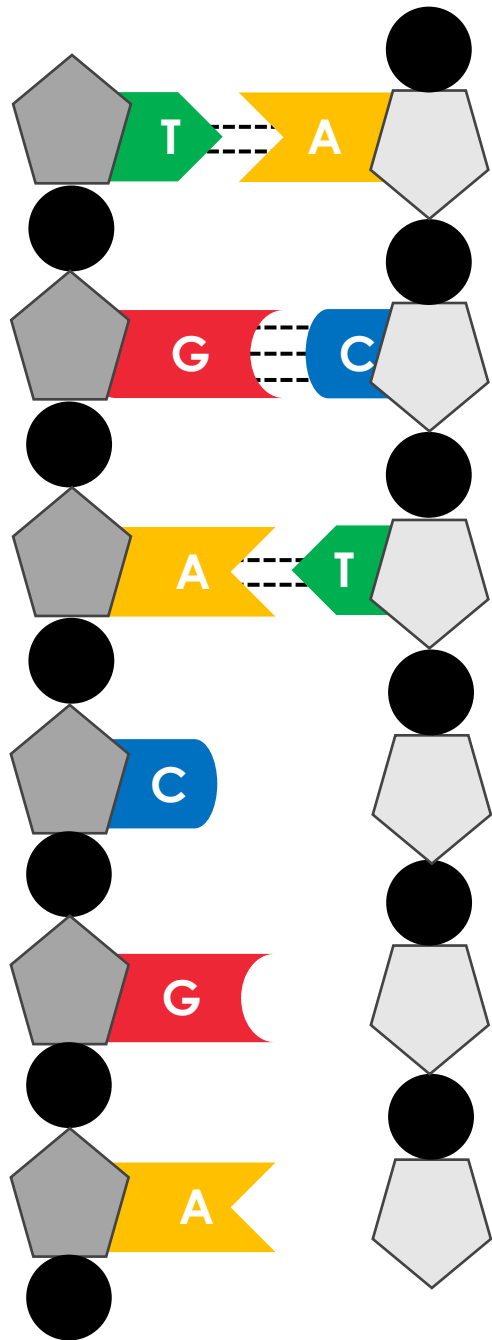
Complete the sequence
of nitrogenous bases of the two
replicated strands.

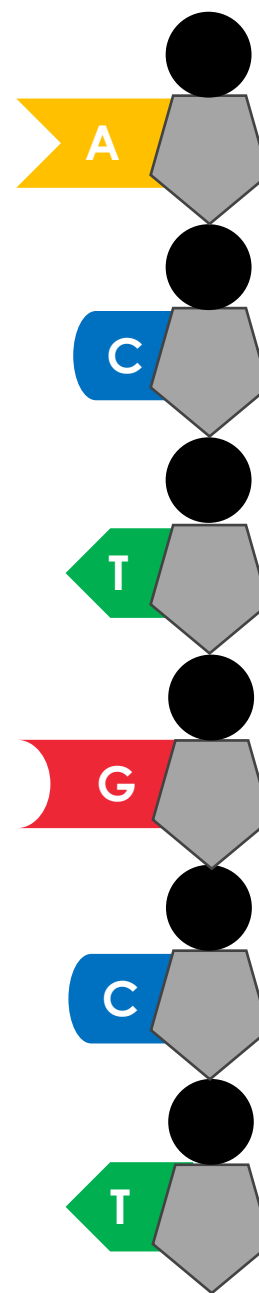
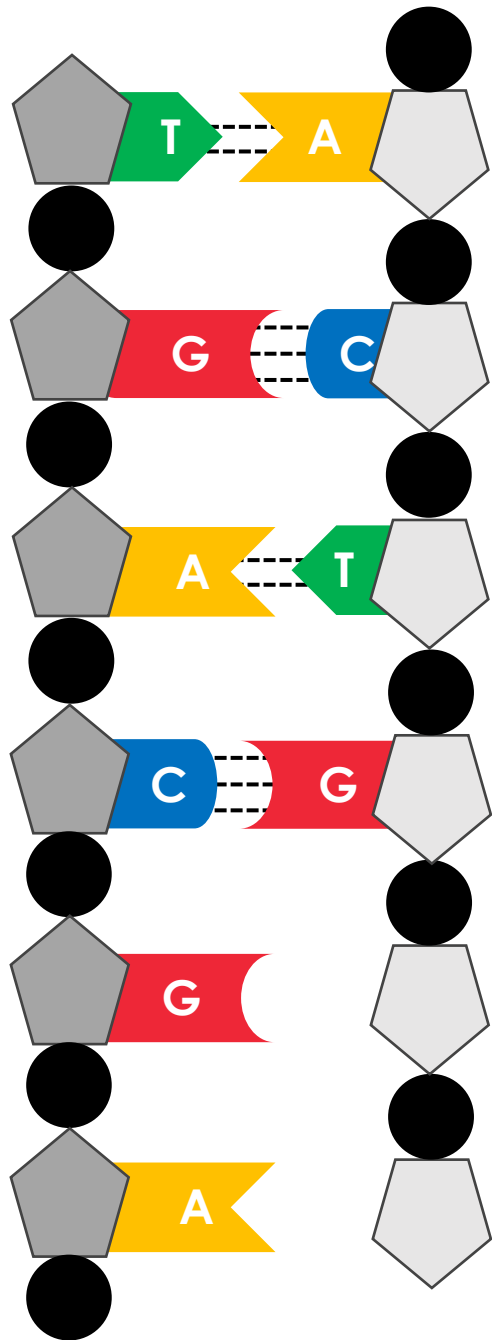


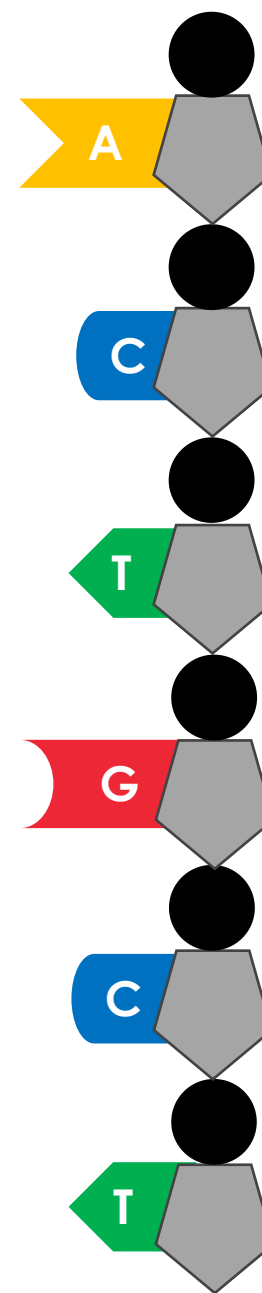
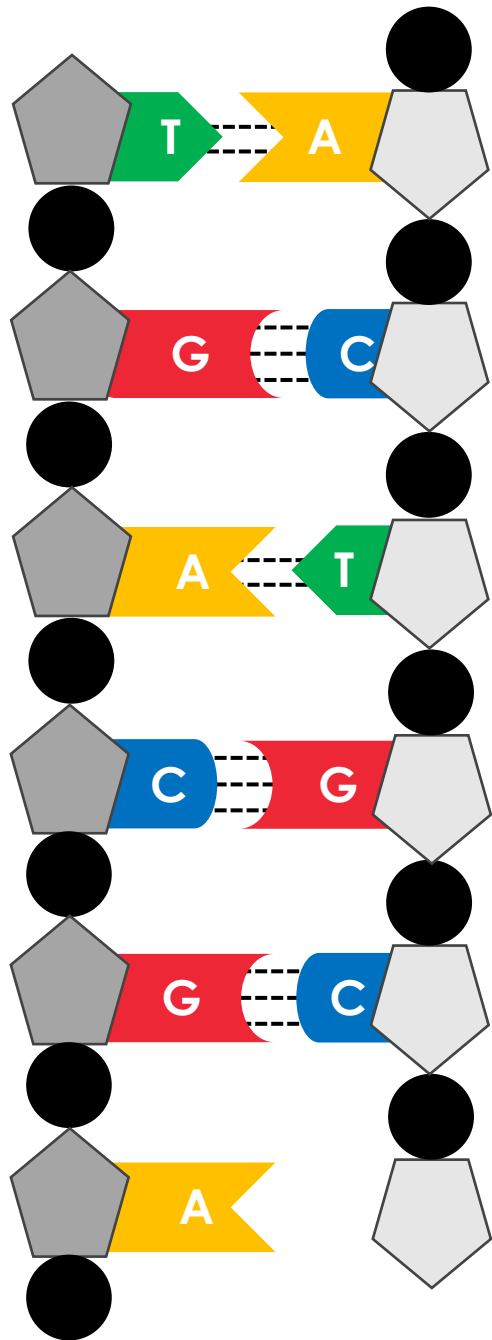


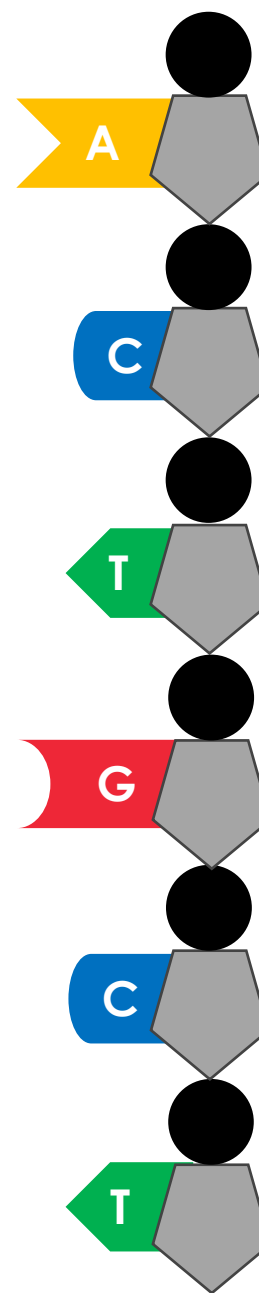
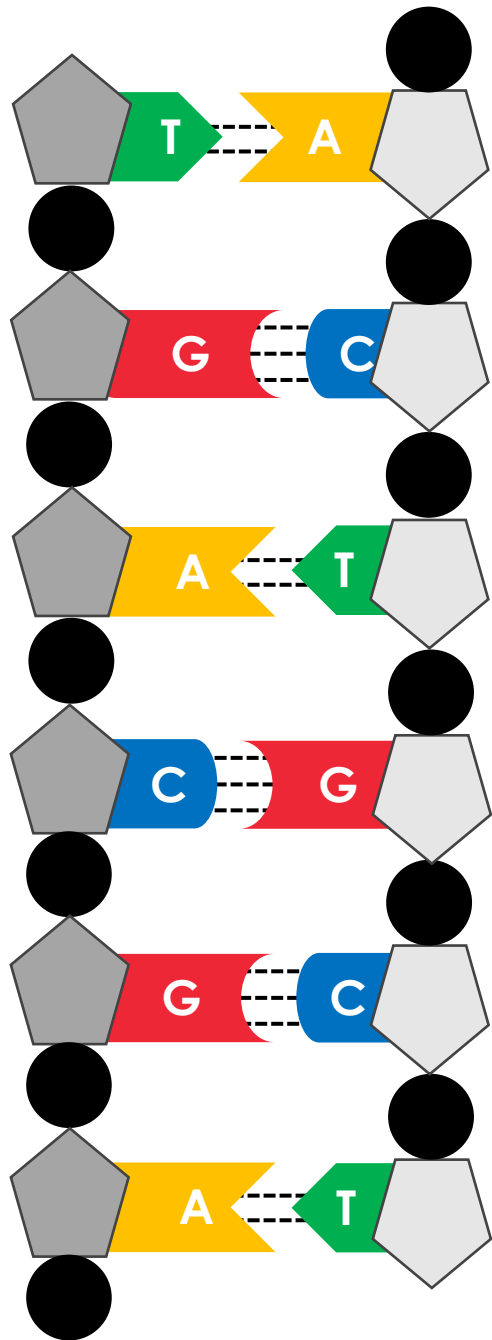


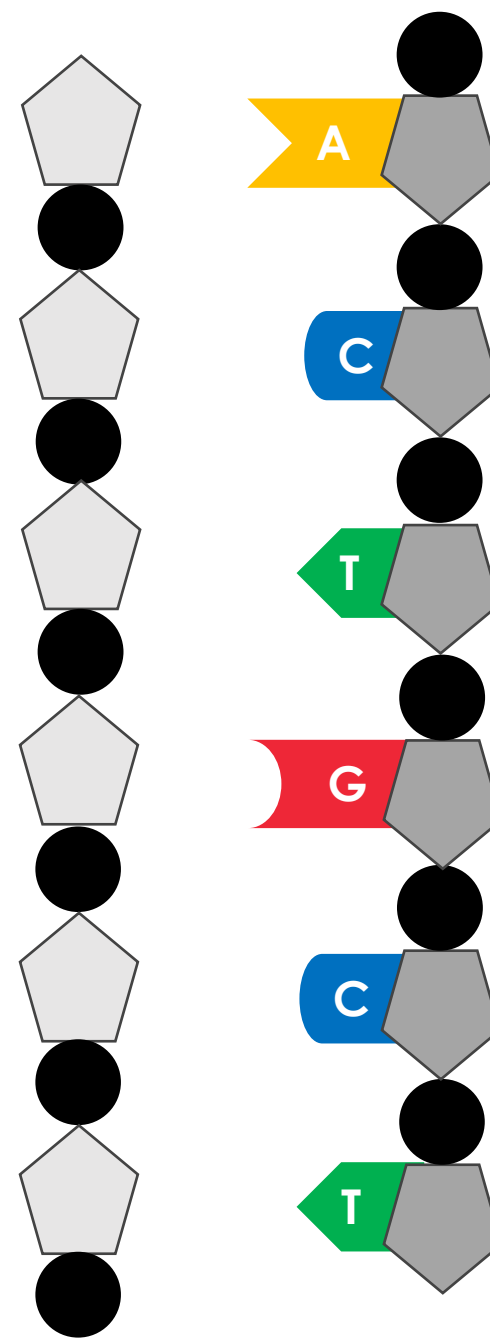
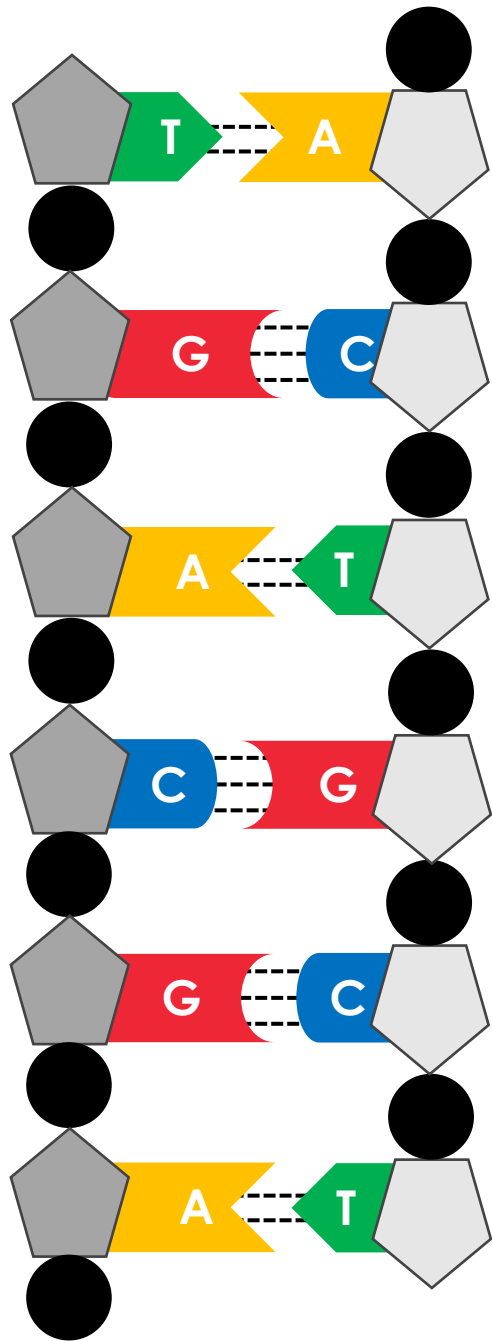


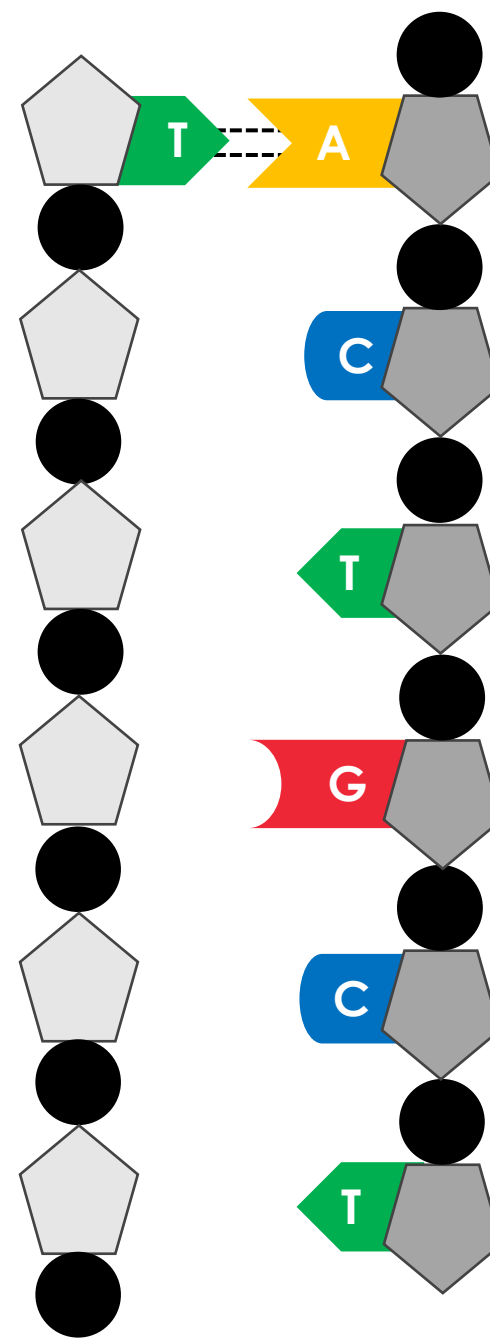
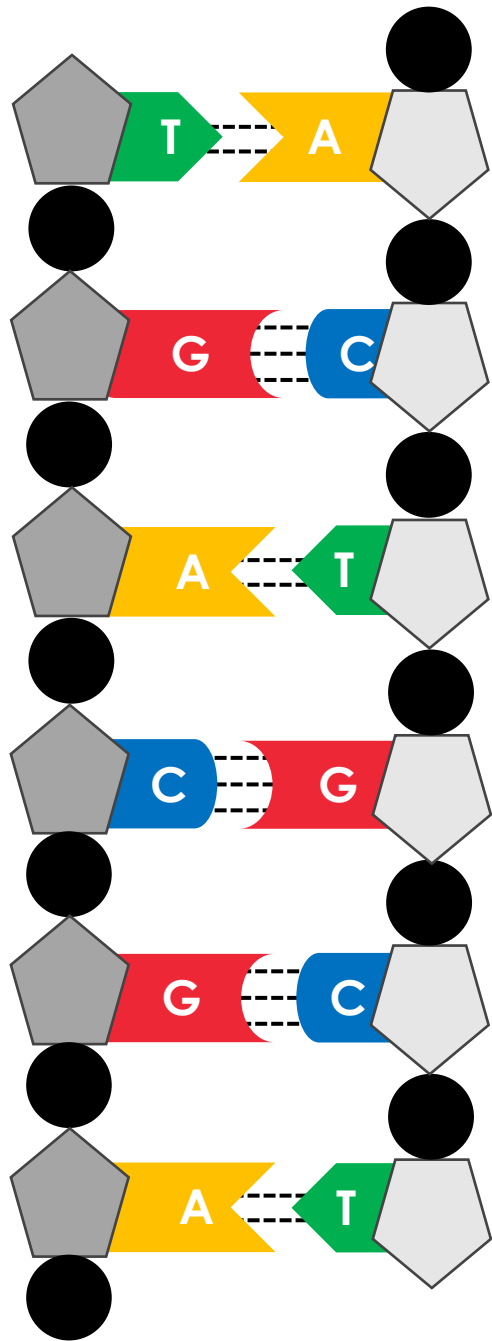


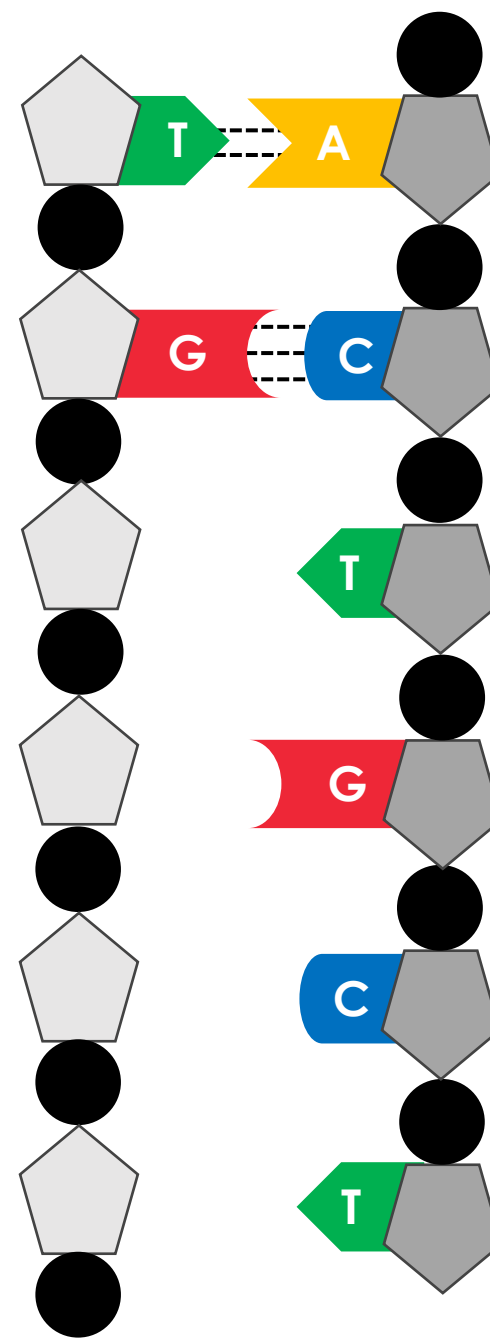
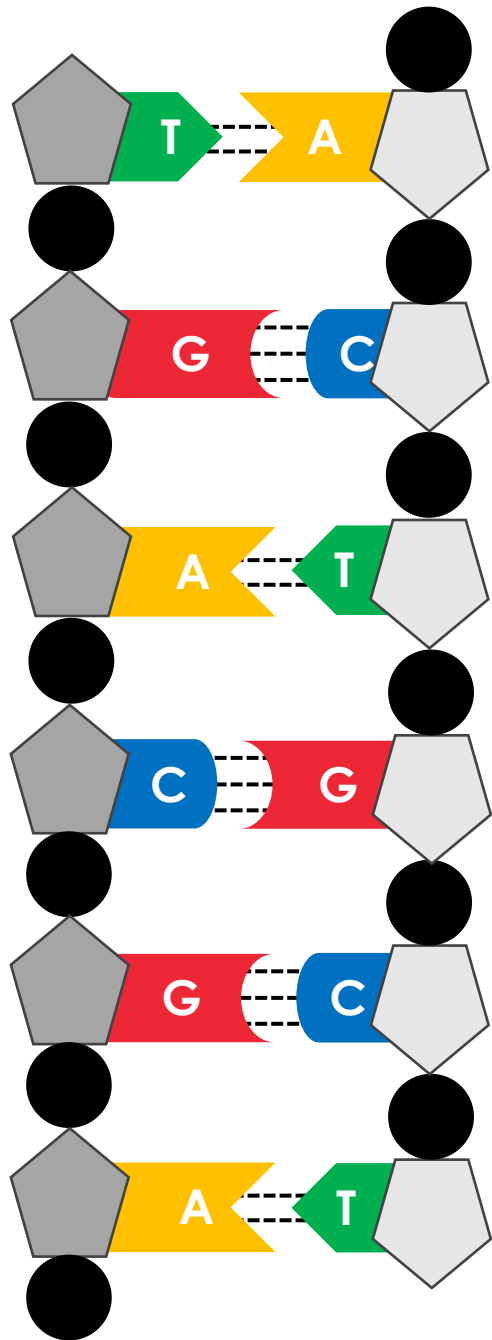


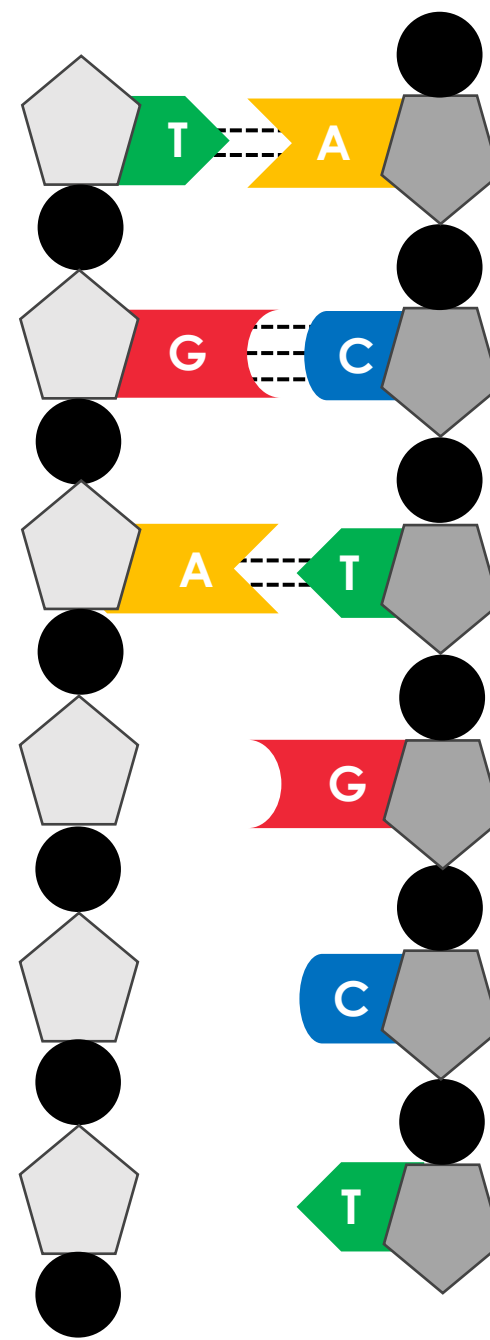
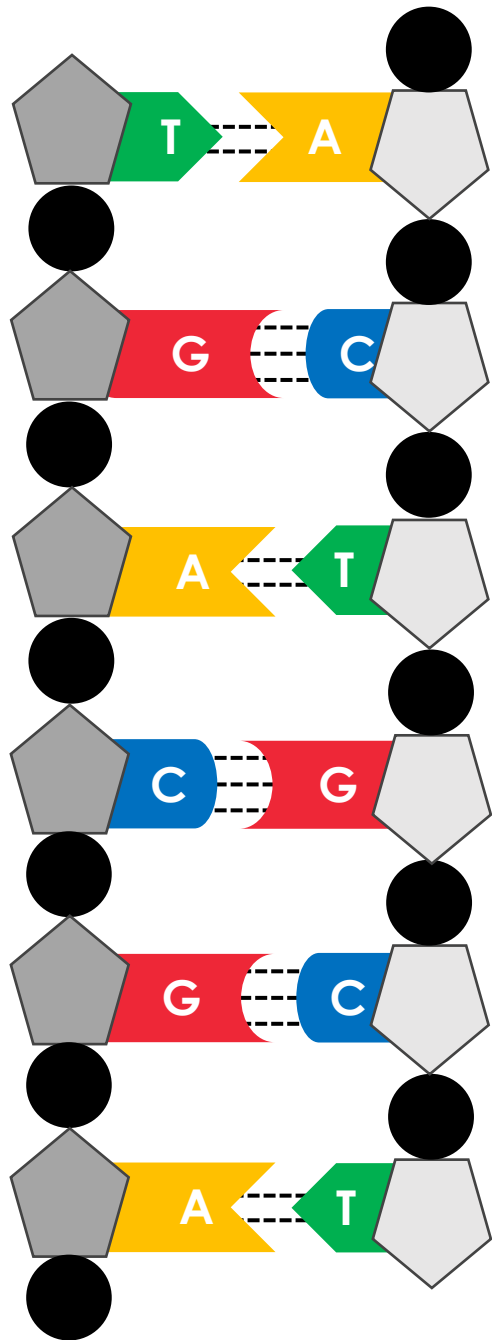


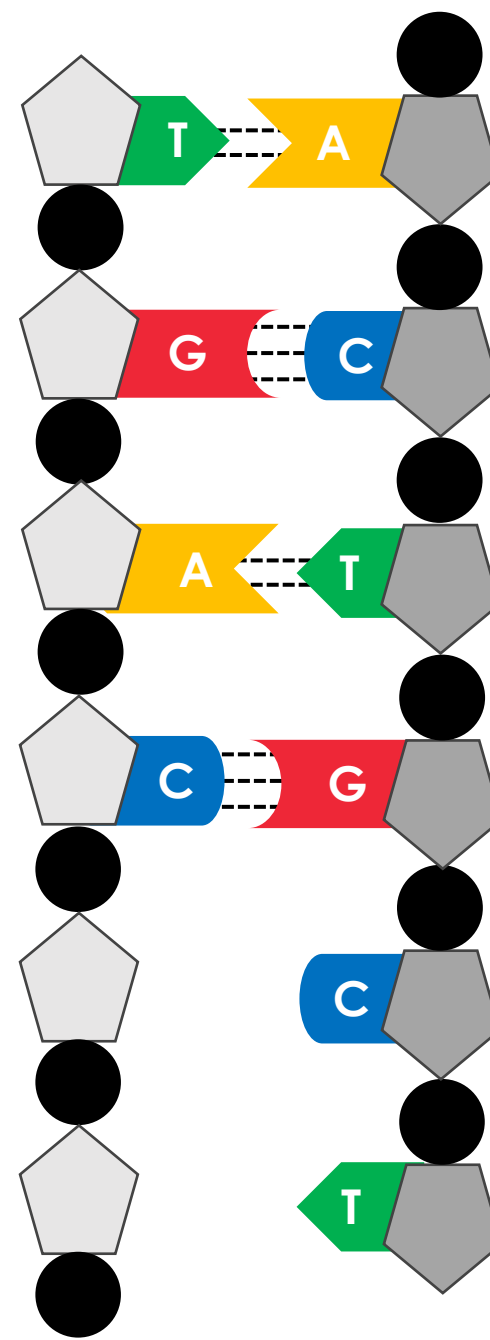
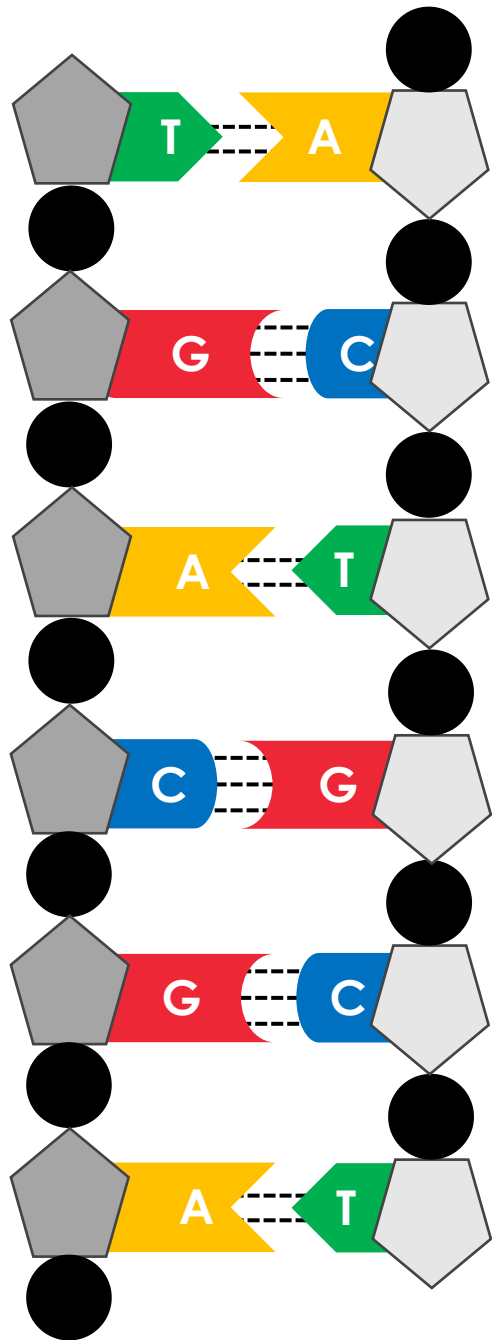


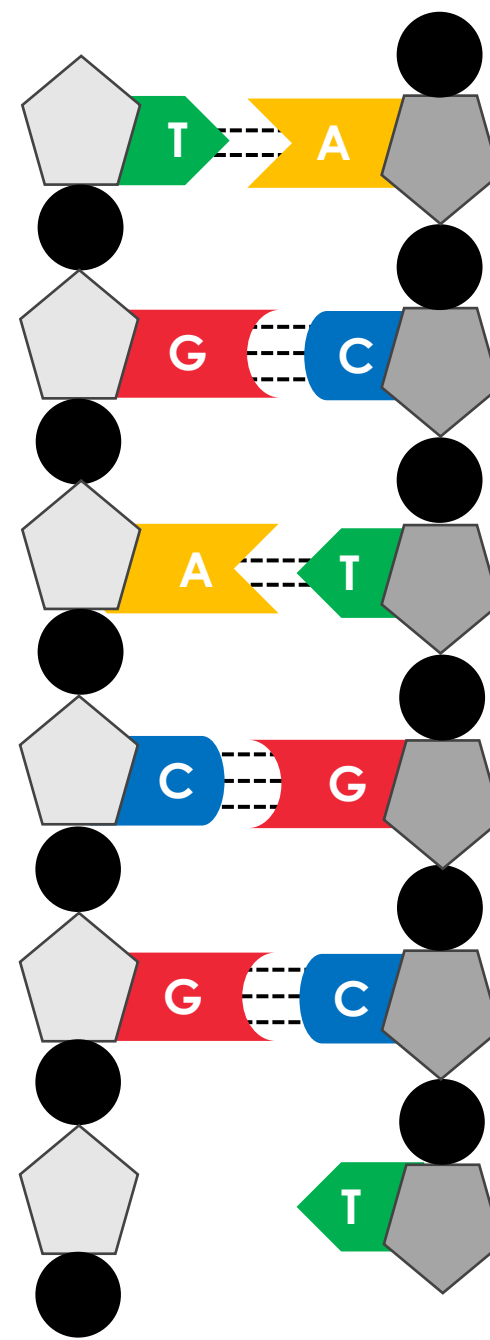
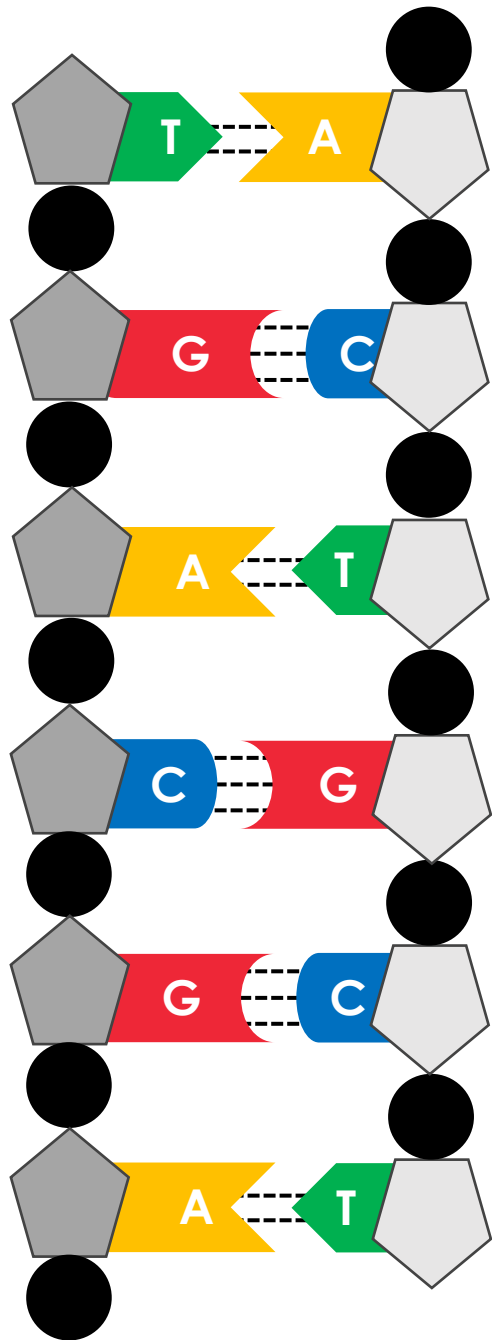


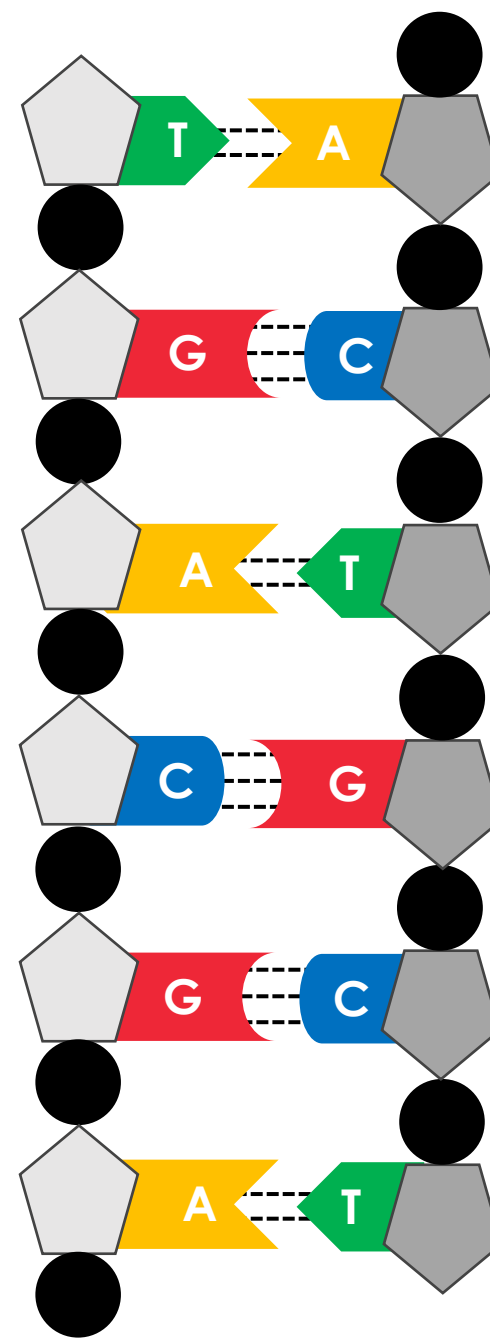
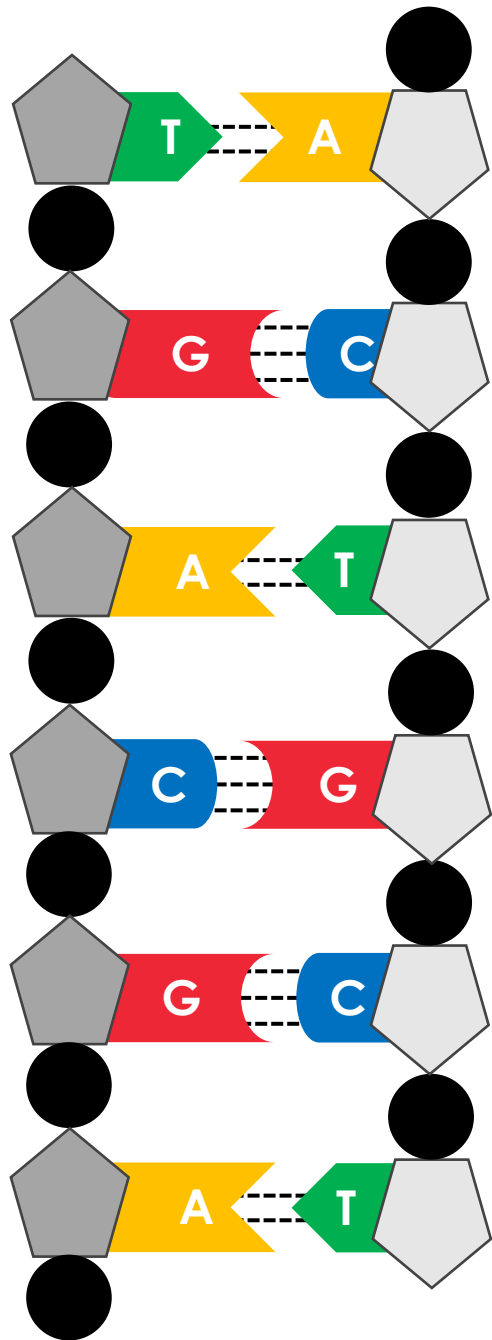


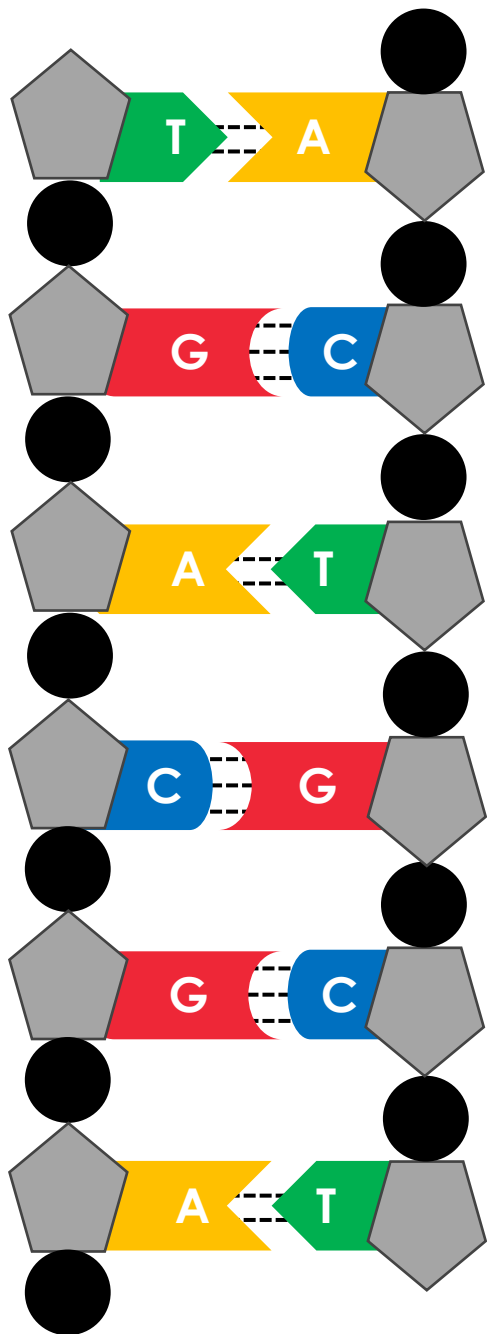








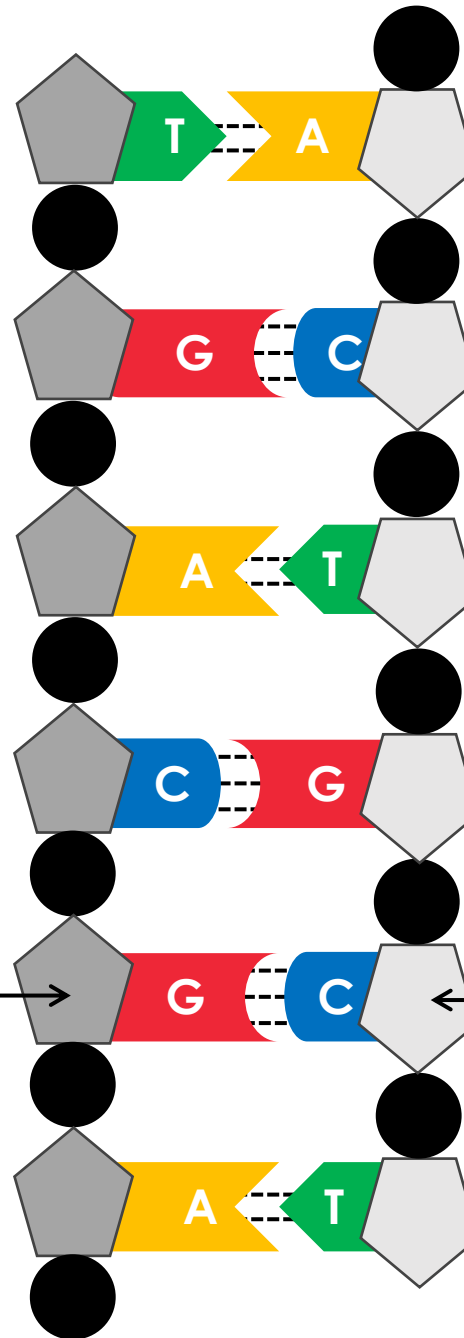




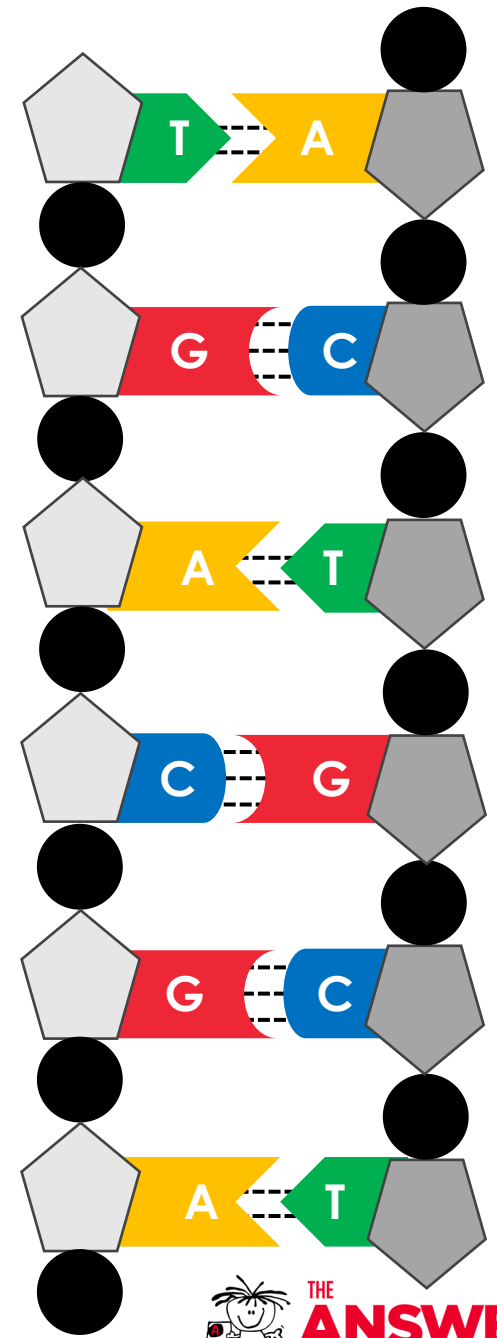
Two identical copies are **formed** from the original DNA molecule – each copy has one new strand and one original (template) strand.



template strand

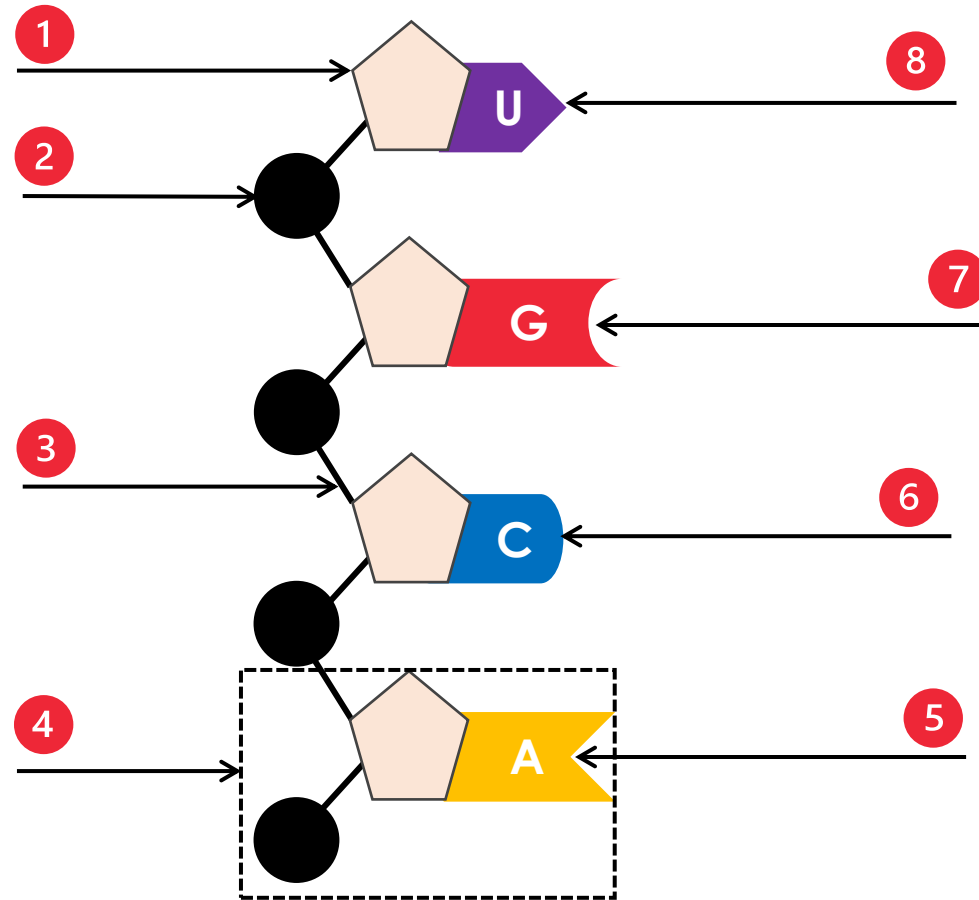


new strand

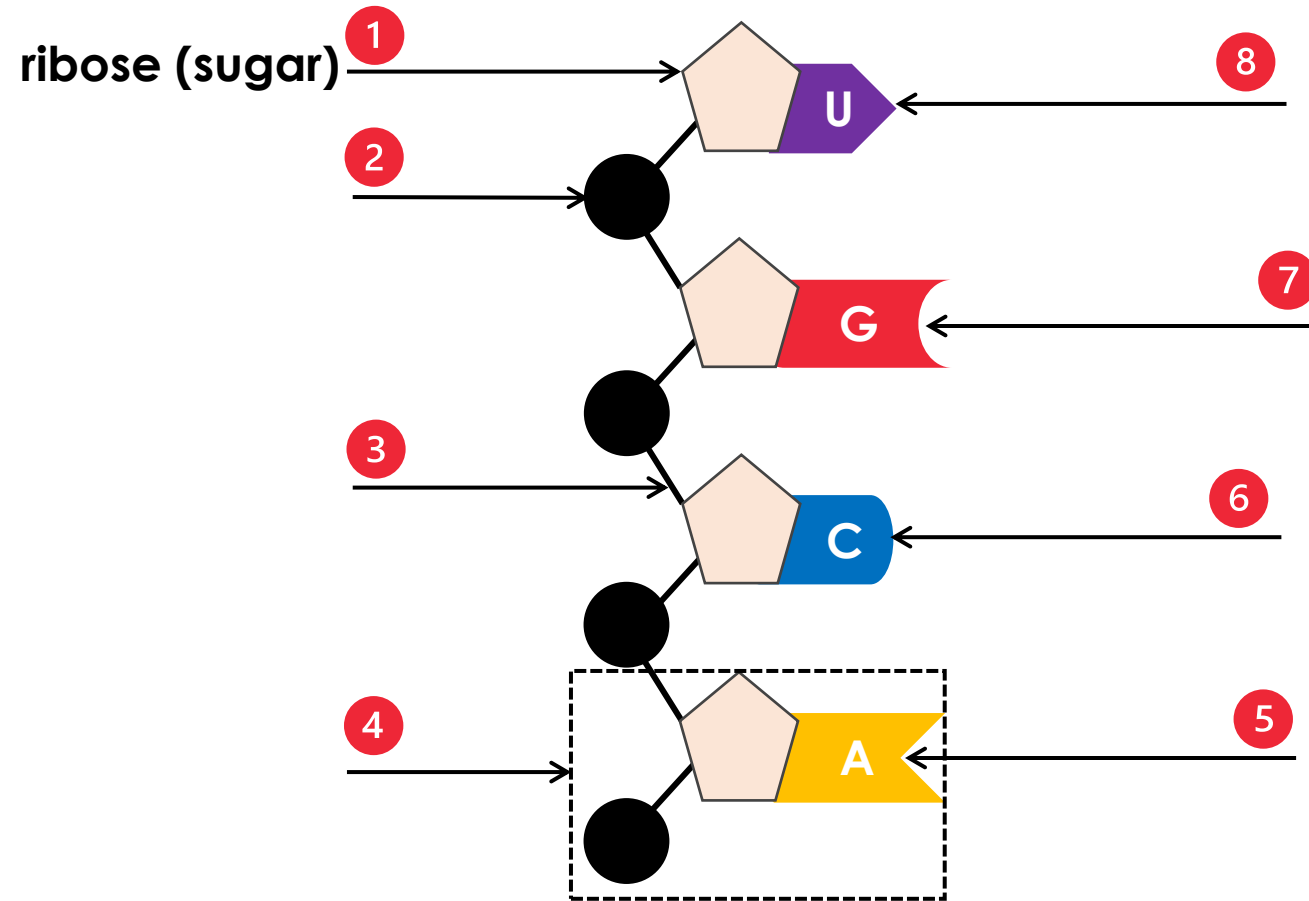


RNA STRUCTURE

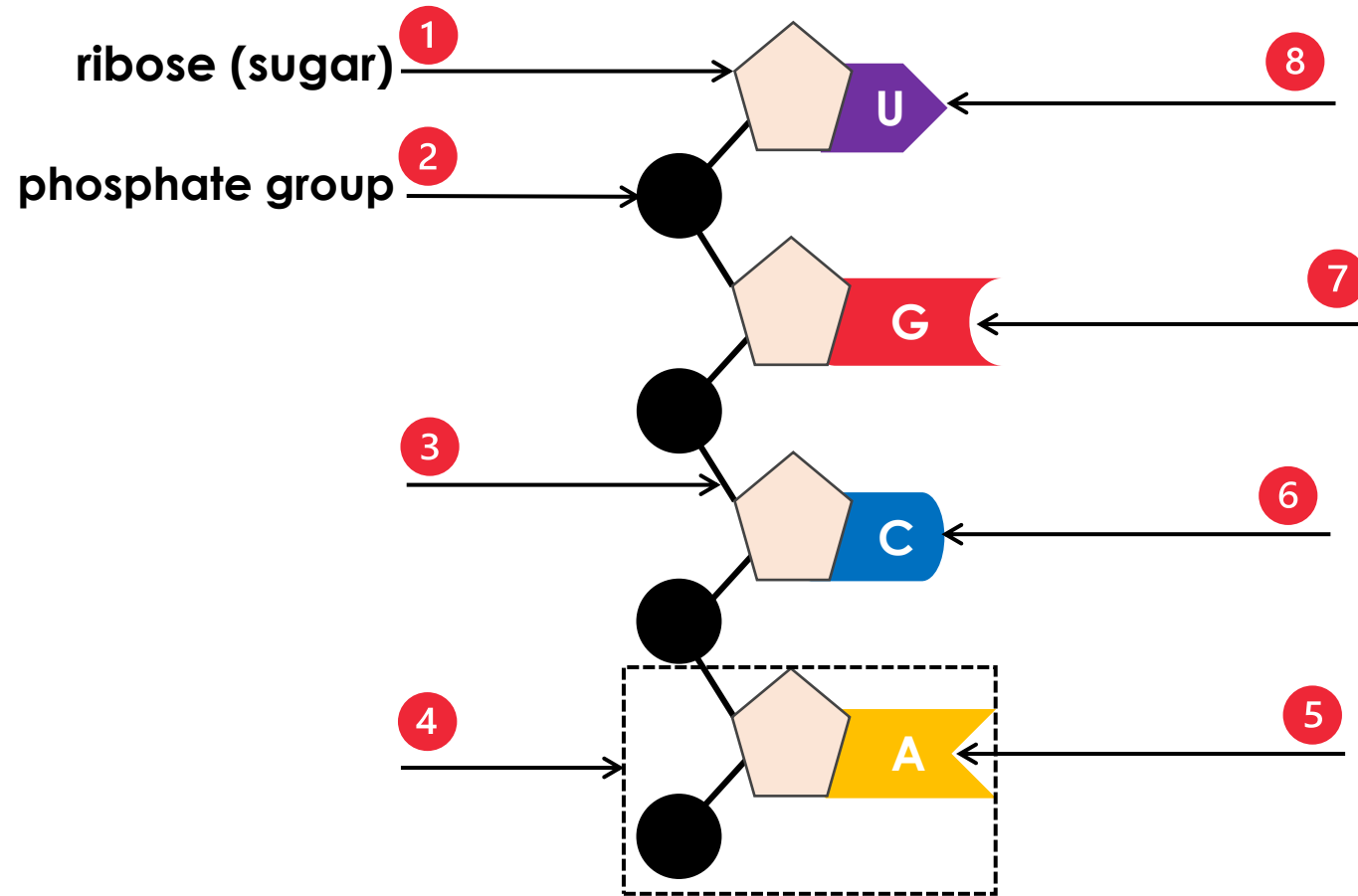
Provide labels for the structure of RNA.



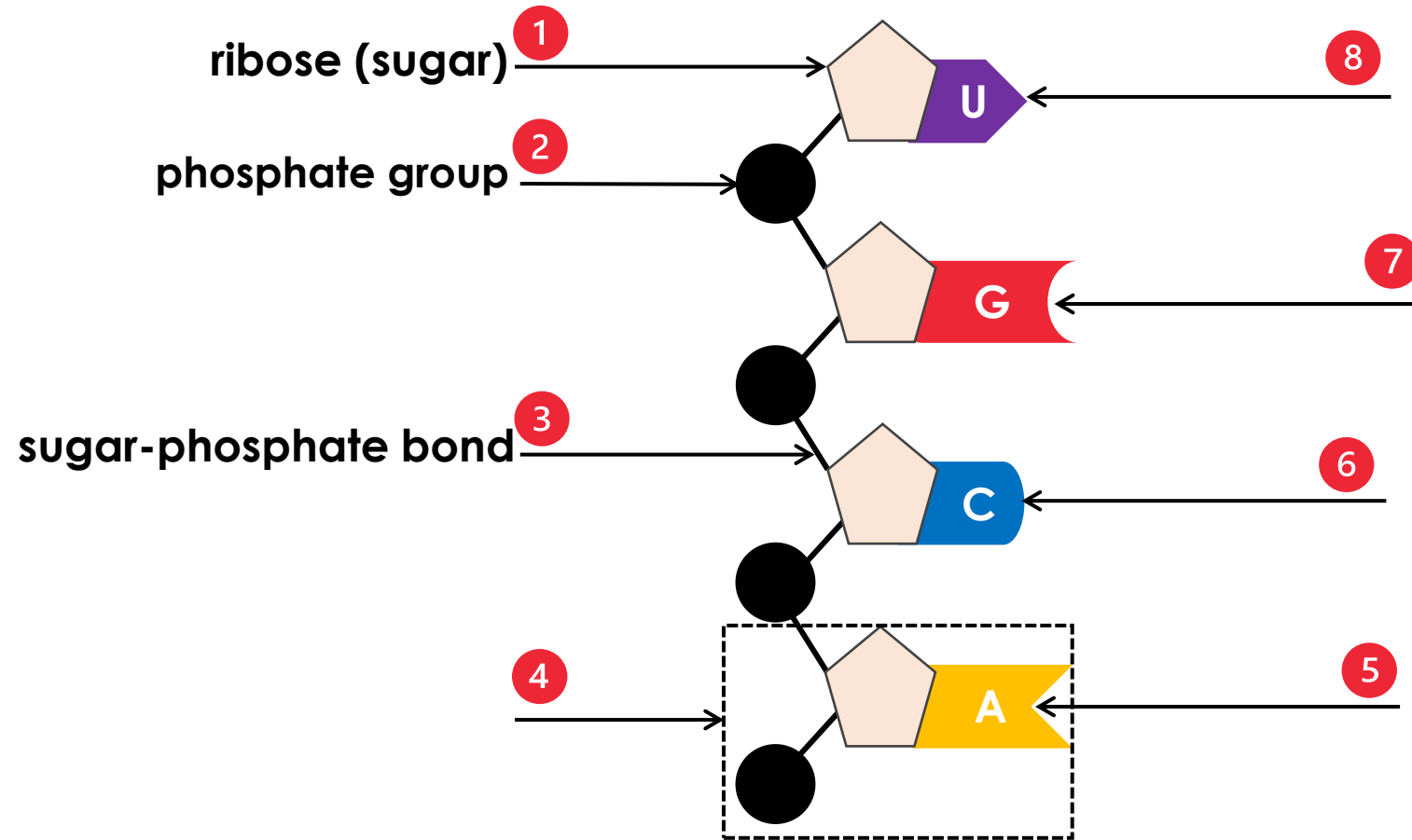
Provide labels for the structure of RNA.



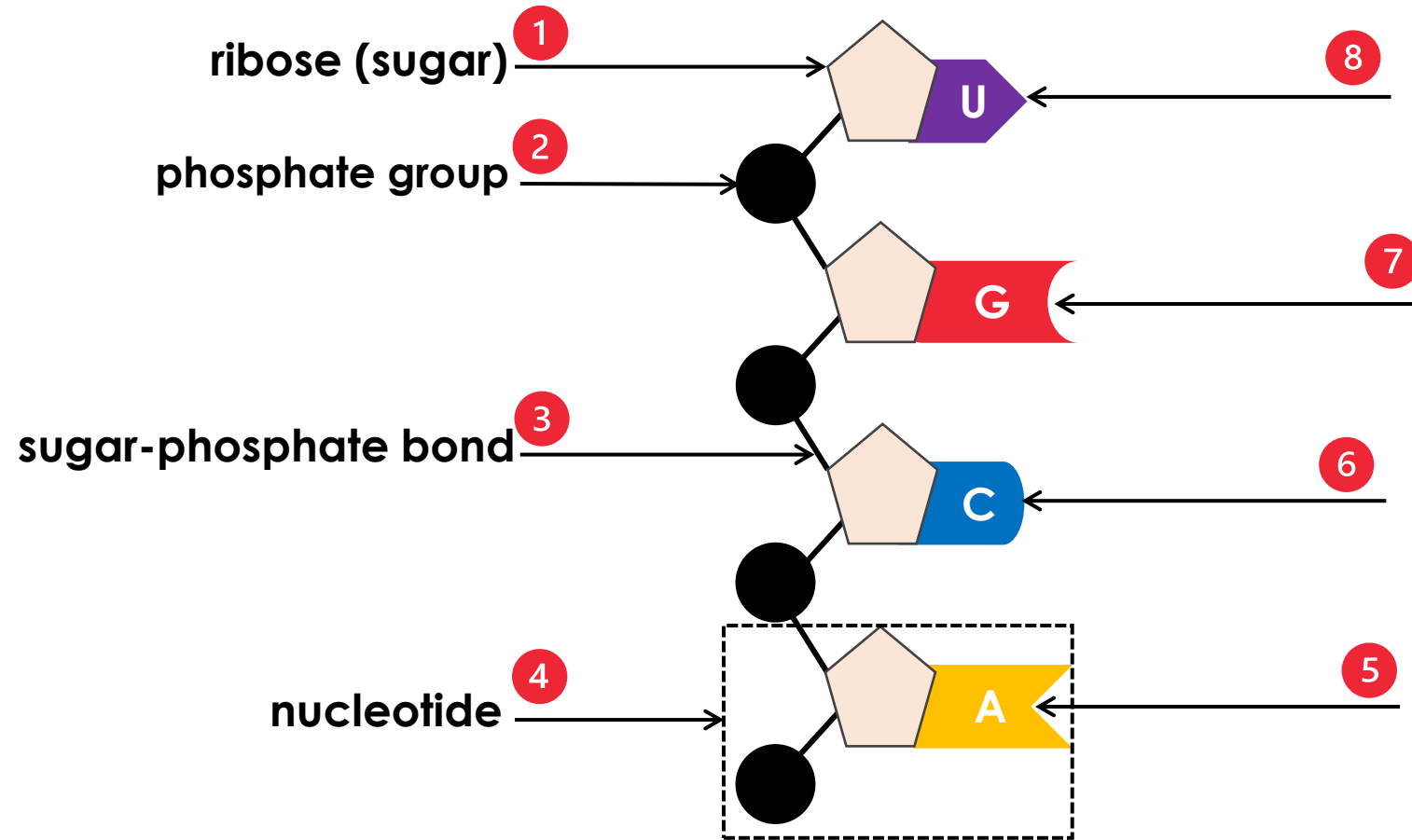
Provide labels for the structure of RNA.



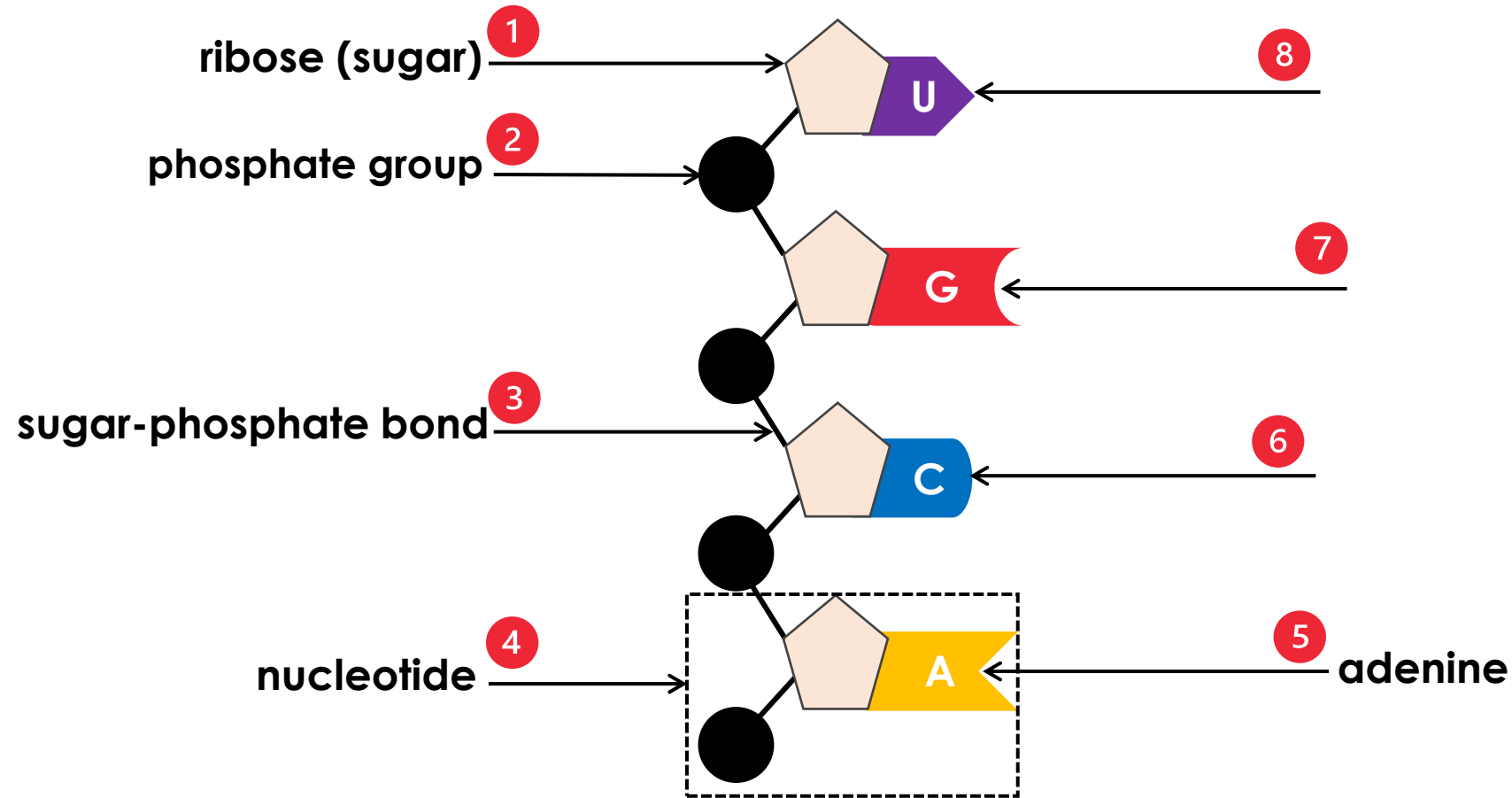
Provide labels for the structure of RNA.



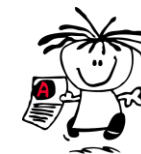
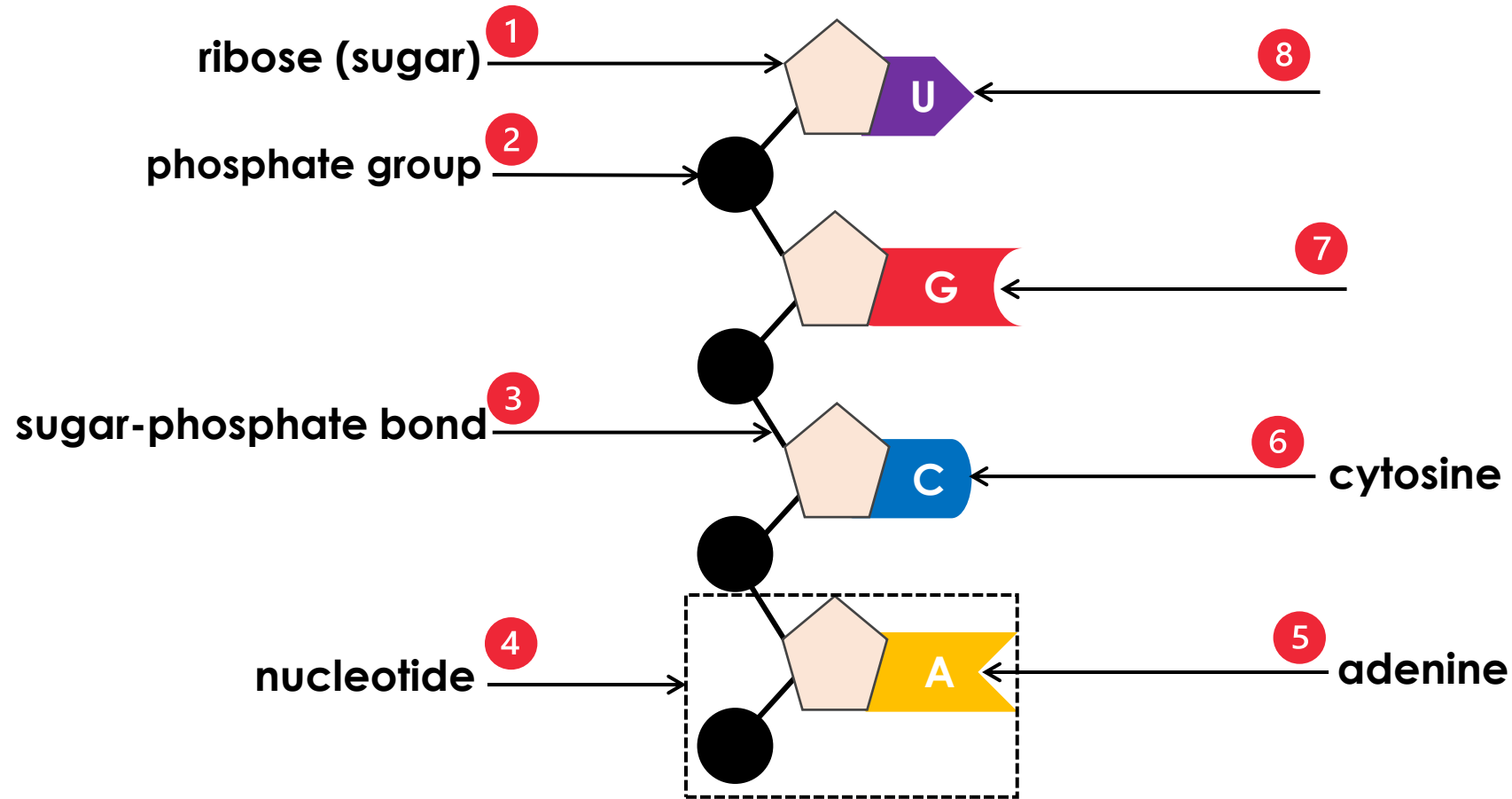
Provide labels for the structure of RNA.



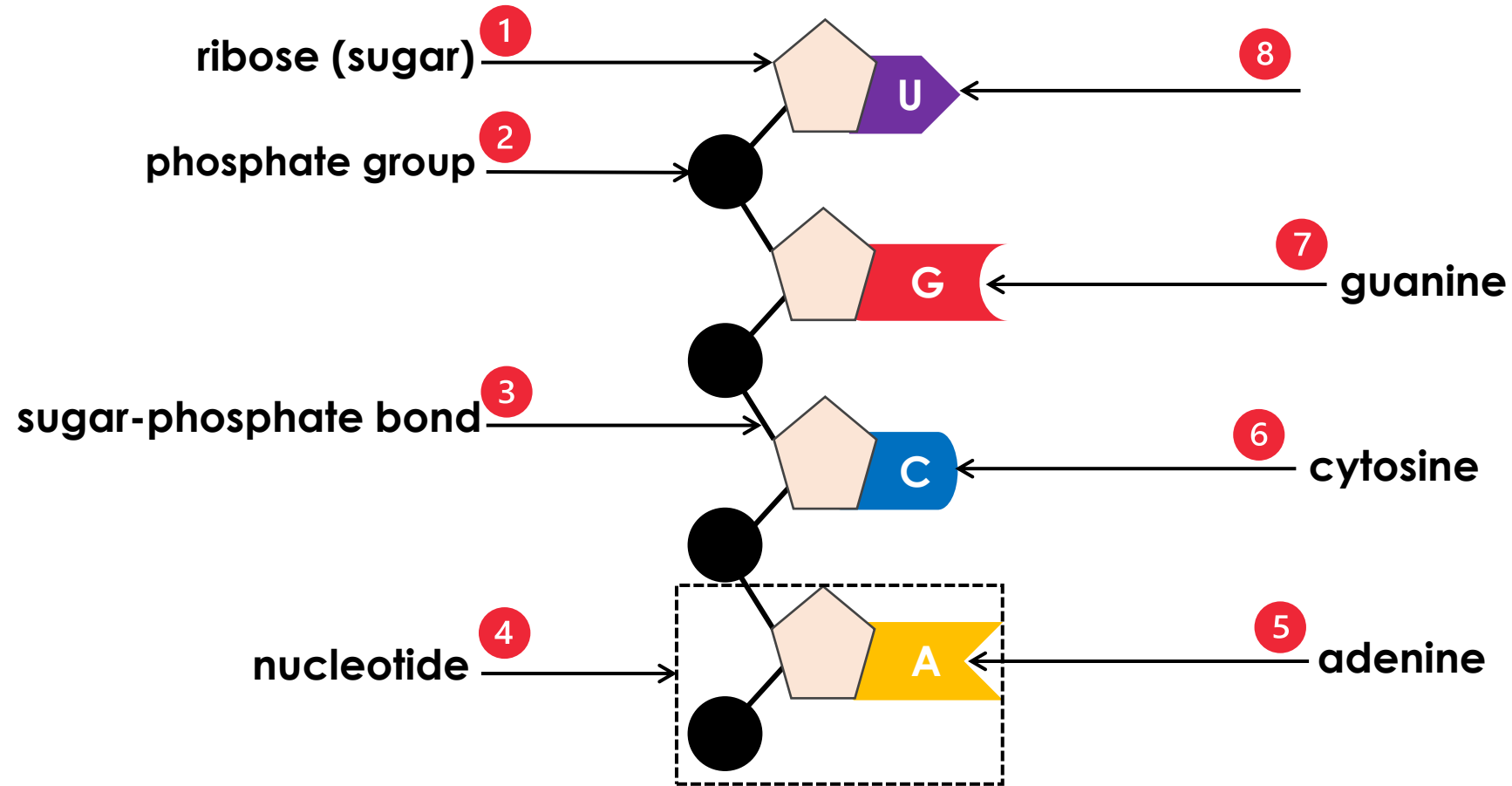
Provide labels for the structure of RNA.



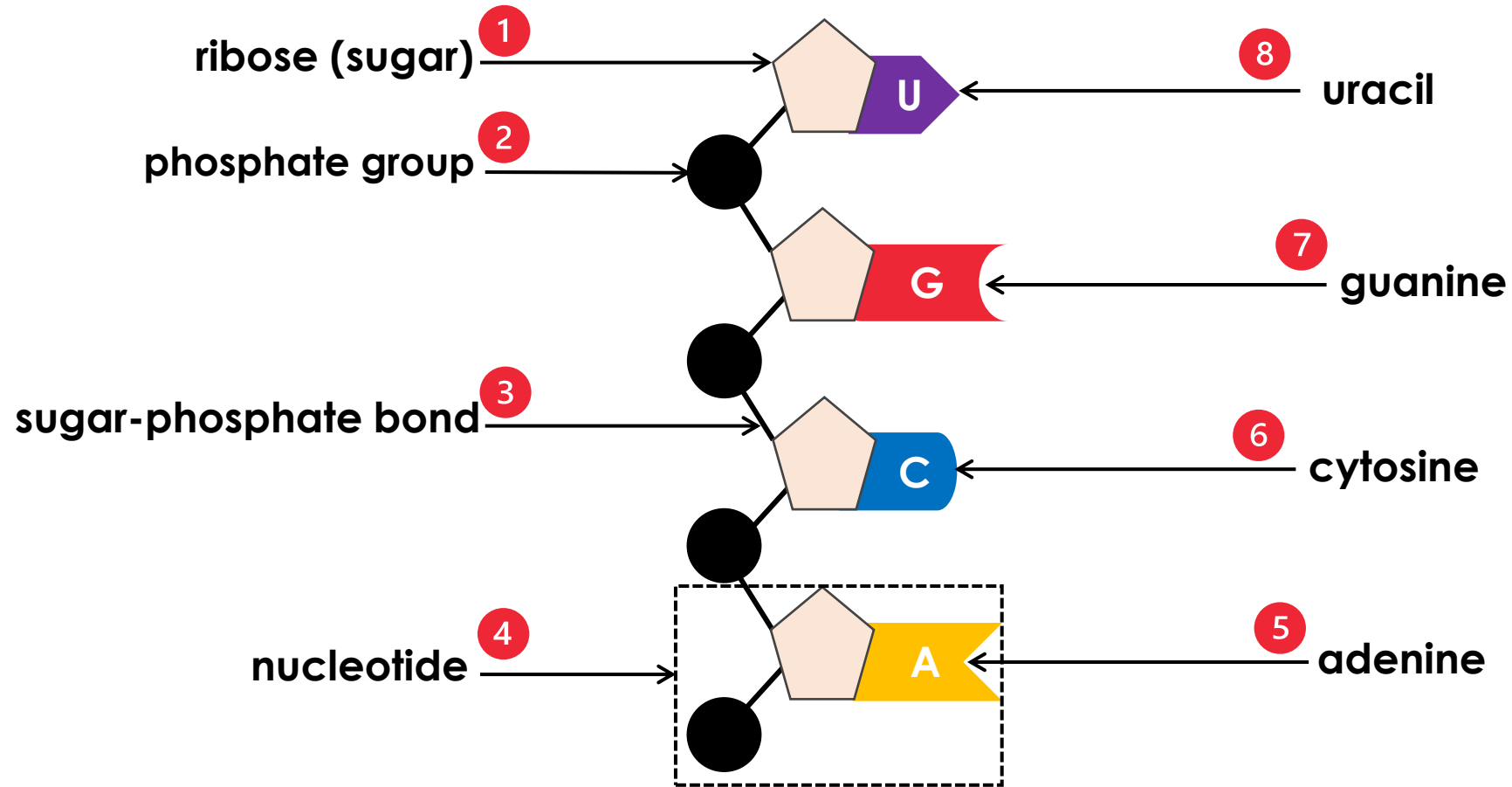
Provide labels for the structure of RNA.



Provide labels for the structure of RNA.

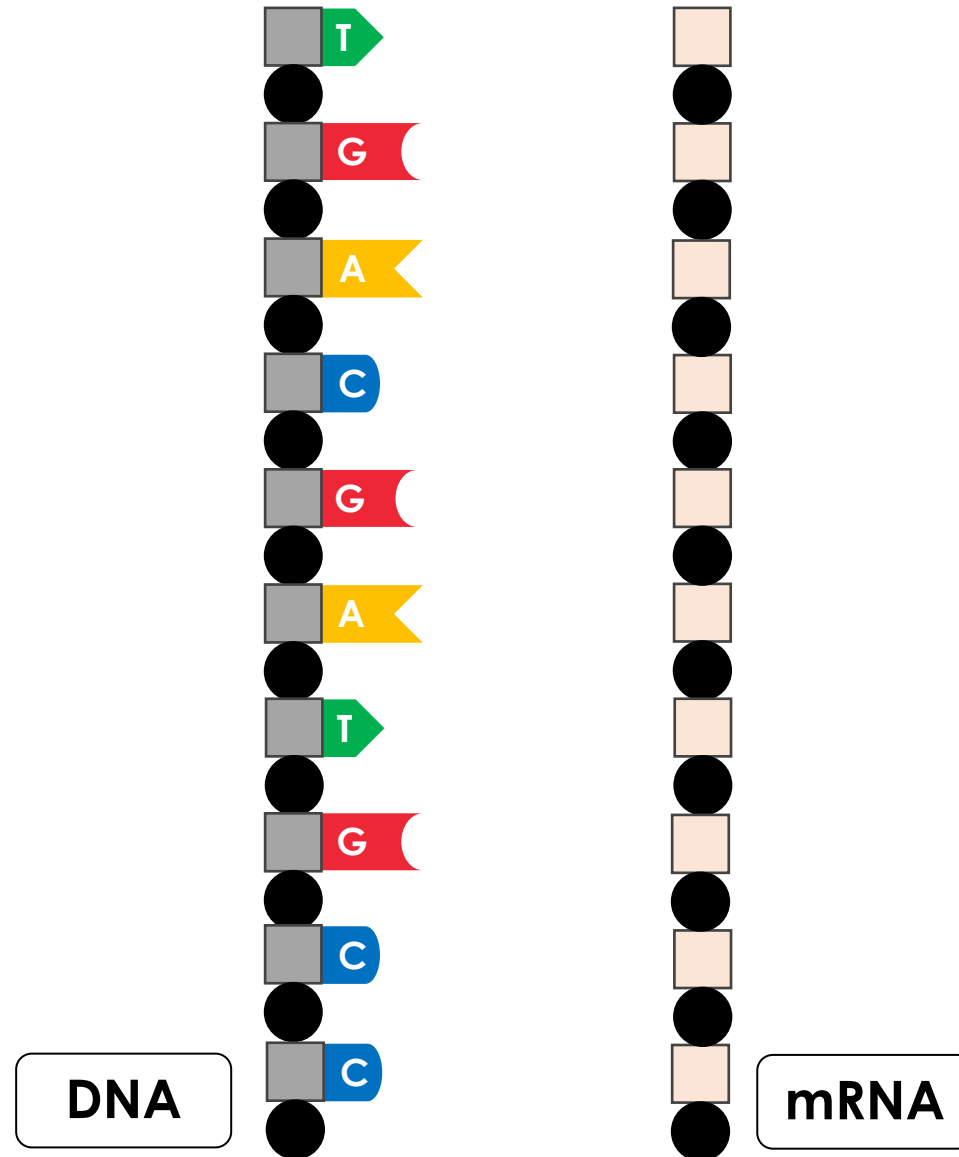


Provide labels for the structure of RNA.

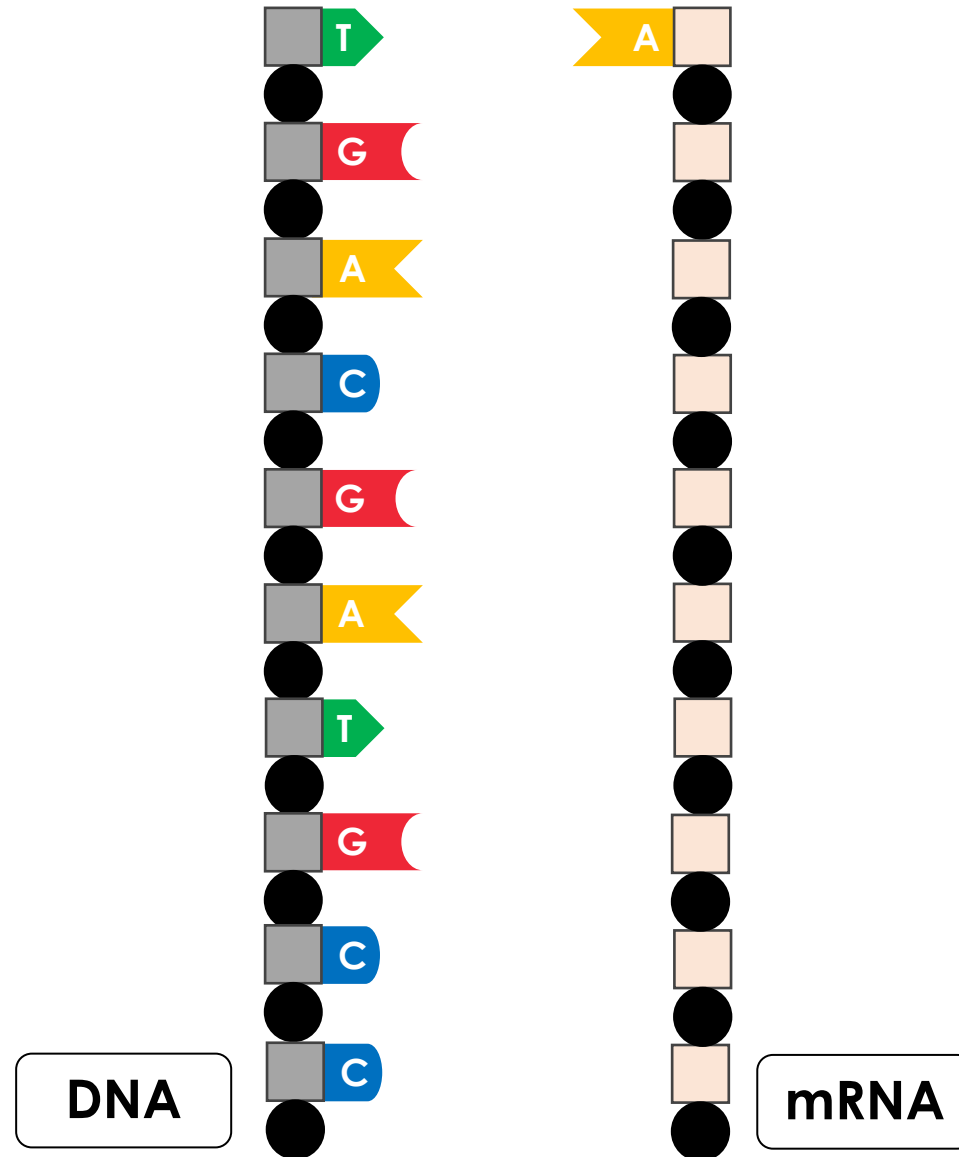


TRANSCRIPTION

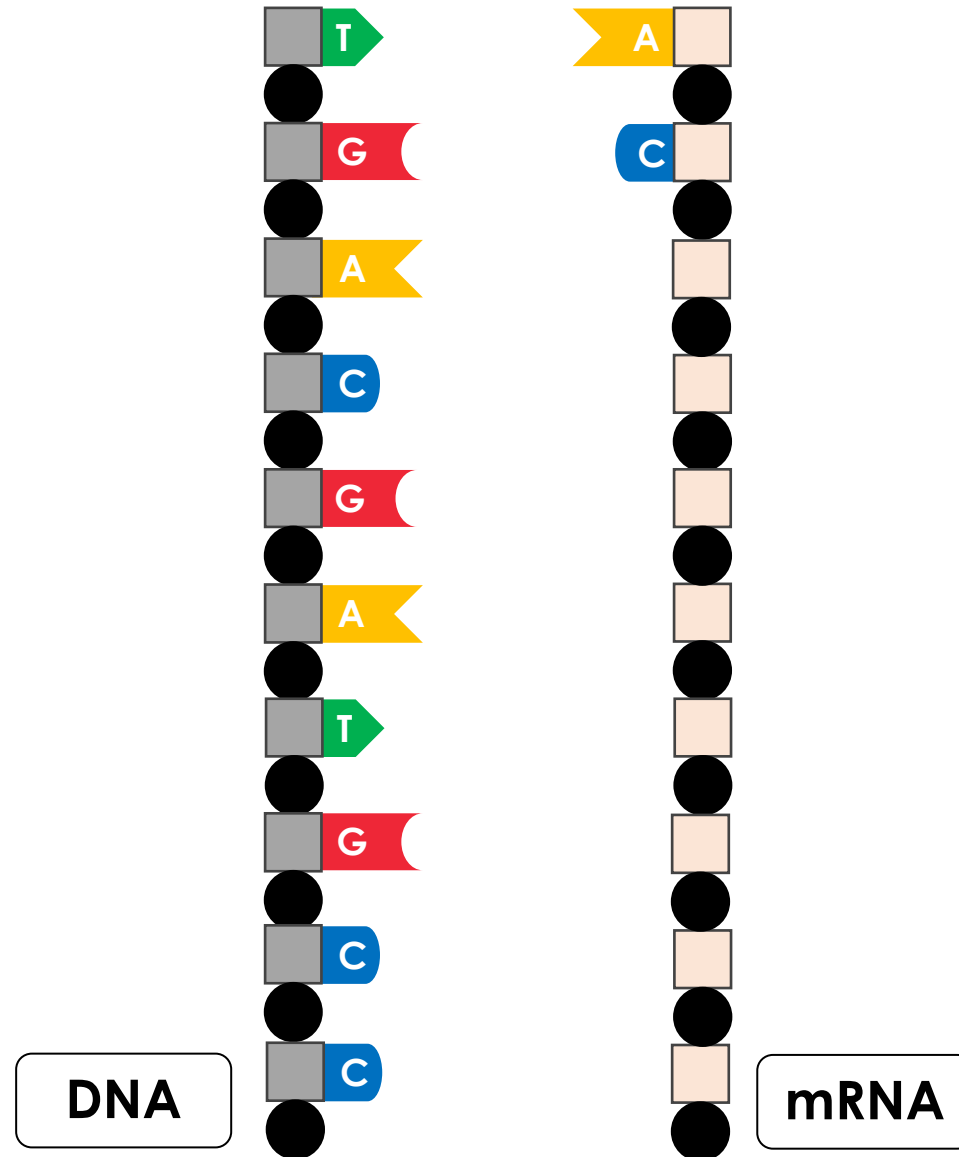
Transcribe the DNA strand into a mRNA strand.



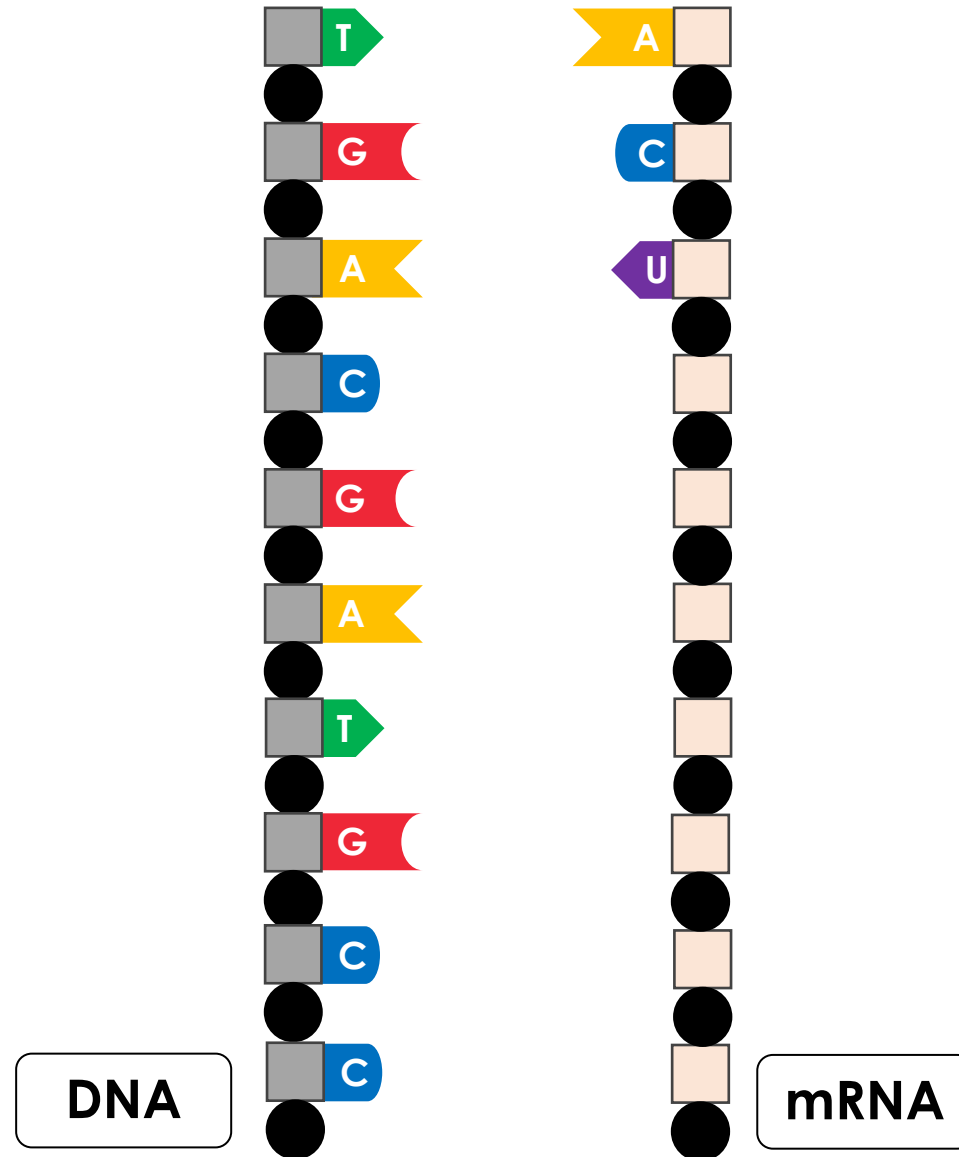
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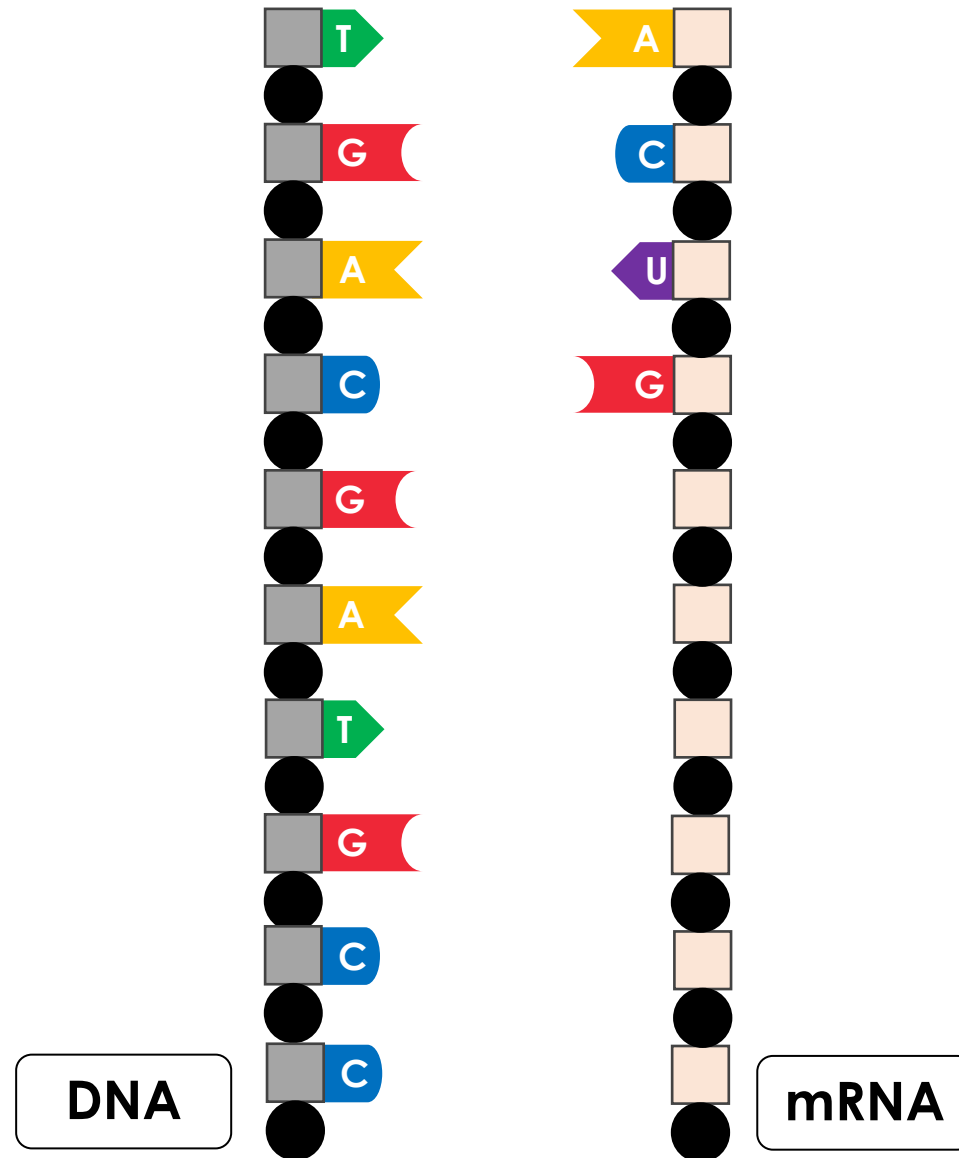
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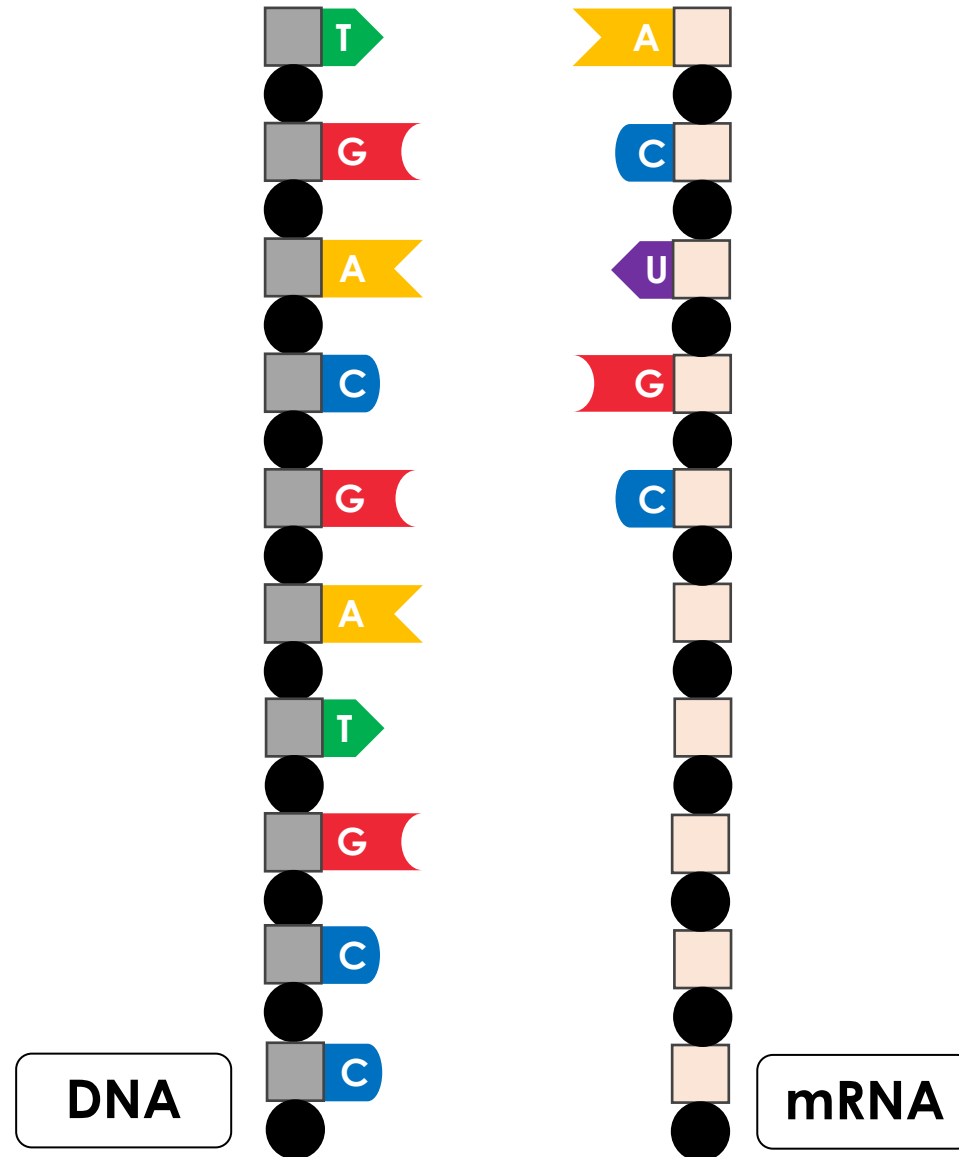
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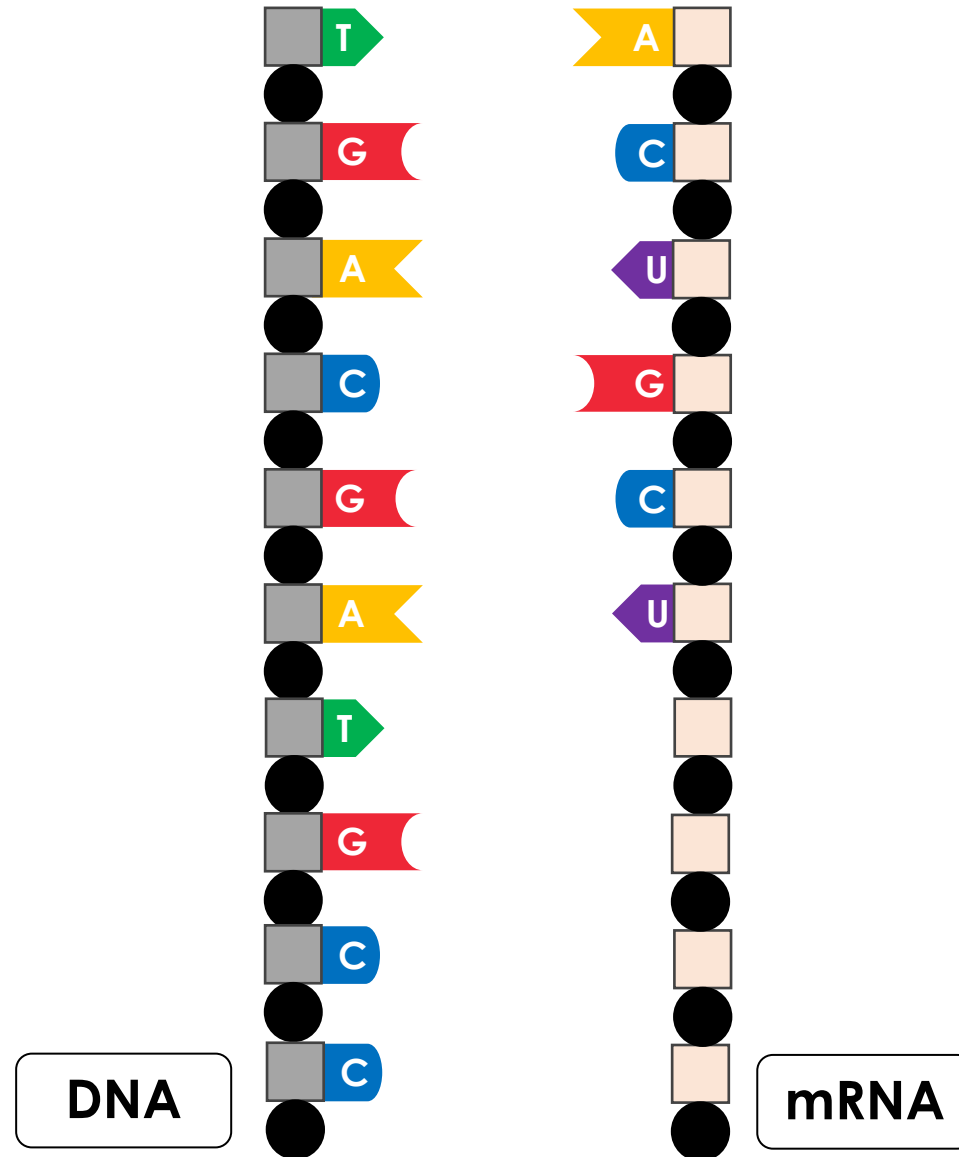
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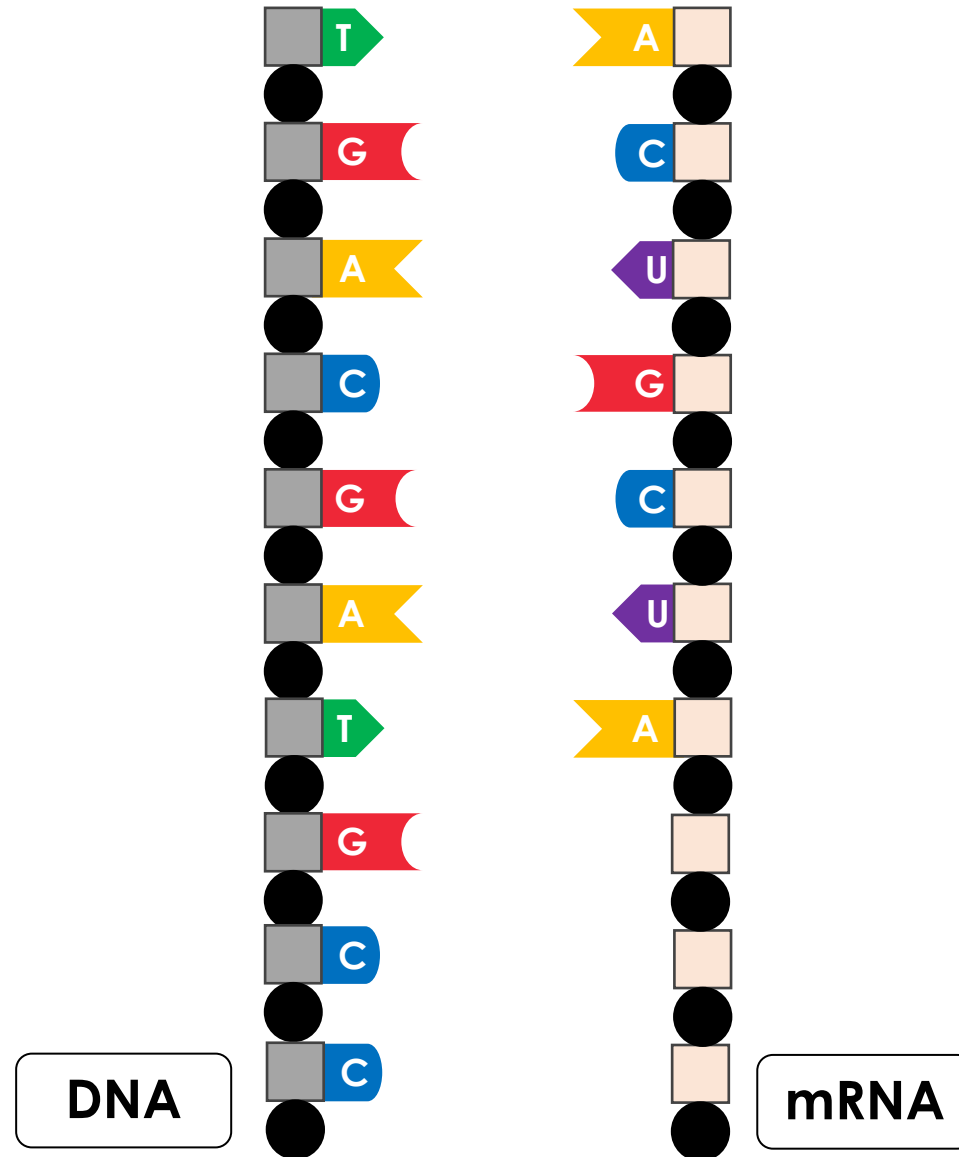
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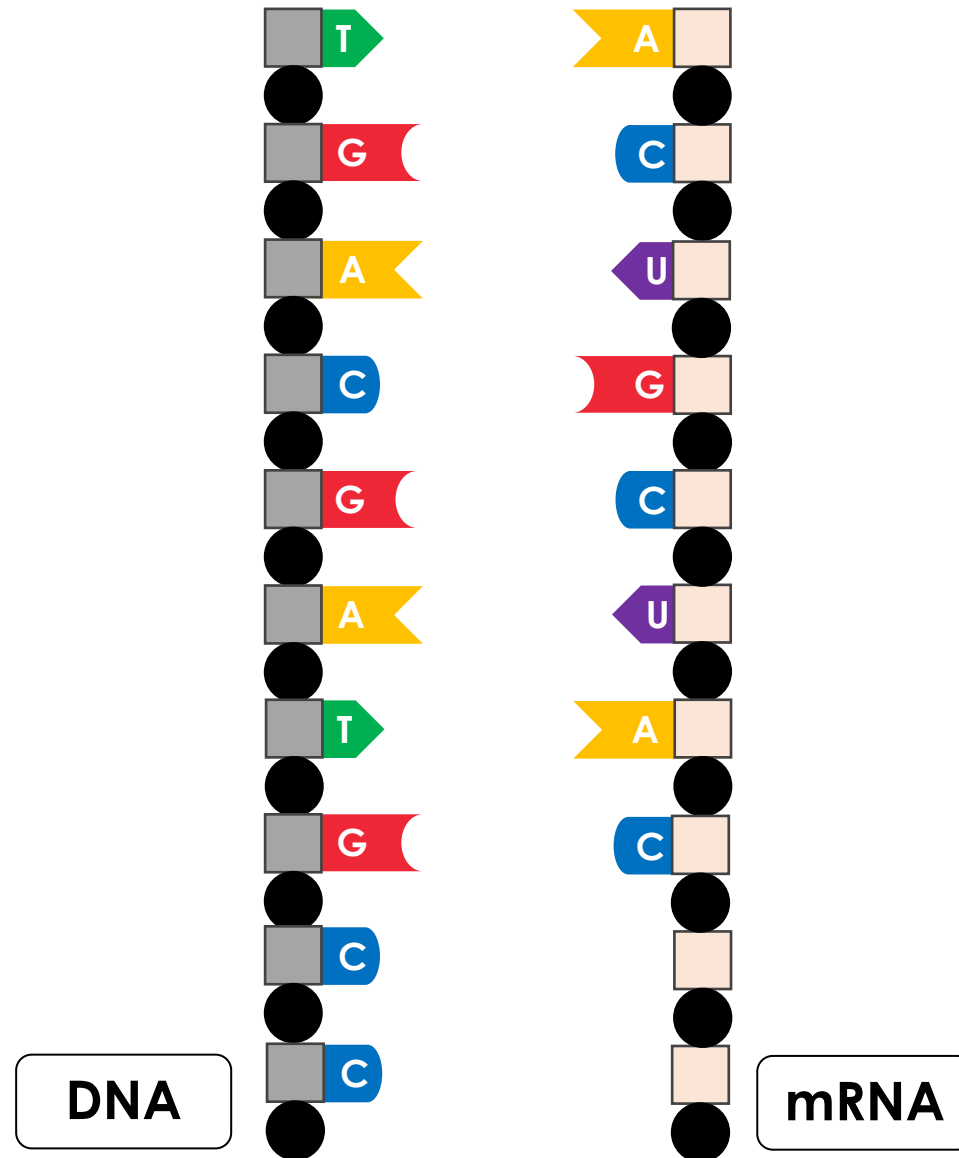
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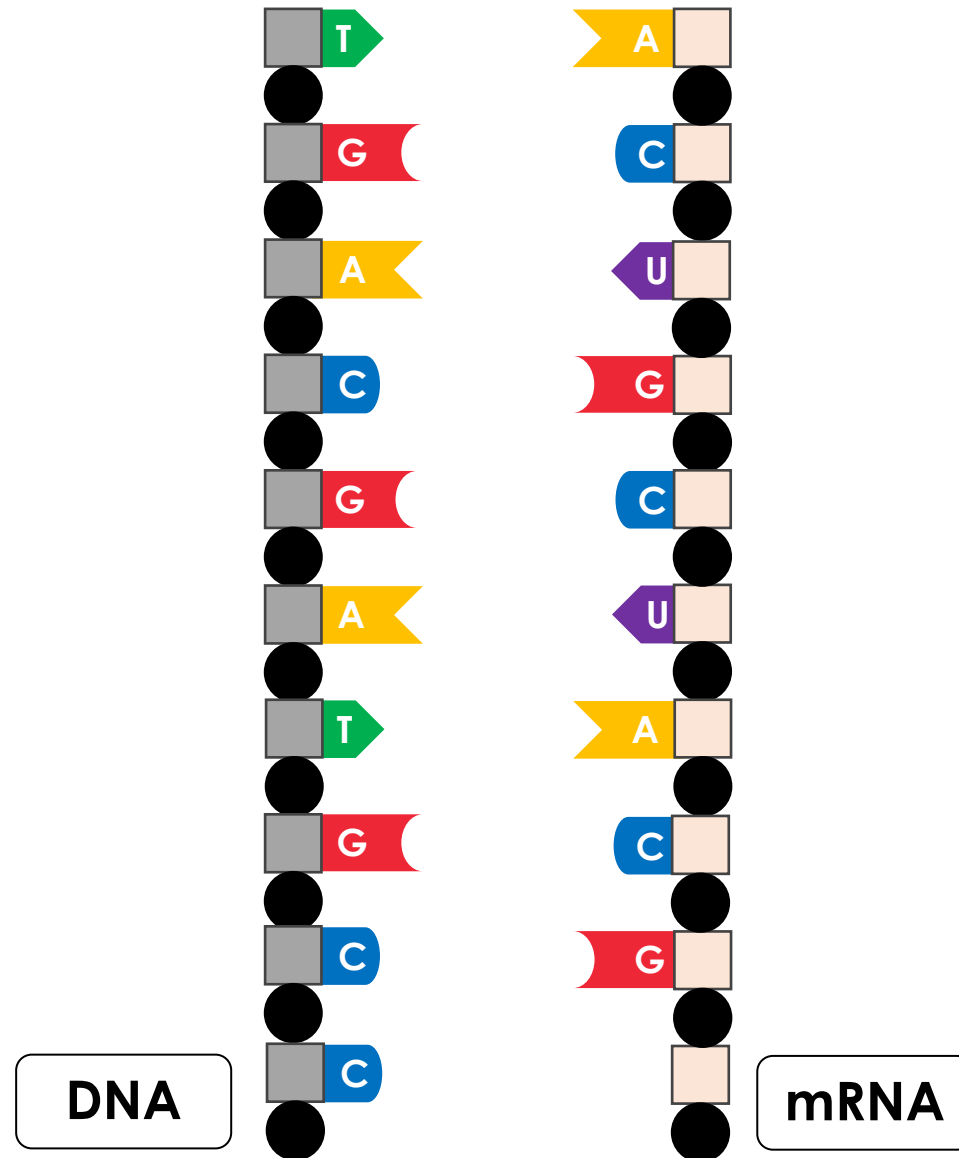
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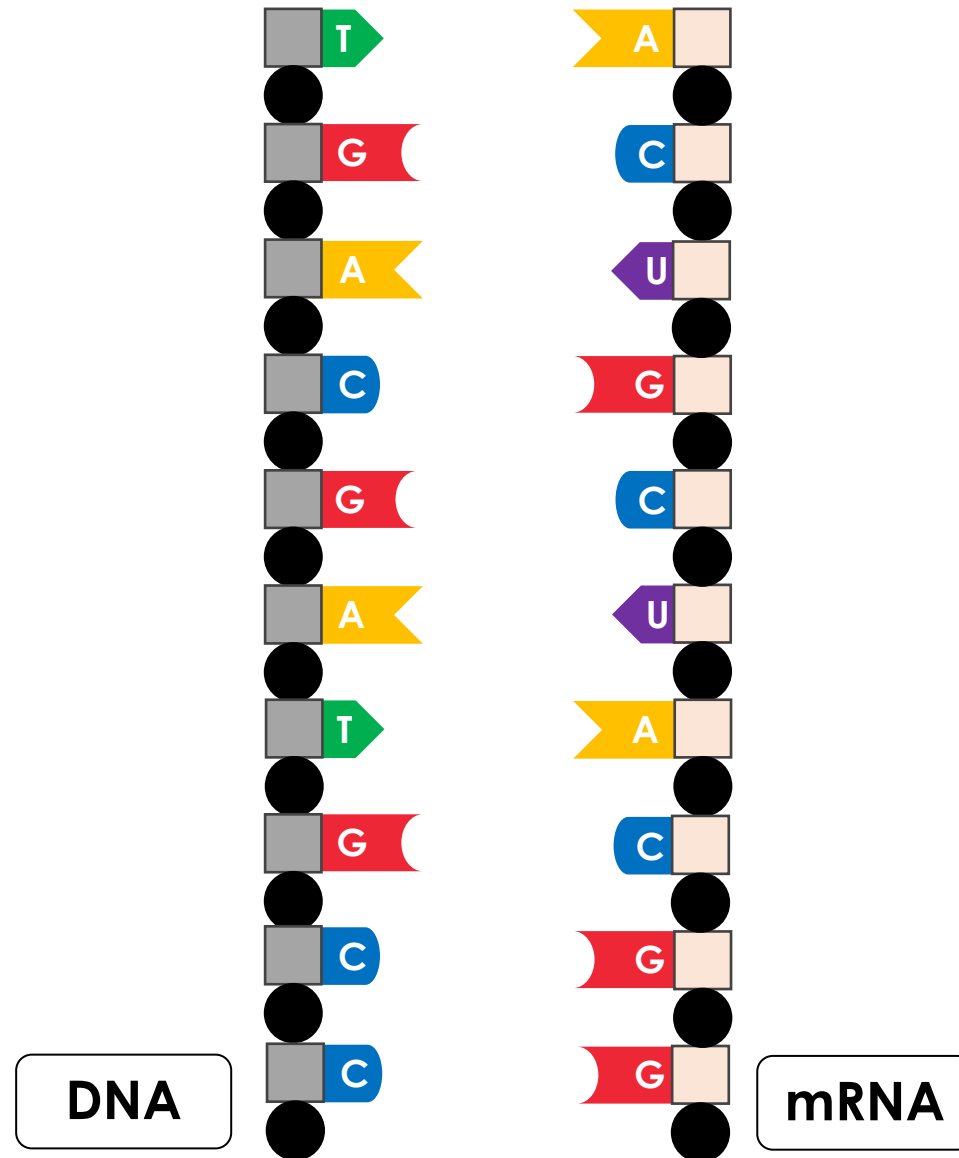
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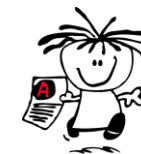
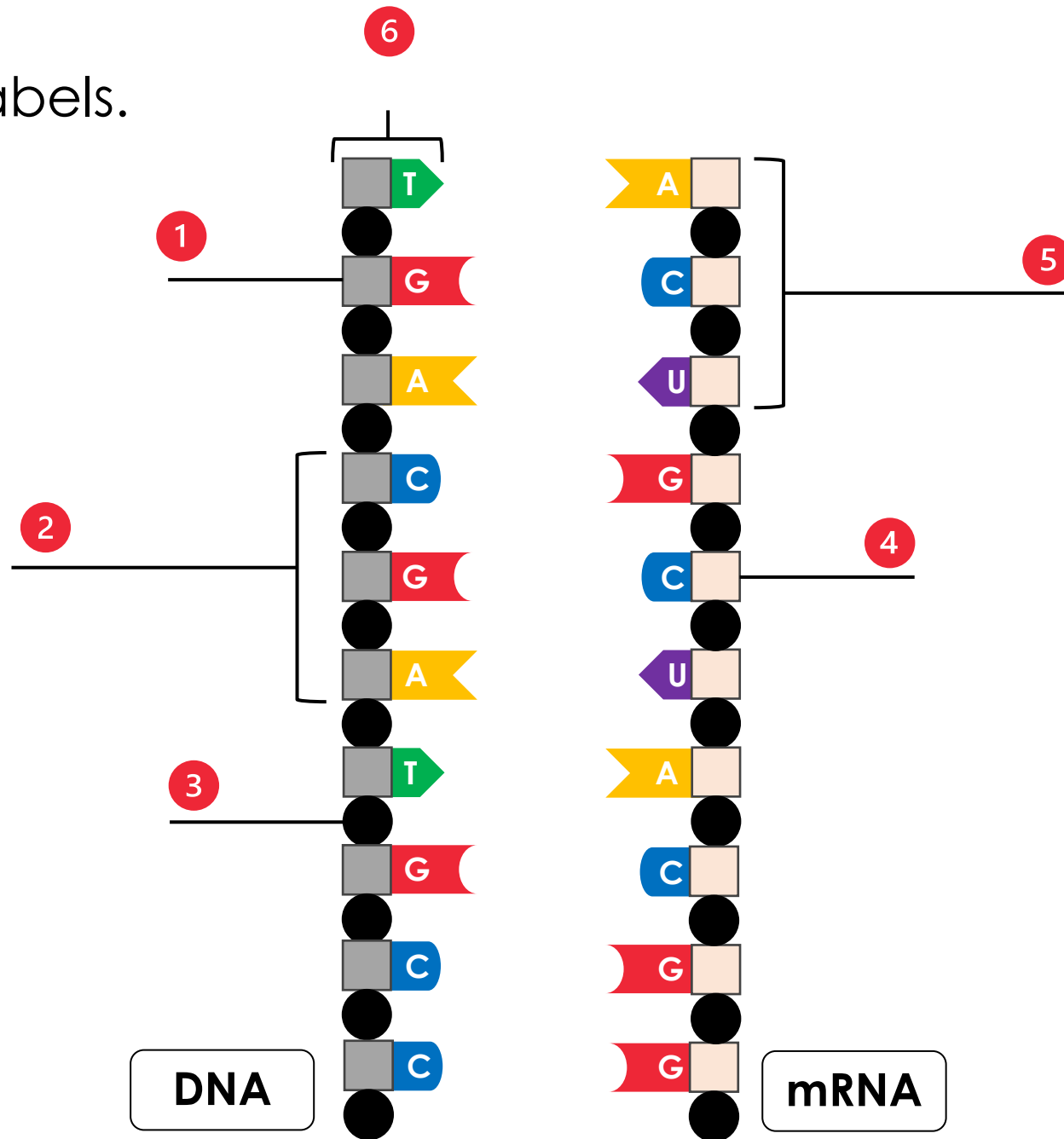
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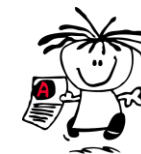
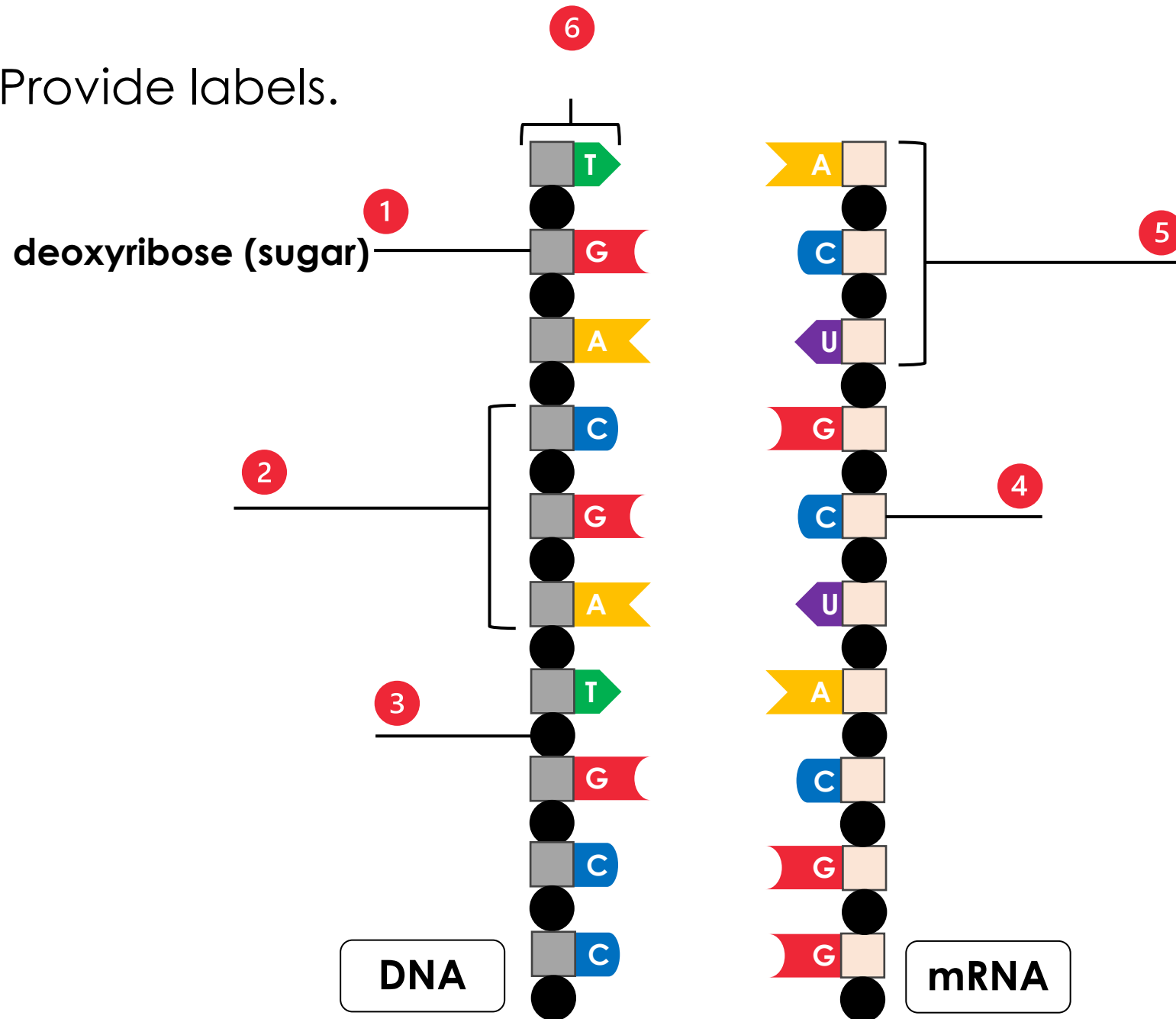
Transcribe the DNA strand into a mRNA strand.



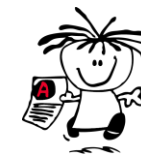
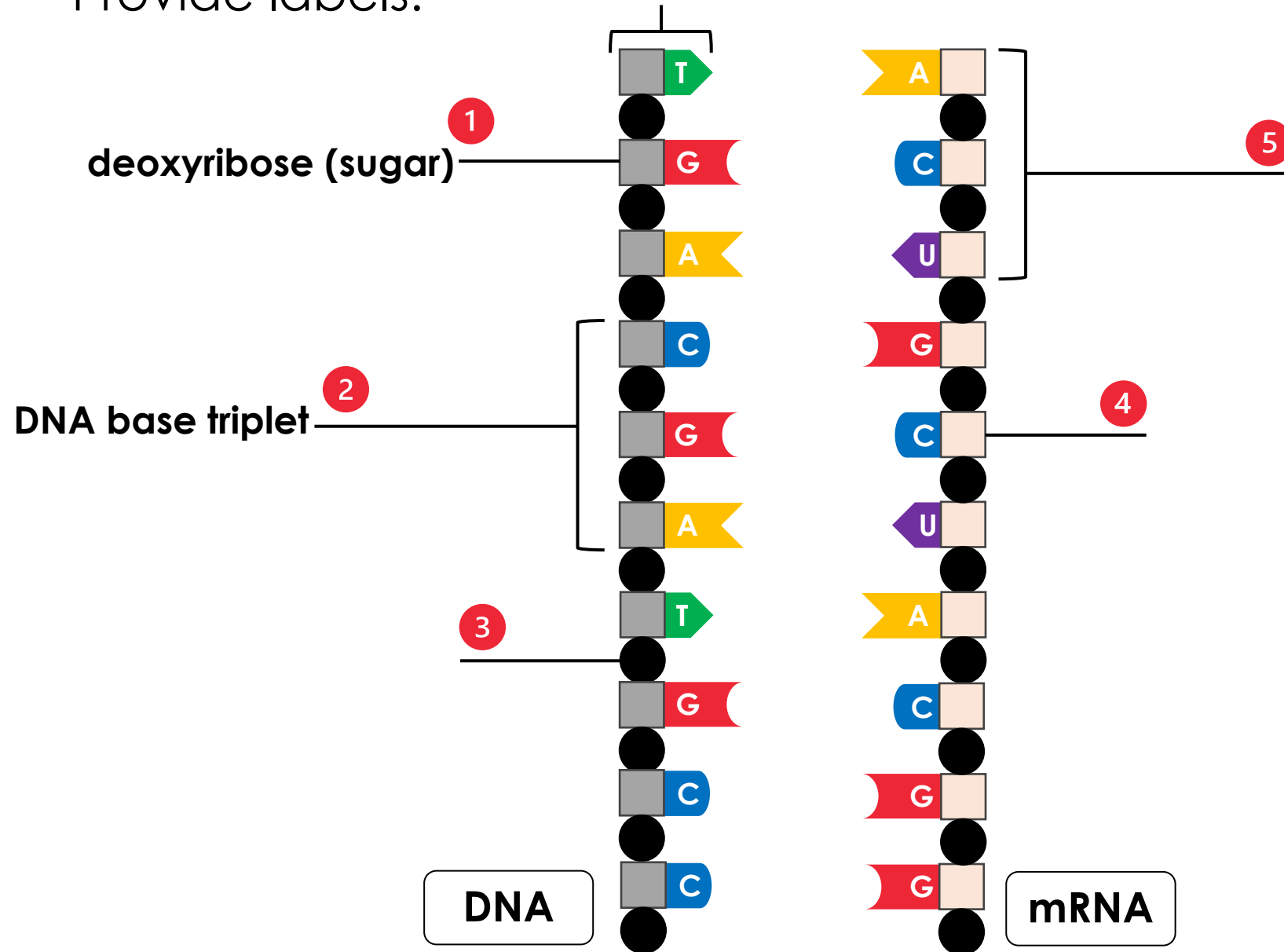
Provide labels.



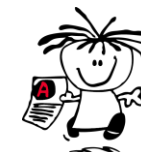
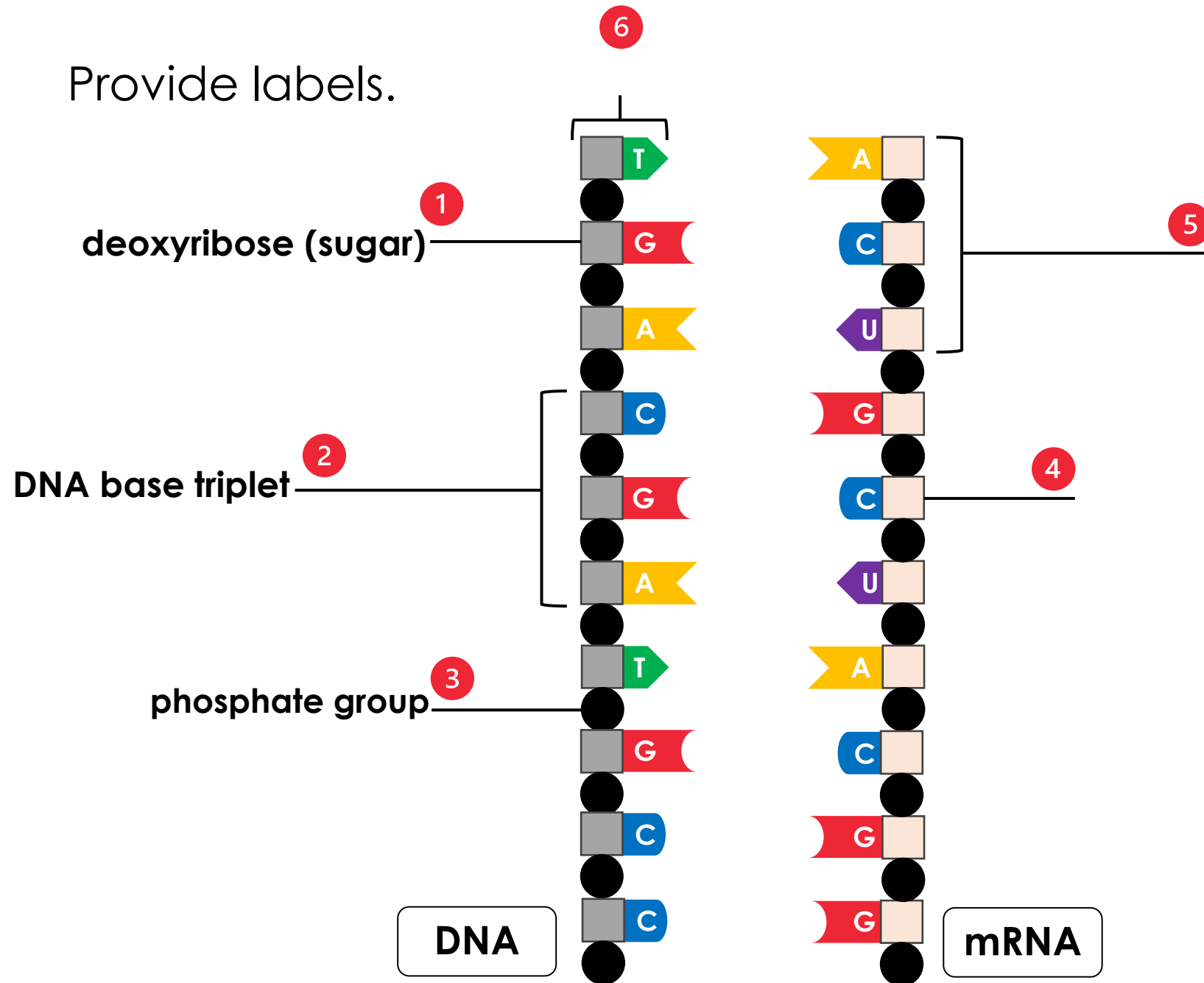
Provide labels.



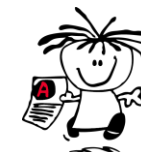
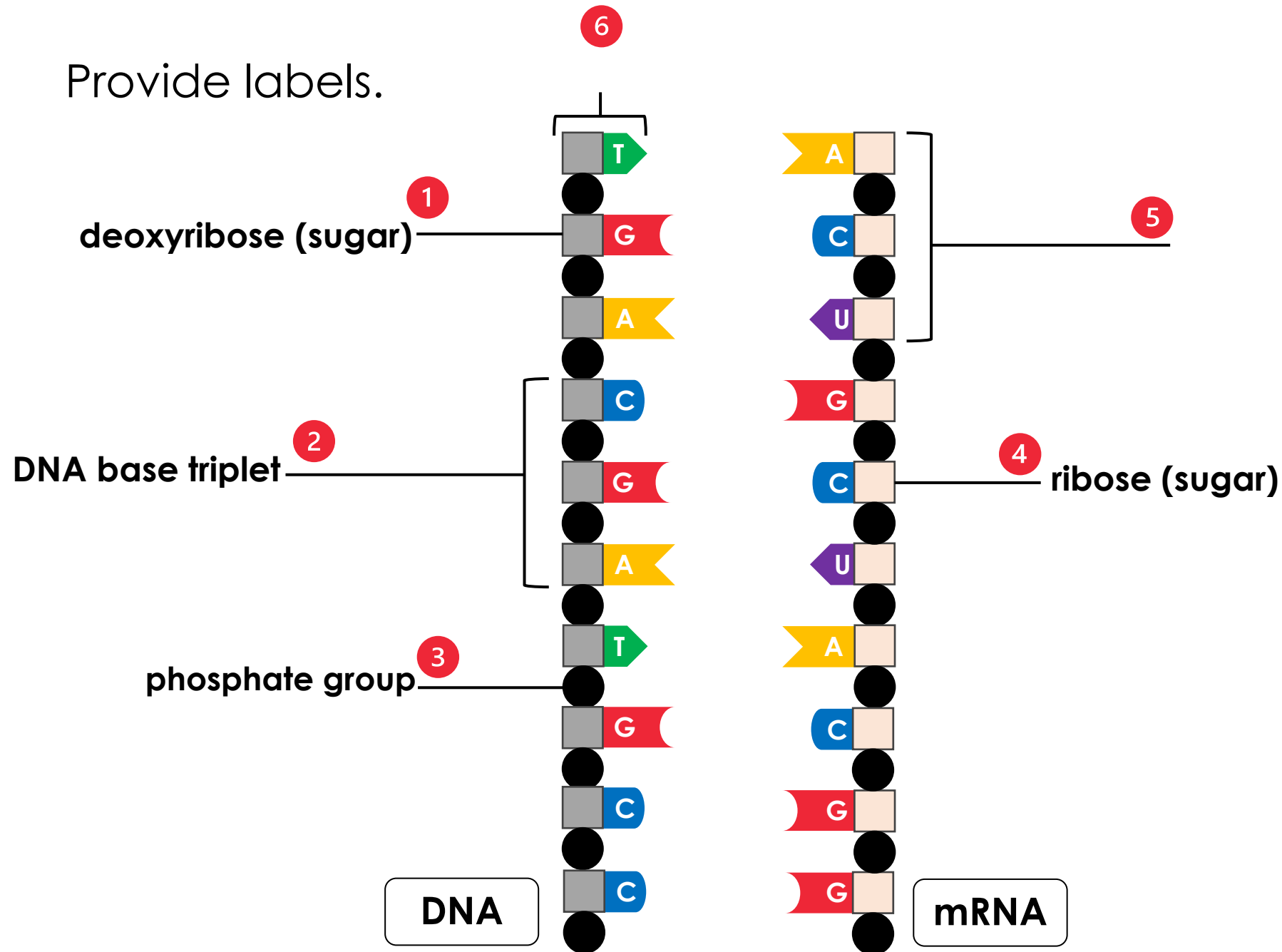
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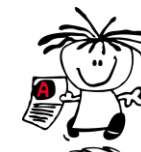
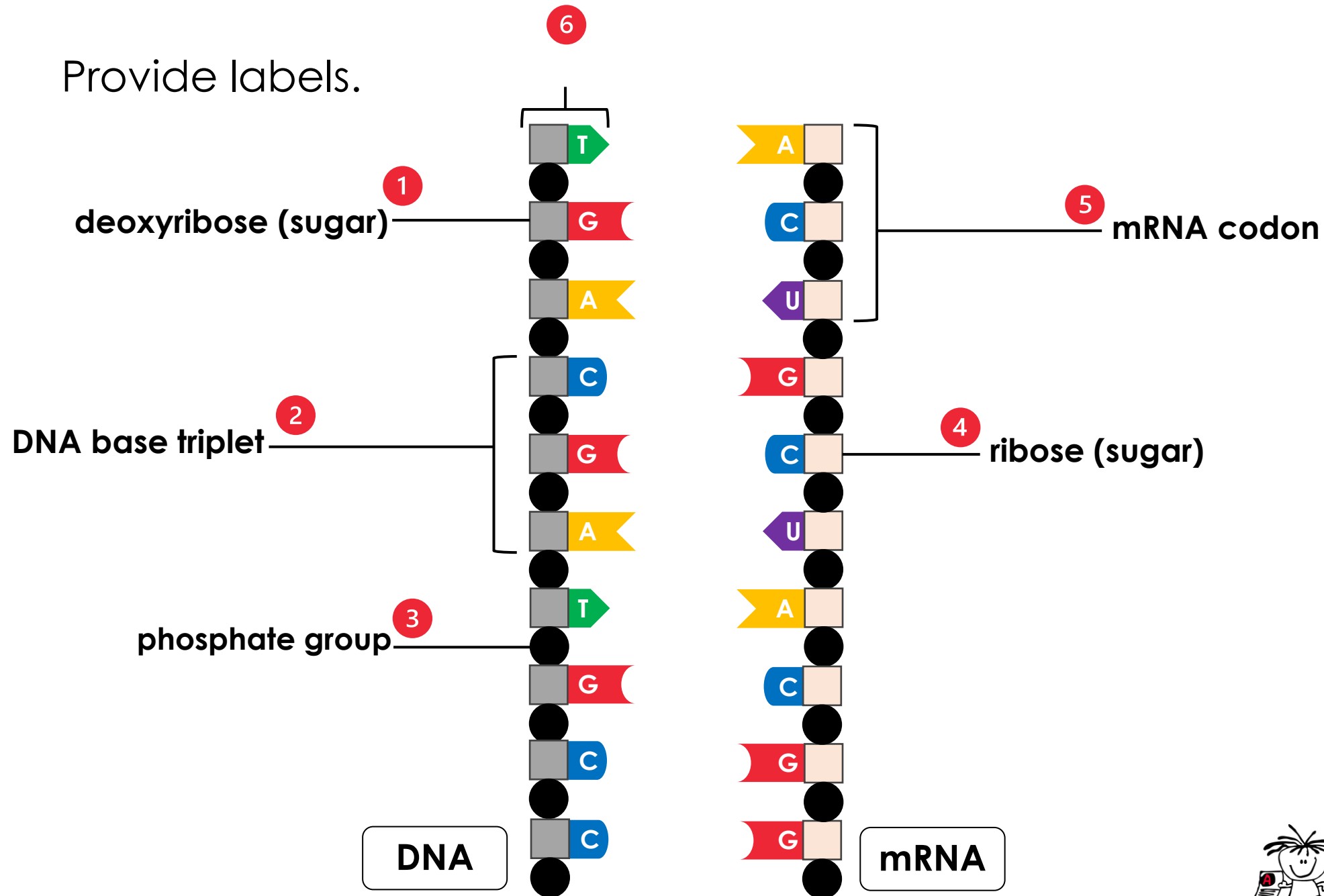
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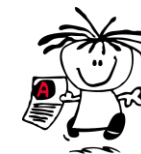
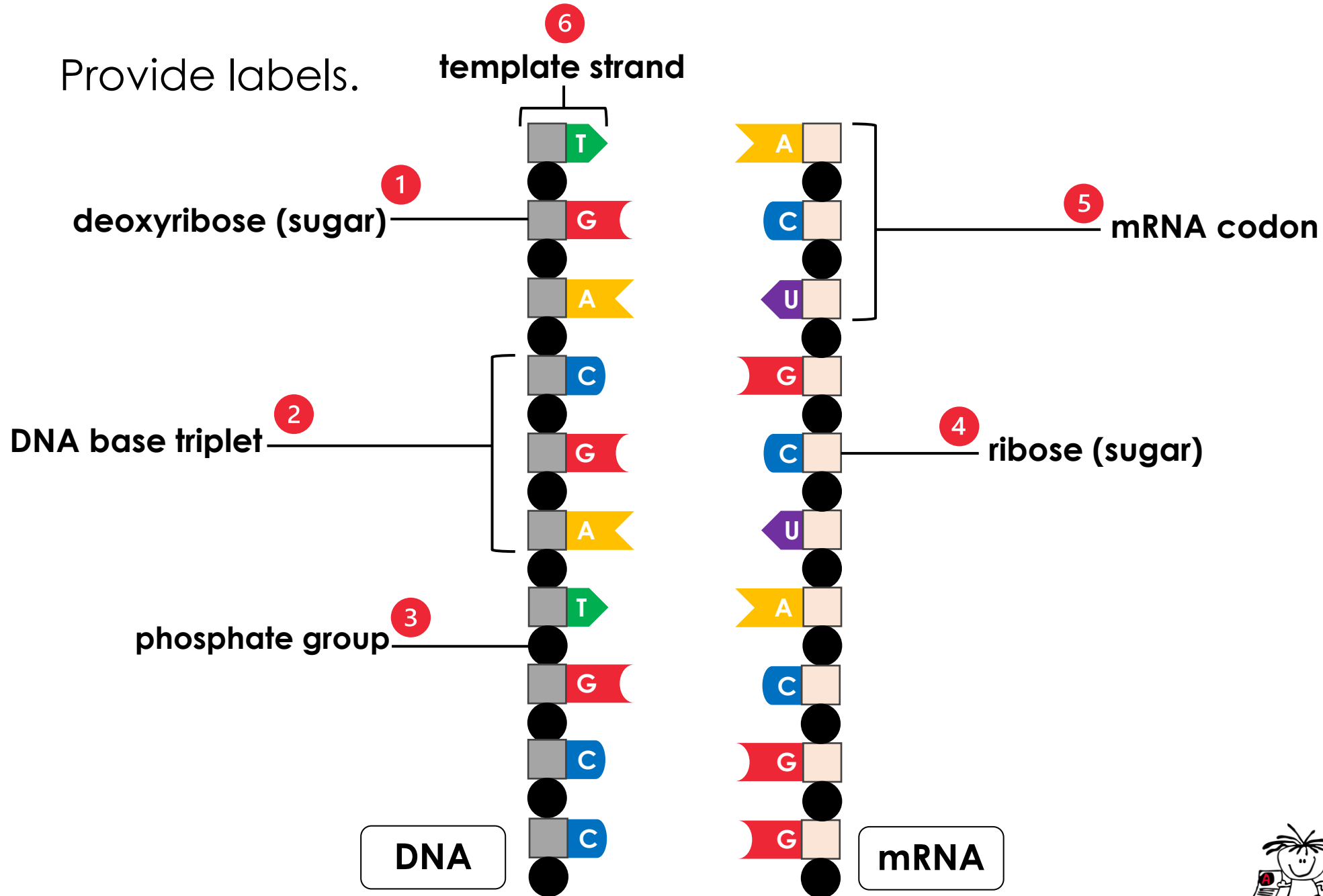
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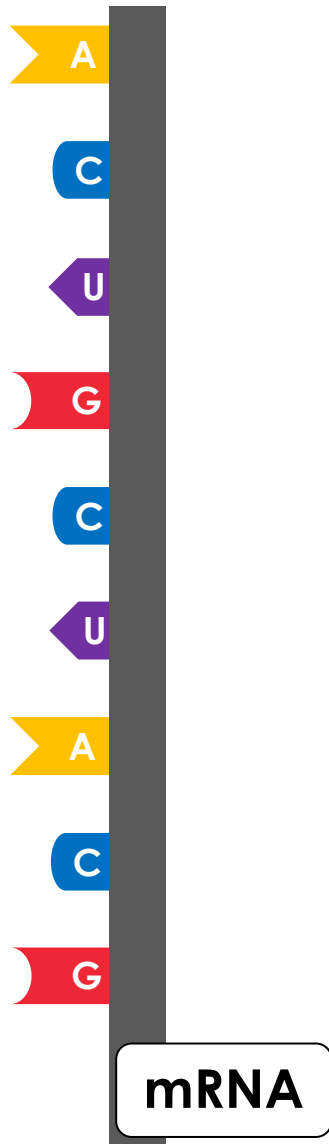


Provide labels.



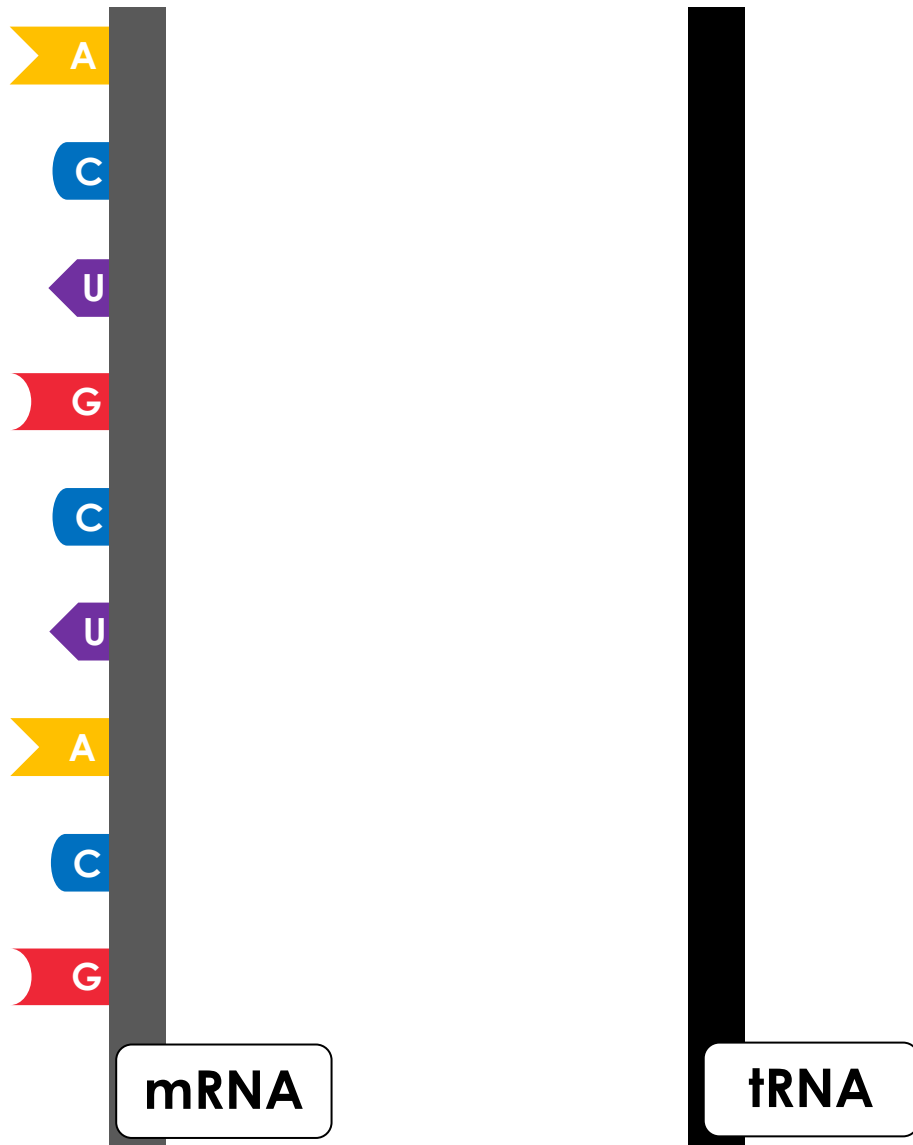
TRANSLATION

- 1 Translate the mRNA strand into an amino acid sequence.



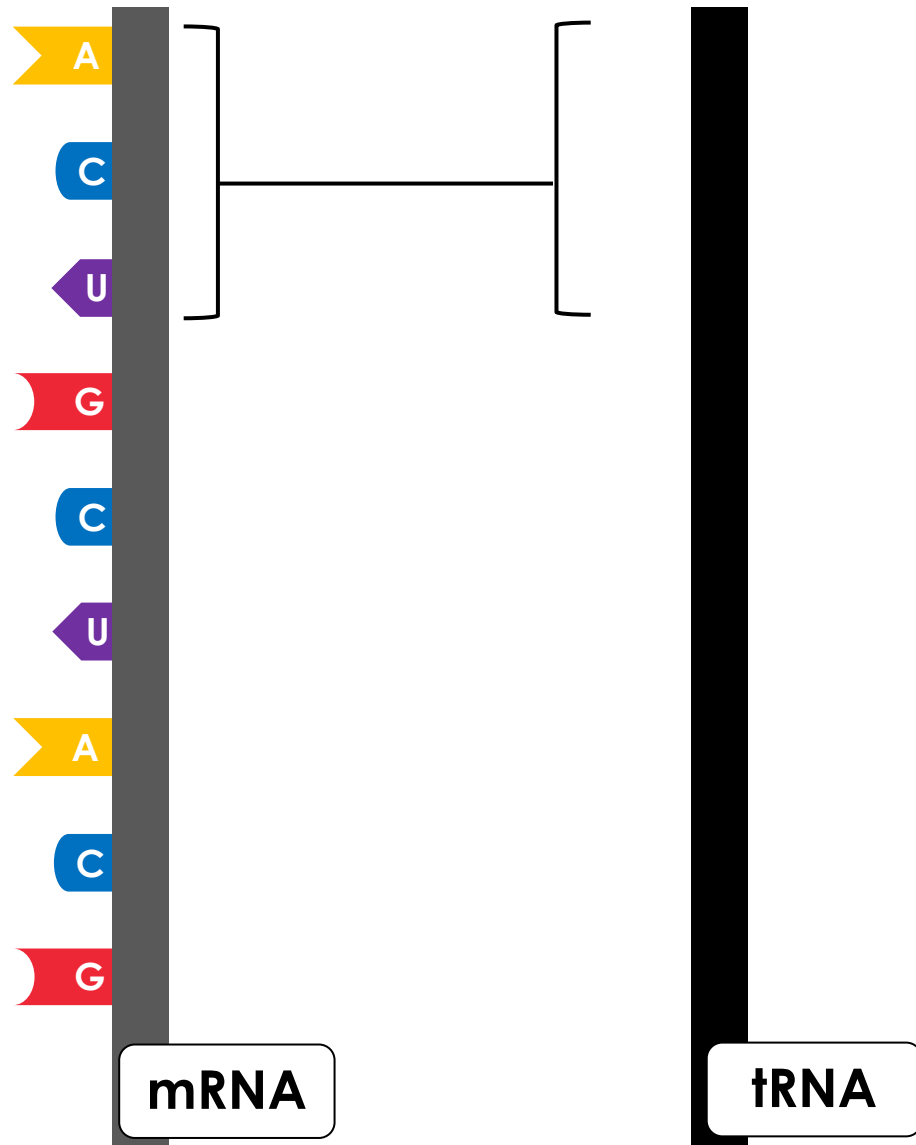
tRNA anticodon	amino acid
UGC	Ser
UUA	Asn
UGA	Thr
GCG	Arg
CGA	Ala

- 1 Translate the mRNA strand into an amino acid sequence.



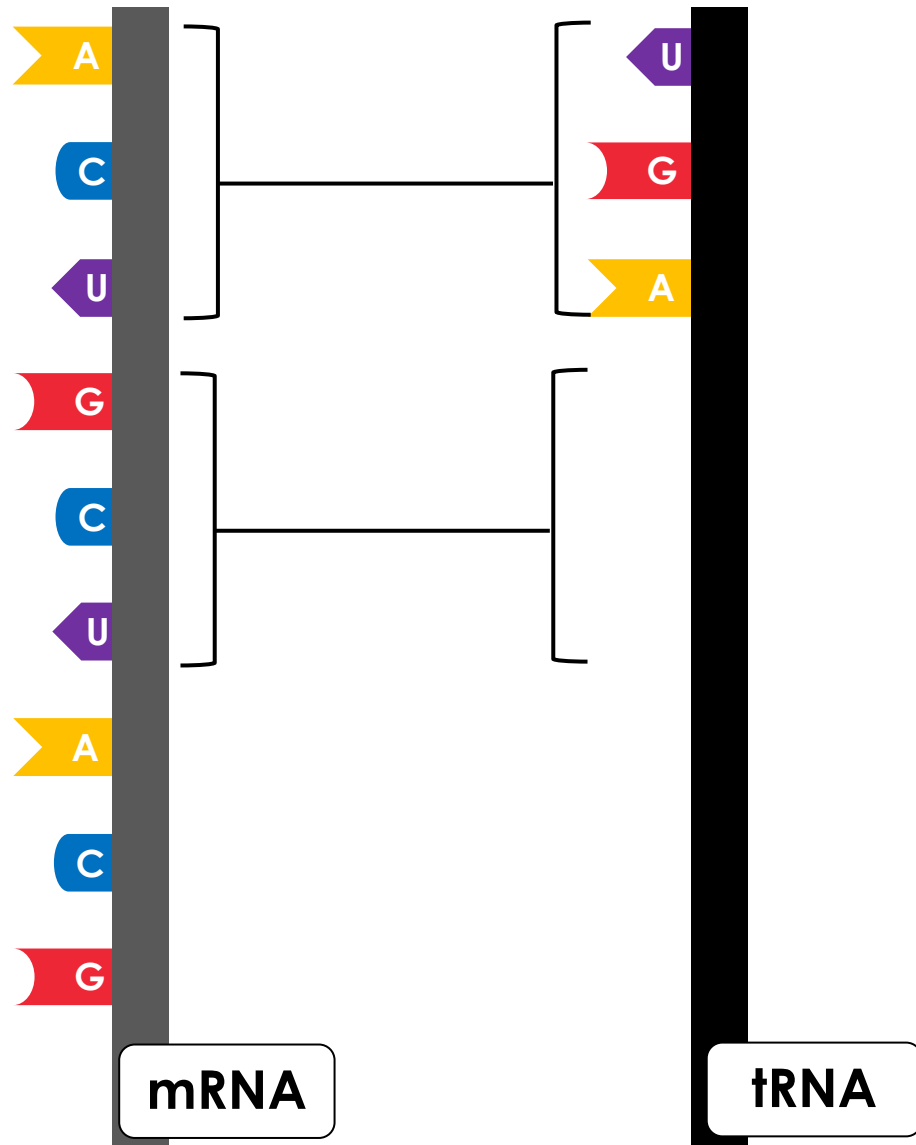
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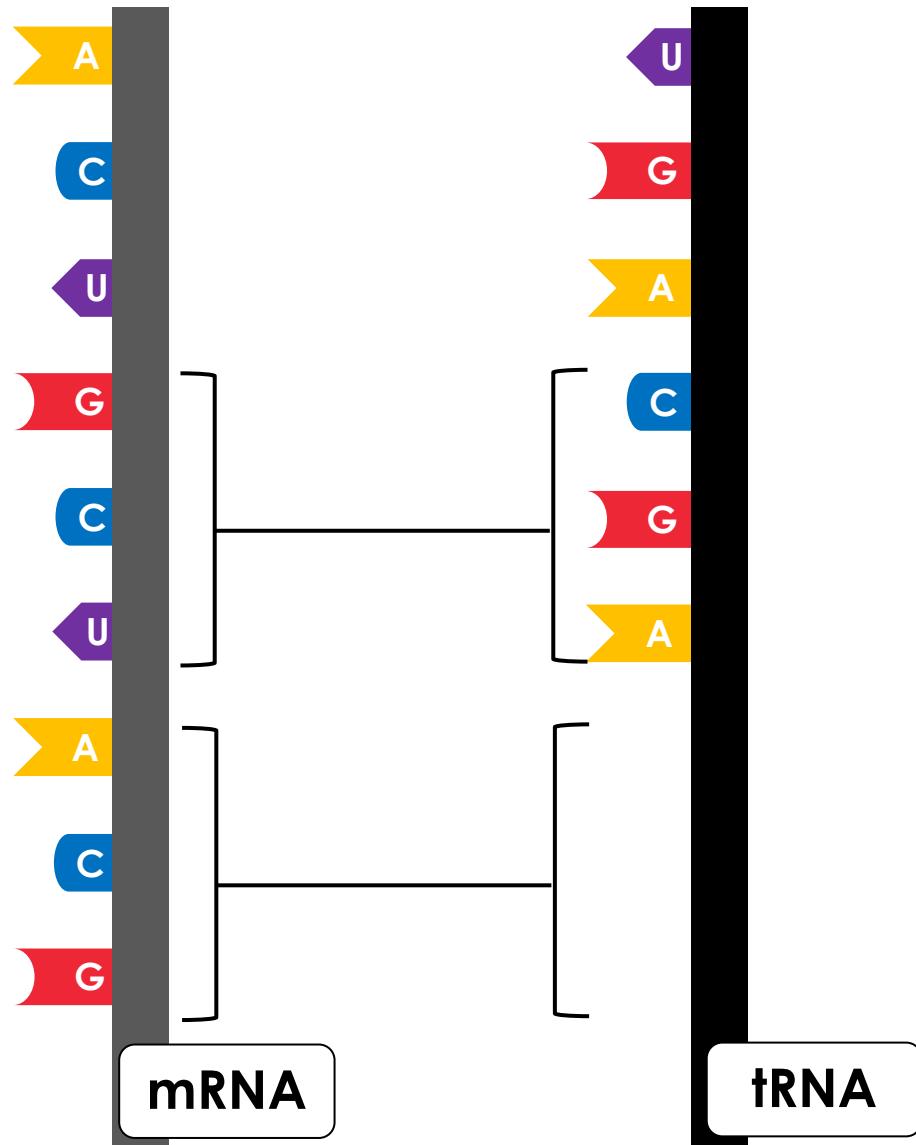
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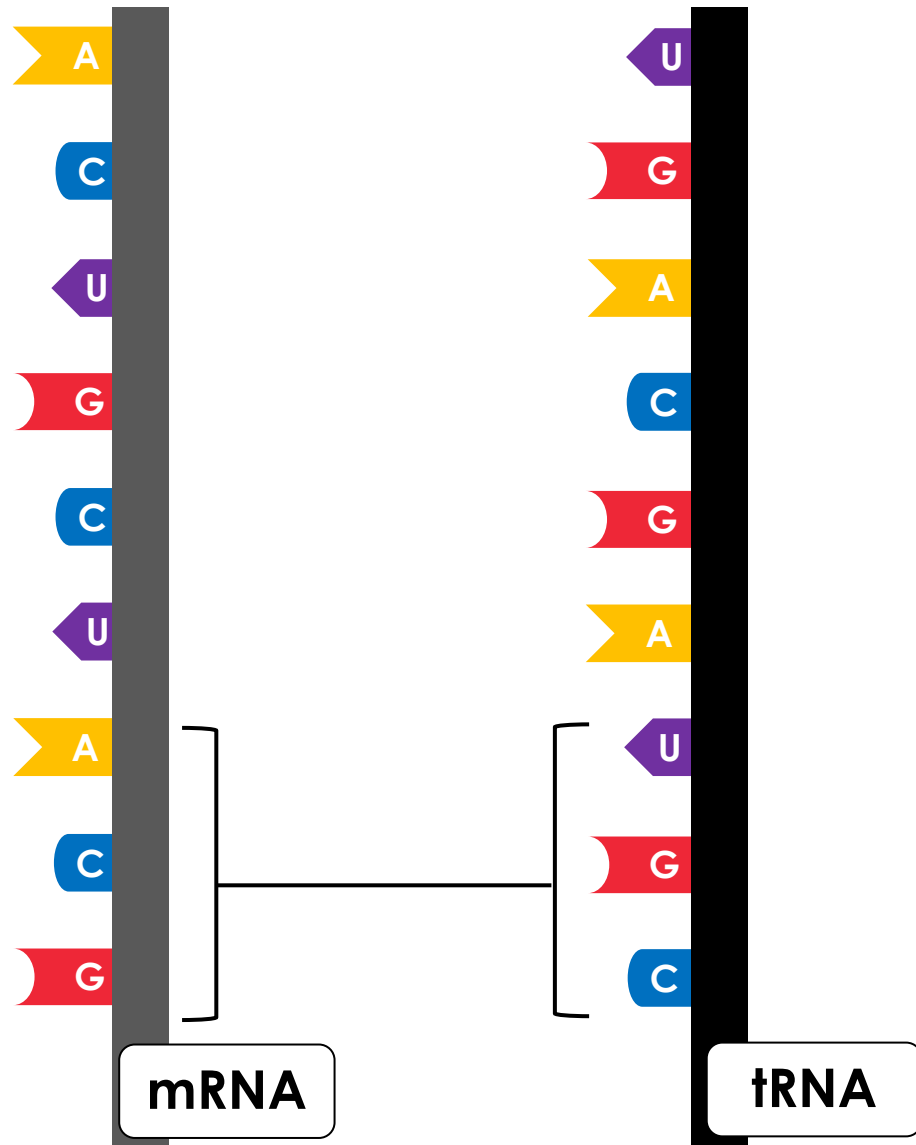
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- 1 Translate the mRNA strand into an amino acid sequence.



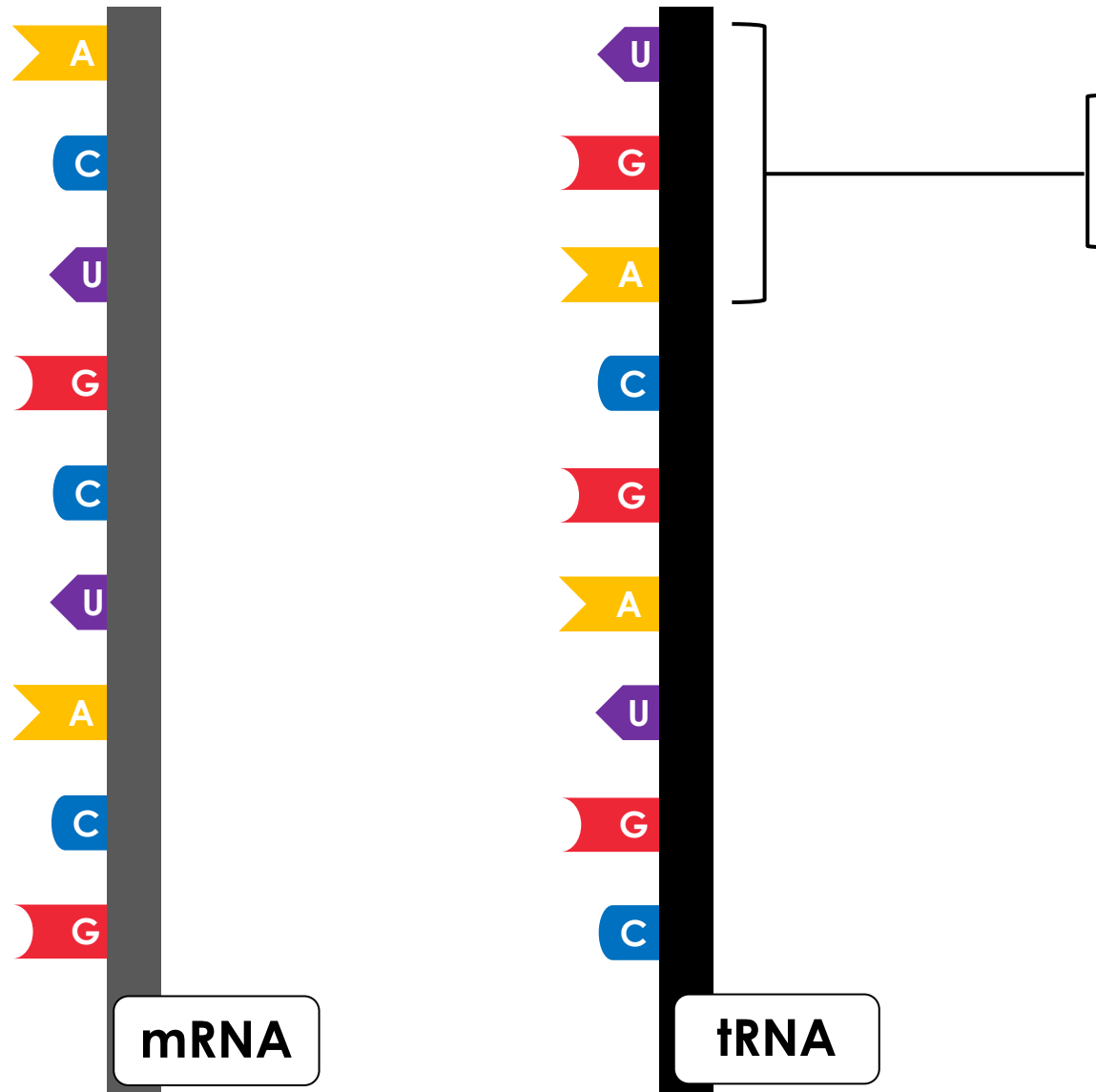
tRNA anticodon	amino acid
UGC	Ser
UUA	Asn
UGA	Thr
GCG	Arg
CGA	Ala

- 1 Translate the mRNA strand into an amino acid sequence.



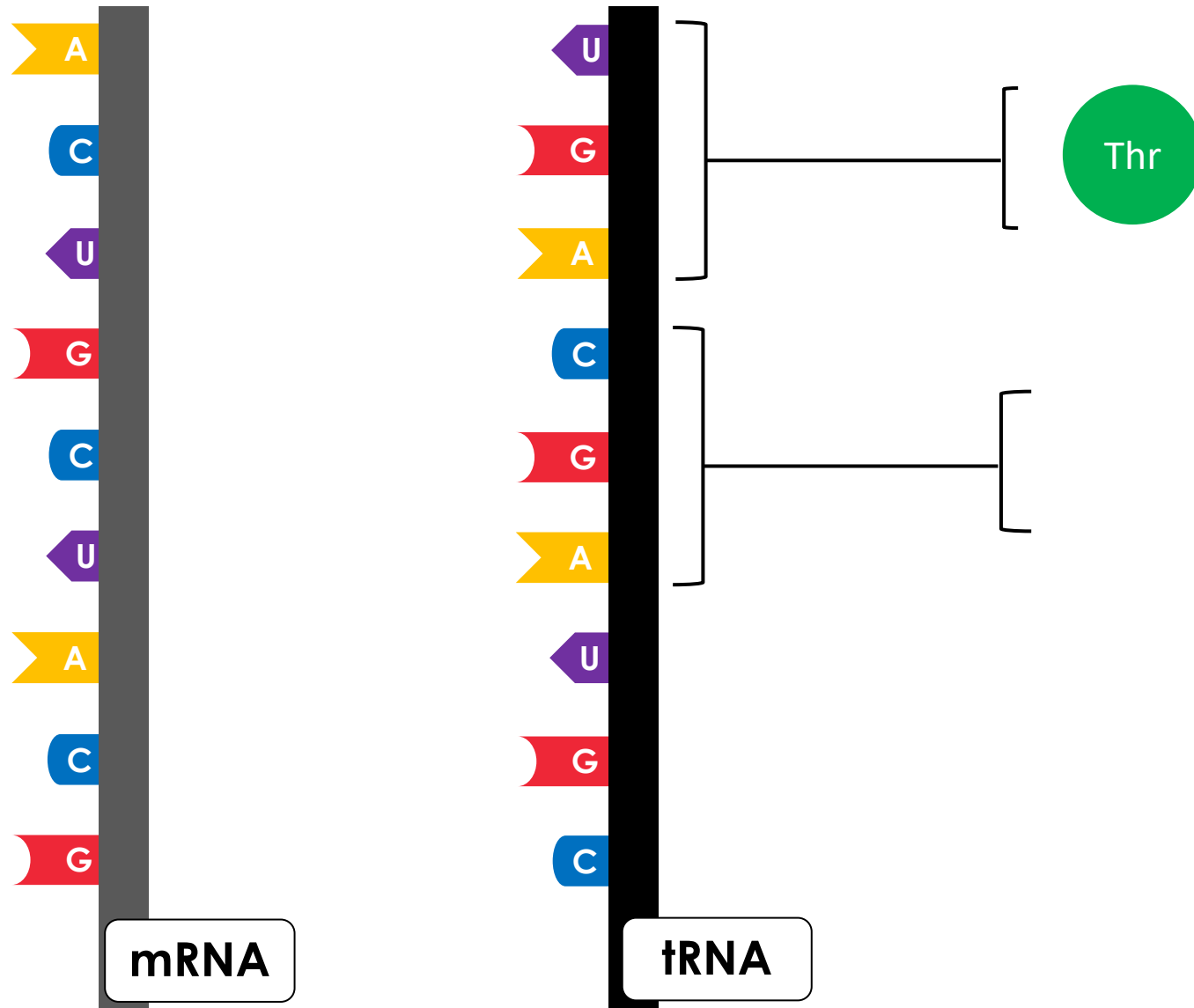
tRNA anticodon	amino acid
UGC	Ser
UUA	Asn
UGA	Thr
GCG	Arg
CGA	Ala

- 1 Translate the mRNA strand into an amino acid sequence.



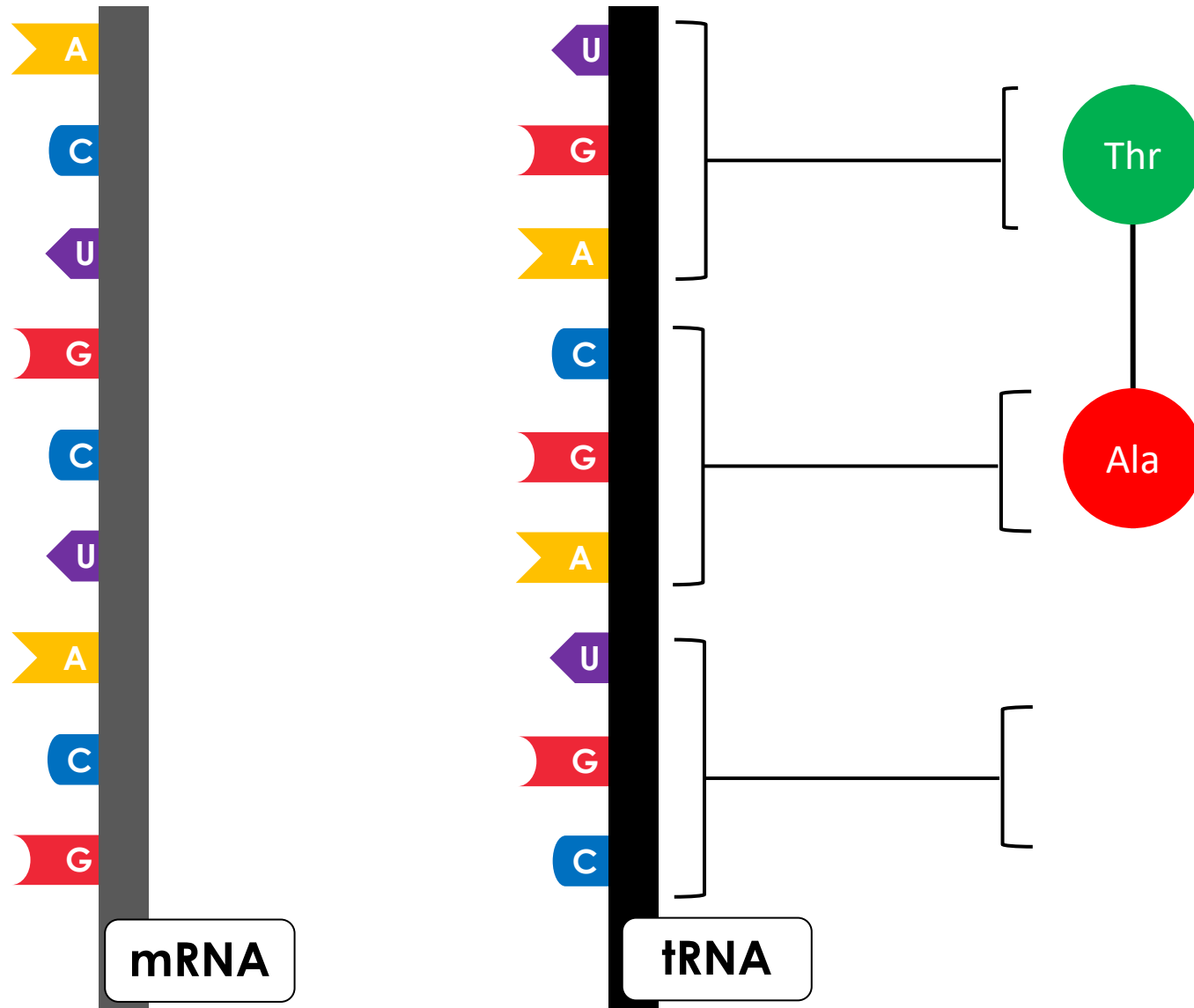
tRNA anticodon	amino acid
UGC	Ser
UUA	Asn
UGA	Thr
GCG	Arg
CGA	Ala

- 1 Translate the mRNA strand into an amino acid sequence.



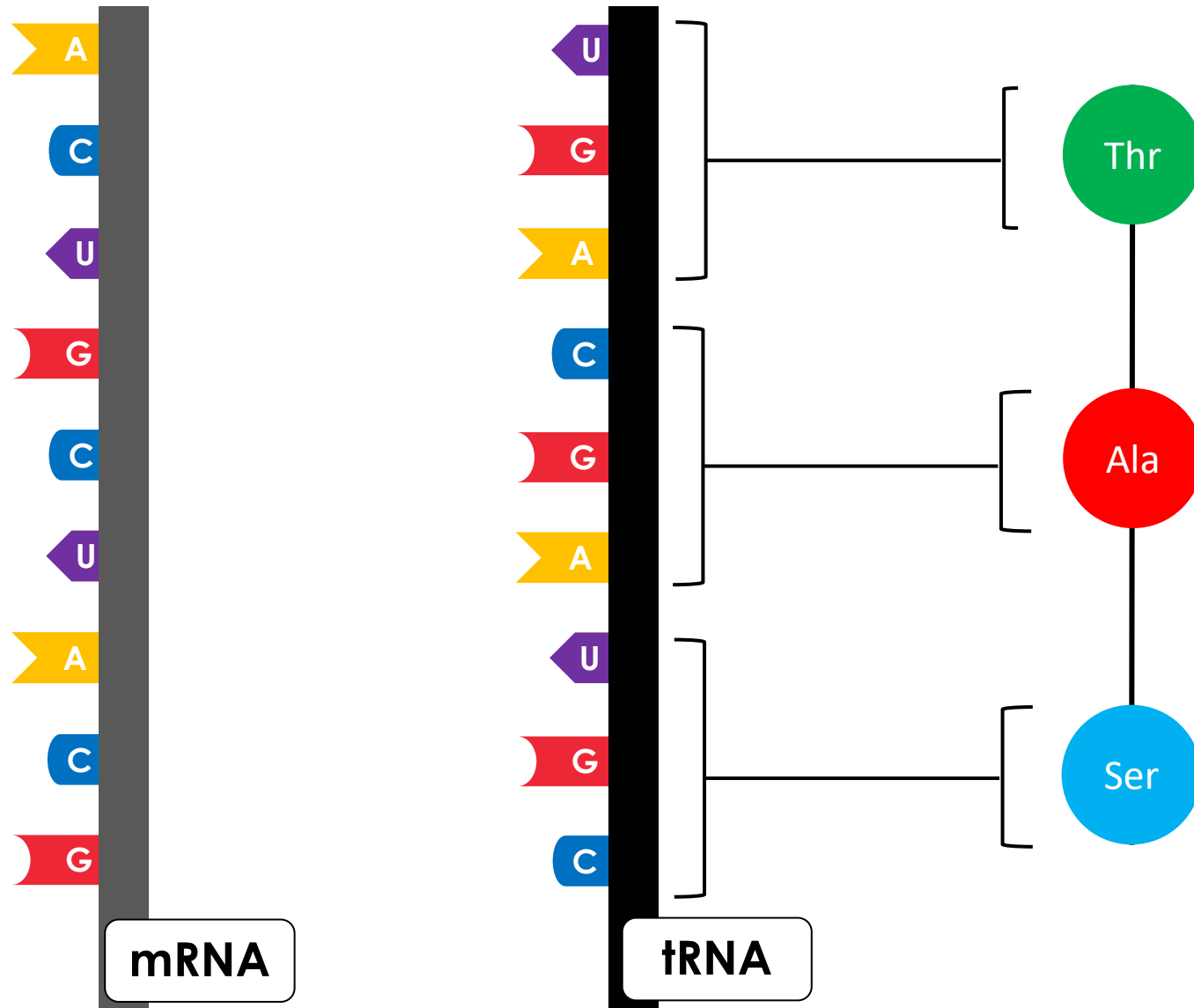
tRNA anticodon	amino acid
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UUA	Asn
UGA	Thr
GCG	Arg
CGA	Ala

- 1 Translate the mRNA strand into an amino acid sequence.



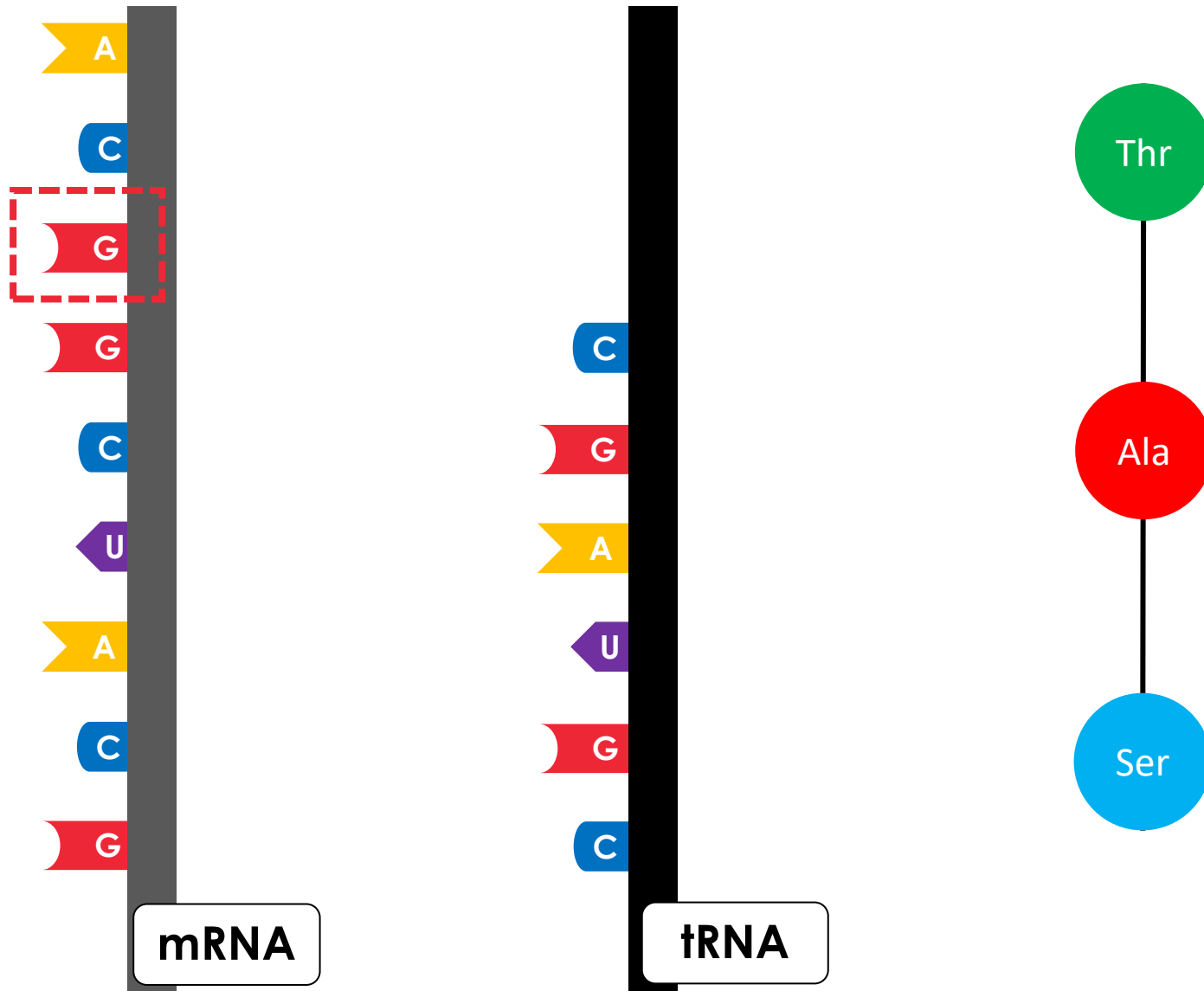
tRNA anticodon	amino acid
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UUA	Asn
UGA	Thr
GCG	Arg
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- 1 Translate the mRNA strand into an amino acid sequence.



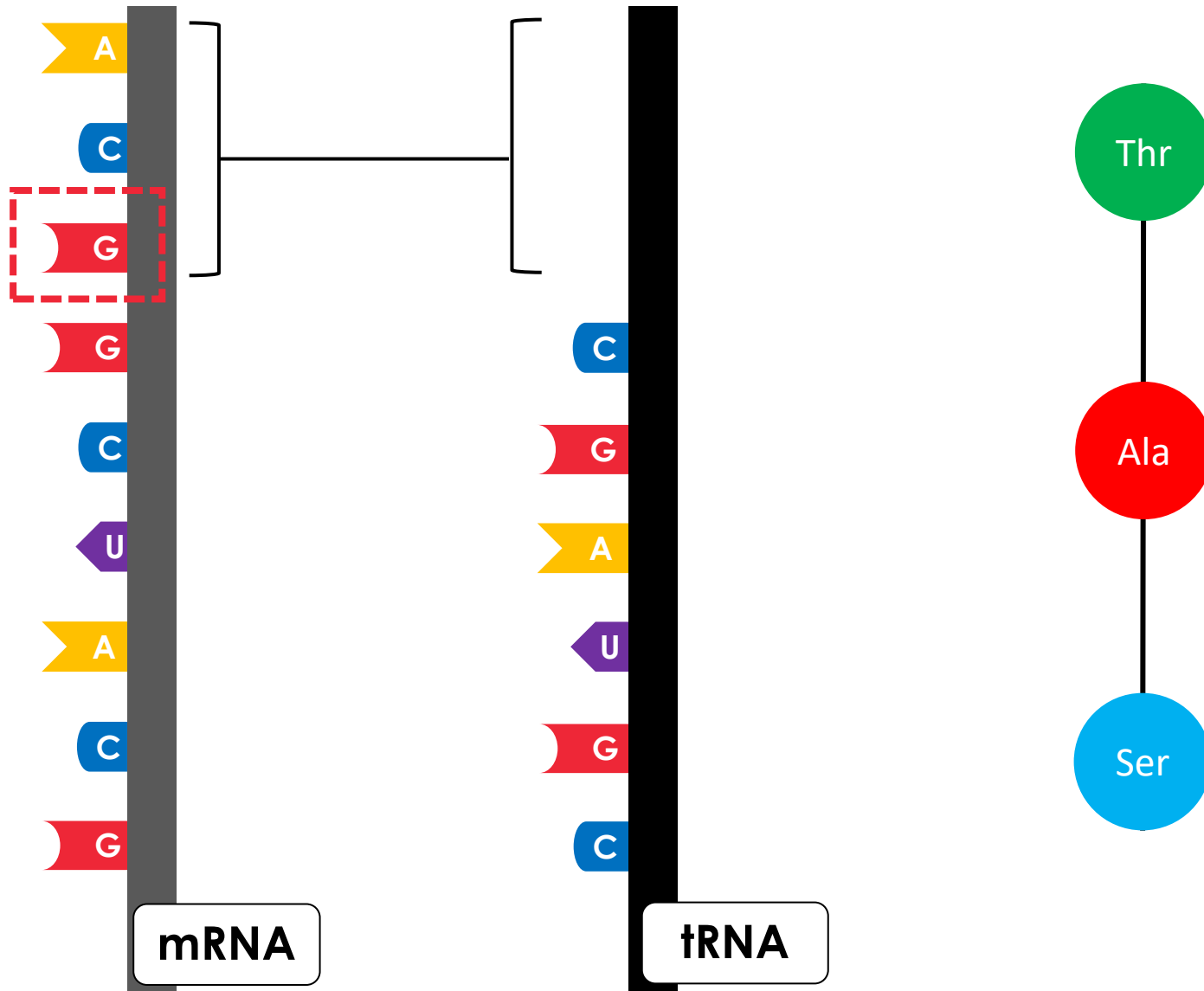
tRNA anticodon	amino acid
UGC	Ser
UUA	Asn
UGA	Thr
GCG	Arg
CGA	Ala

2 What would happen if one mRNA codon changed?



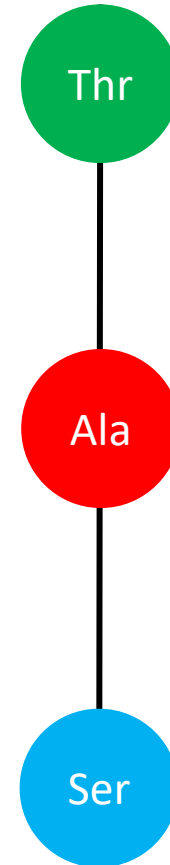
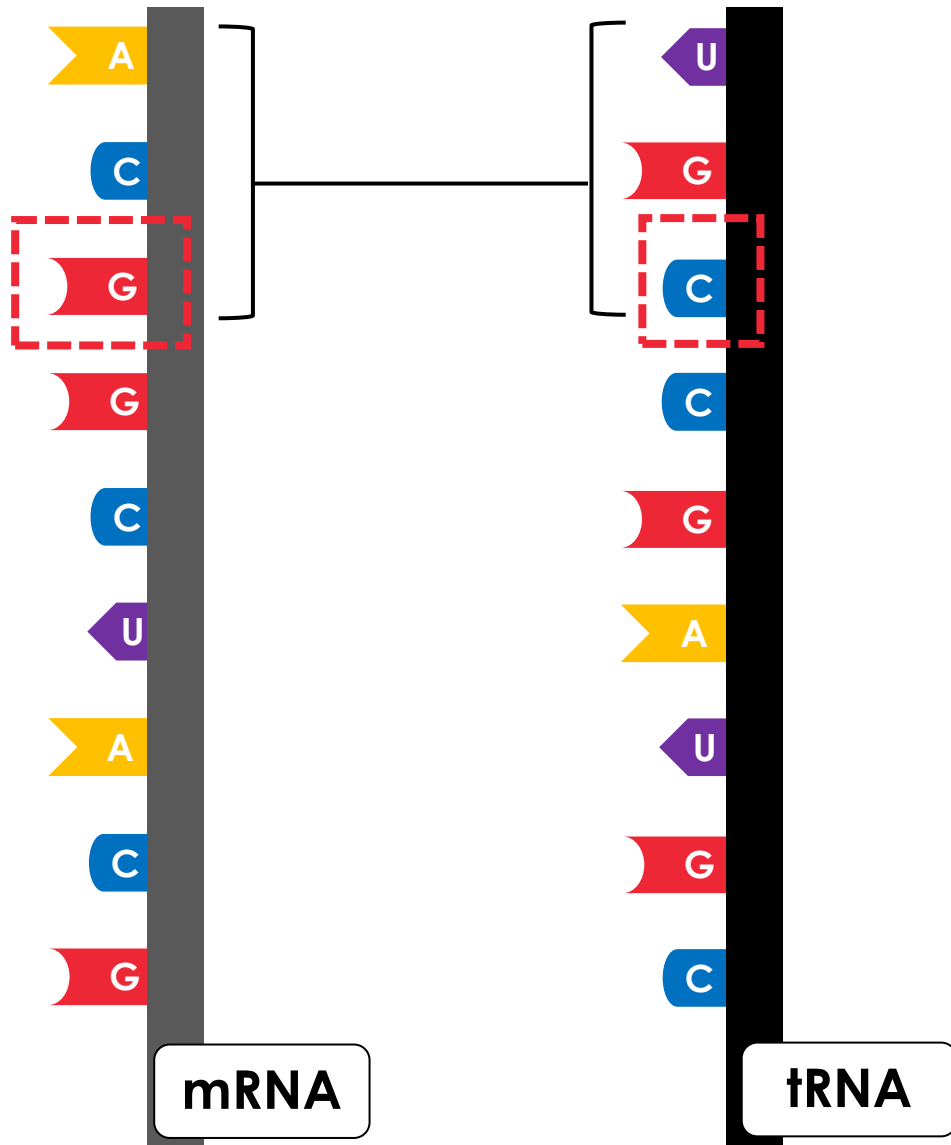
tRNA anticodon	amino acid
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UUA	Asn
UGA	Thr
GCG	Arg
CGA	Ala

2 What would happen if one mRNA codon changed?



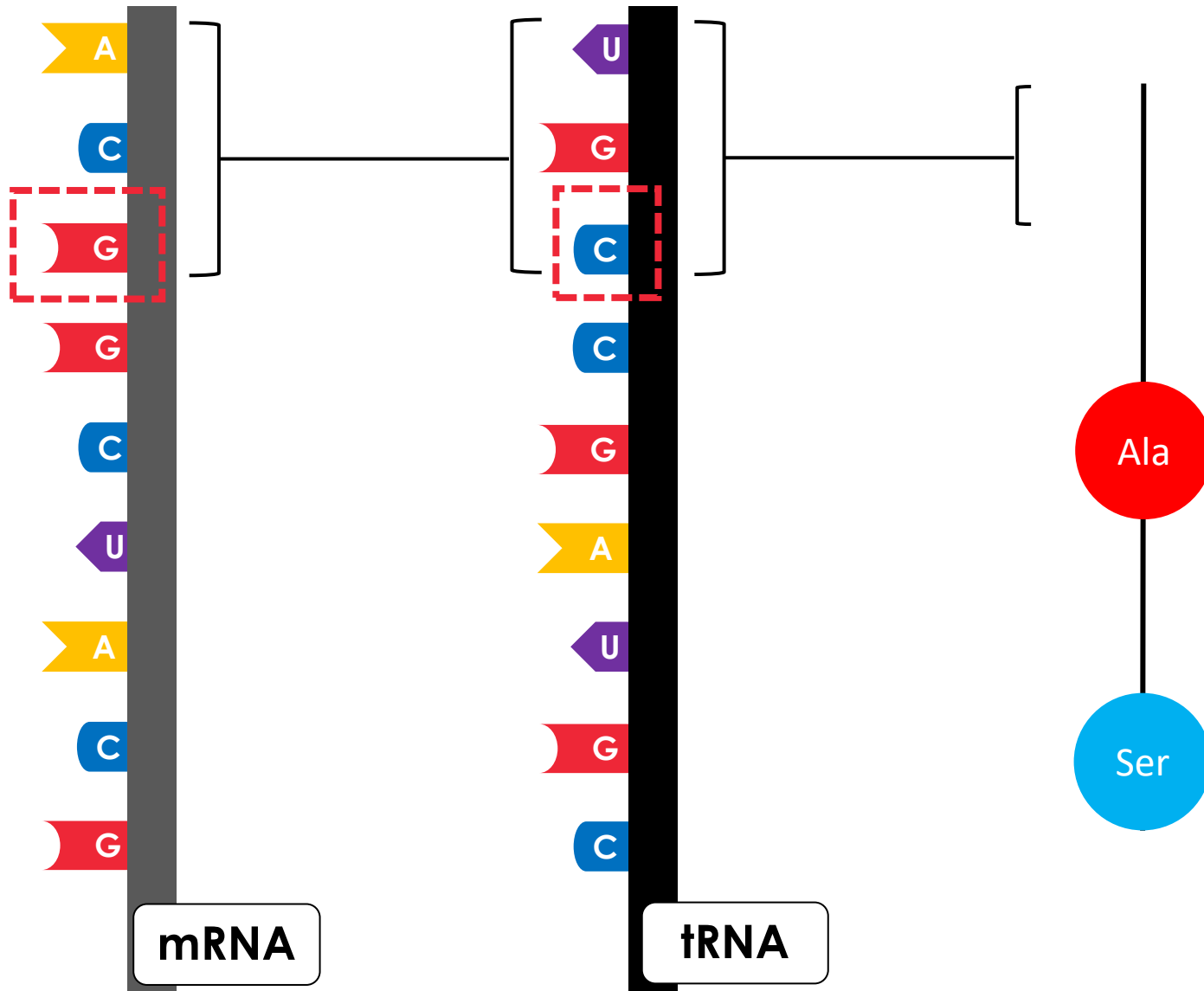
tRNA anticodon	amino acid
UGC	Ser
UUA	Asn
UGA	Thr
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CGA	Ala

2 What would happen if one mRNA codon changed?



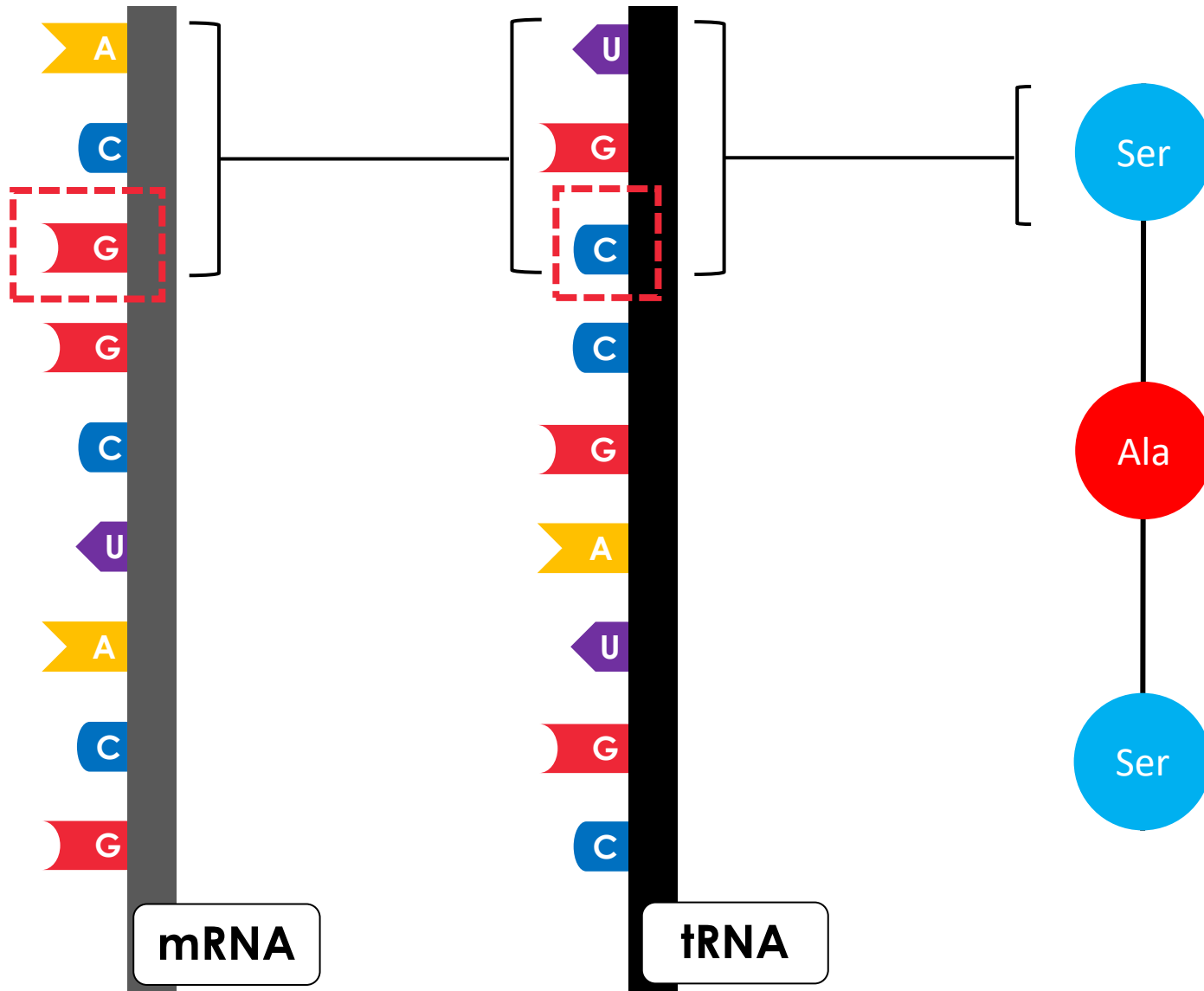
tRNA anticodon	amino acid
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UGC	Ser
UUA	Asn
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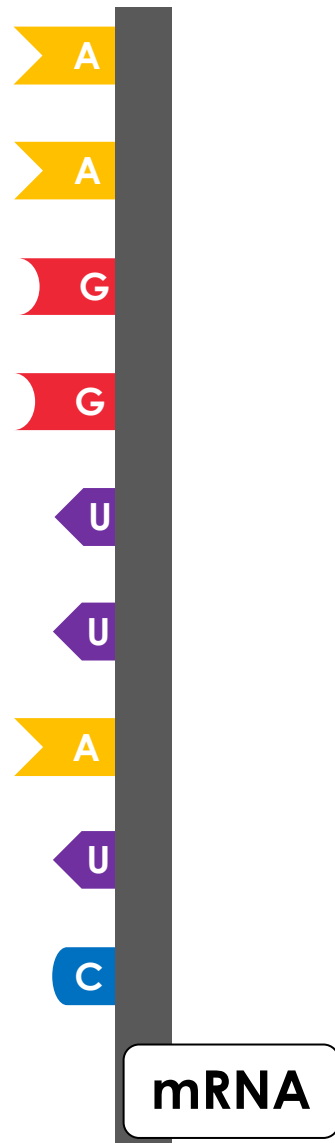
2 What would happen if one mRNA codon changed?



Protein structure and function may change.

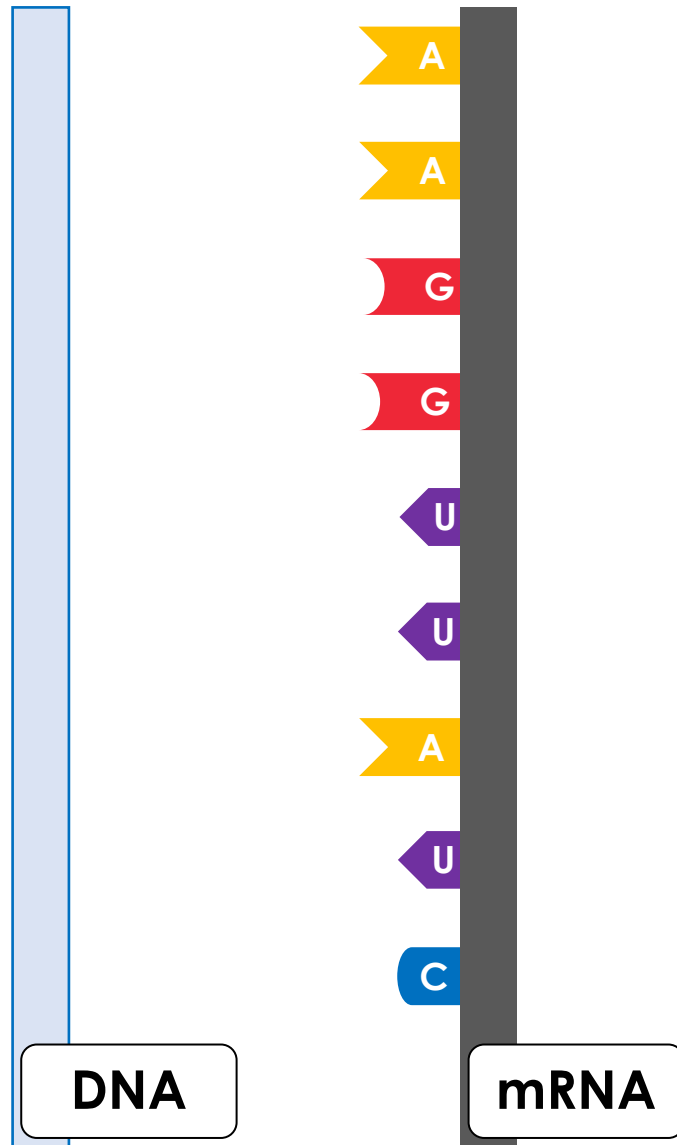
tRNA anticodon	amino acid
UGC	Ser
UUA	Asn
UGA	Thr
GCG	Arg
CGA	Ala

- 3 Translate the mRNA strand into an amino acid sequence.



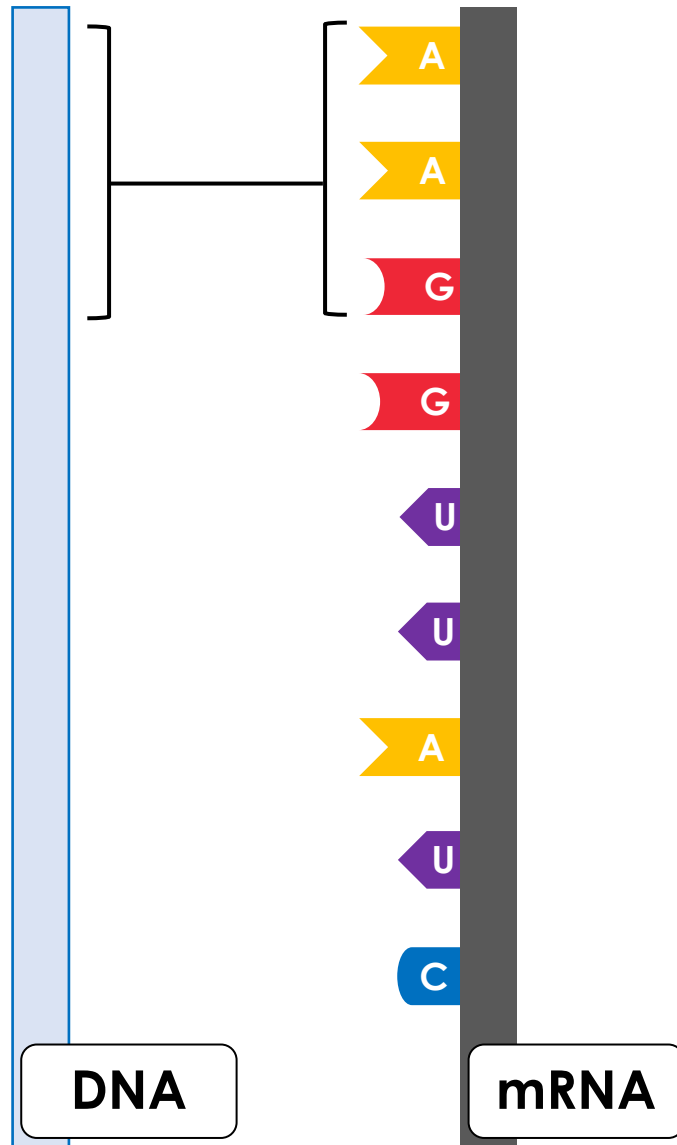
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 3 Translate the mRNA strand into an amino acid sequence.



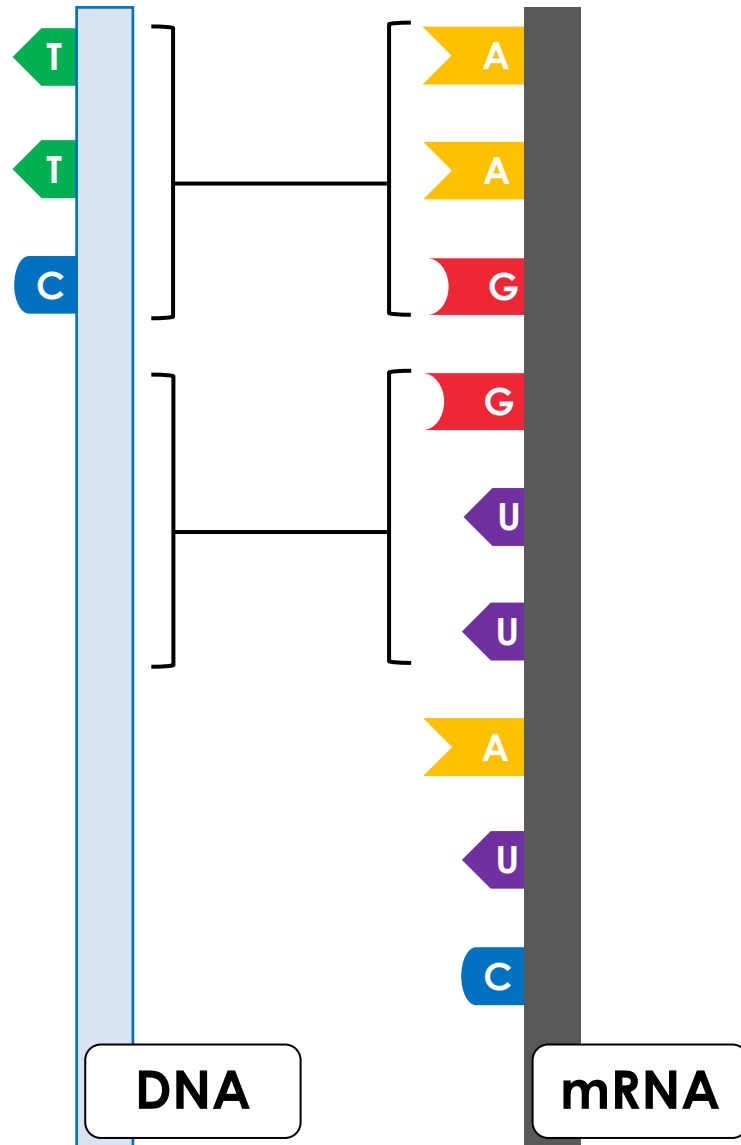
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 3 Translate the mRNA strand into an amino acid sequence.



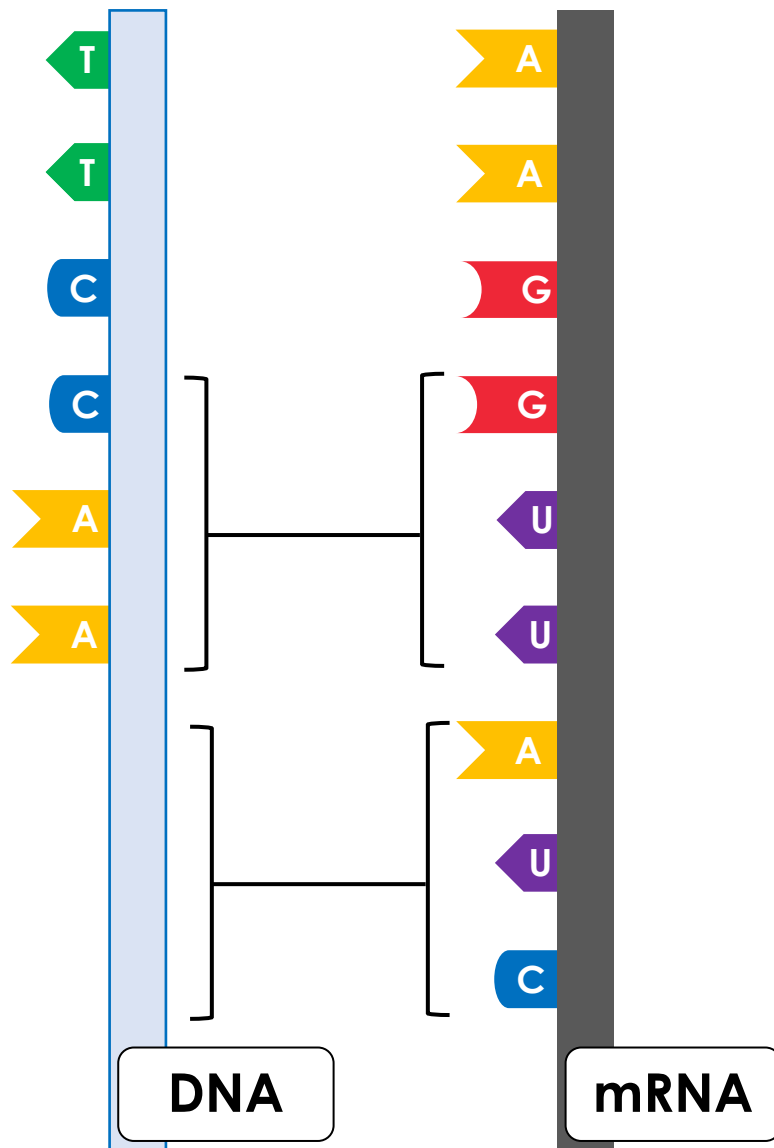
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 3 Translate the mRNA strand into an amino acid sequence.



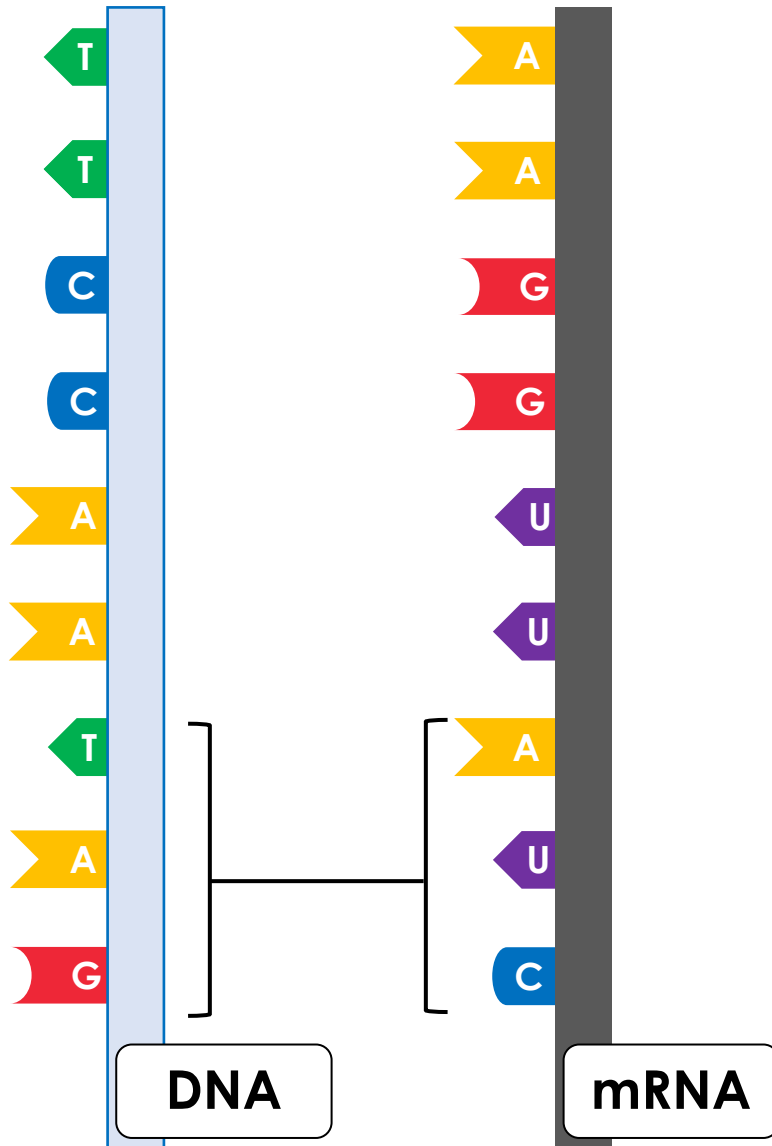
DNA base triplet	amino acid
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TAG	Ile
CAA	Val
TTC	Lys
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CTA	Asp

- 3 Translate the mRNA strand into an amino acid sequence.



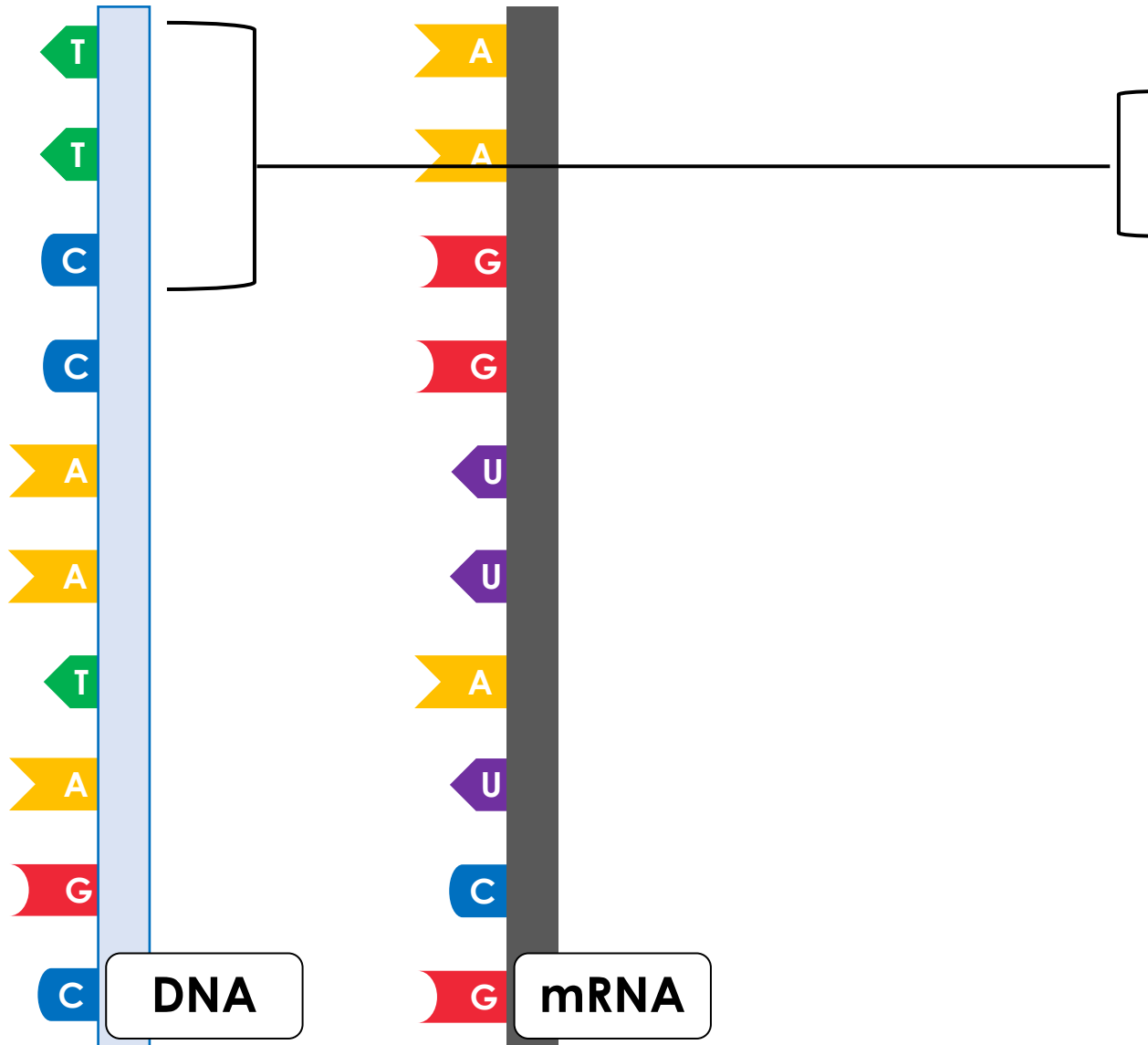
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 3 Translate the mRNA strand into an amino acid sequence.



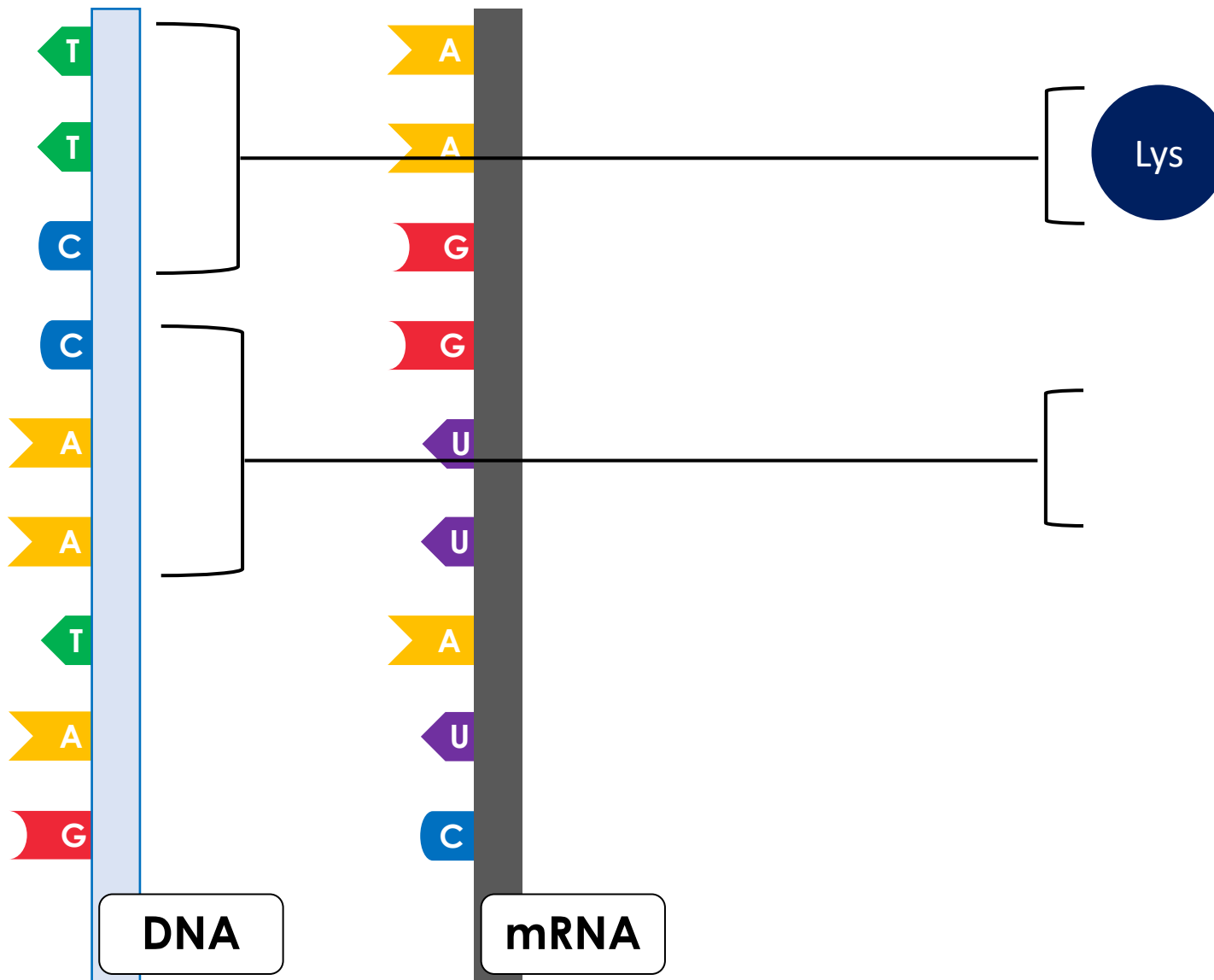
DNA base triplet	amino acid
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TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

3 Translate the mRNA strand into an amino acid sequence.



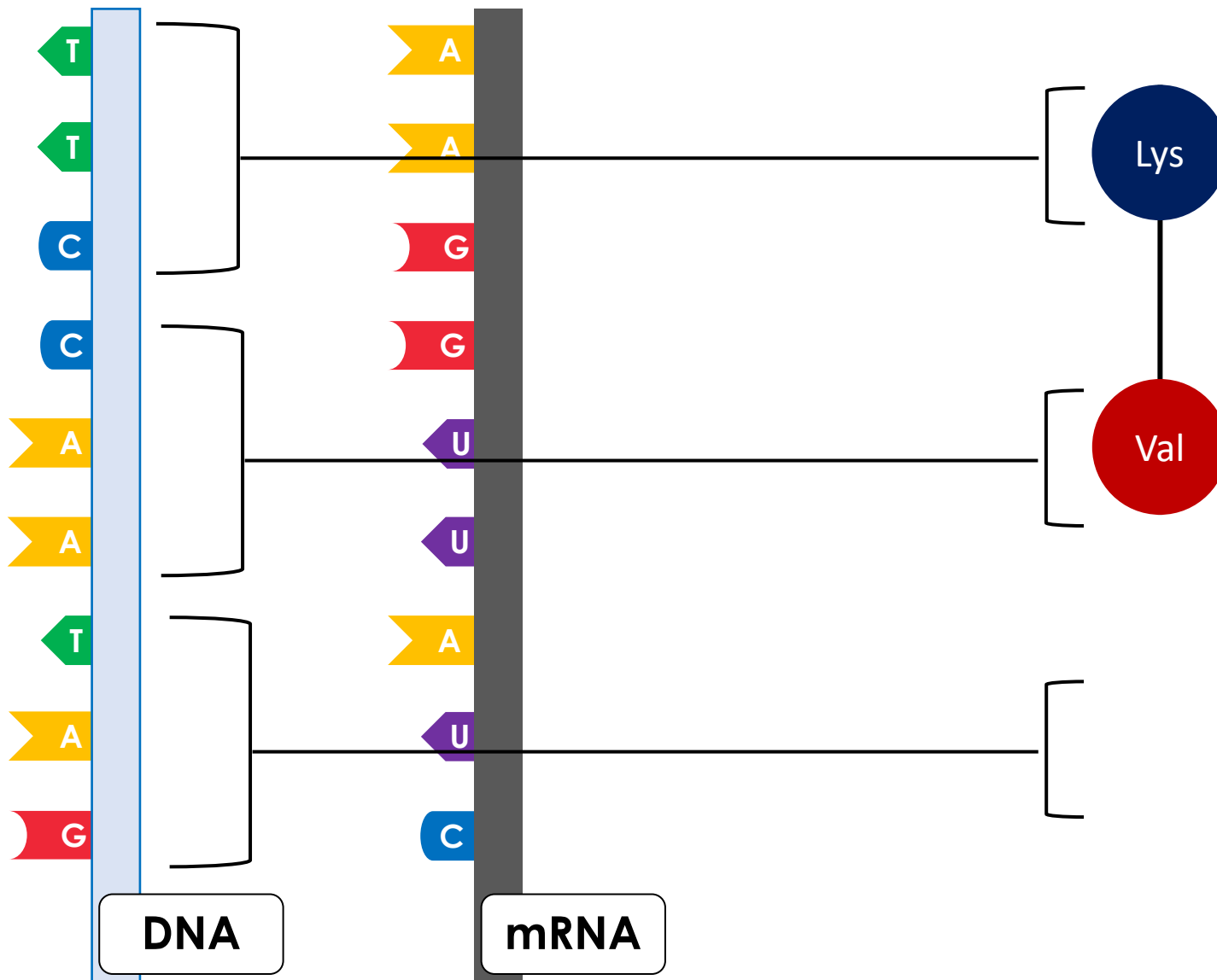
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

3 Translate the mRNA strand into an amino acid sequence.



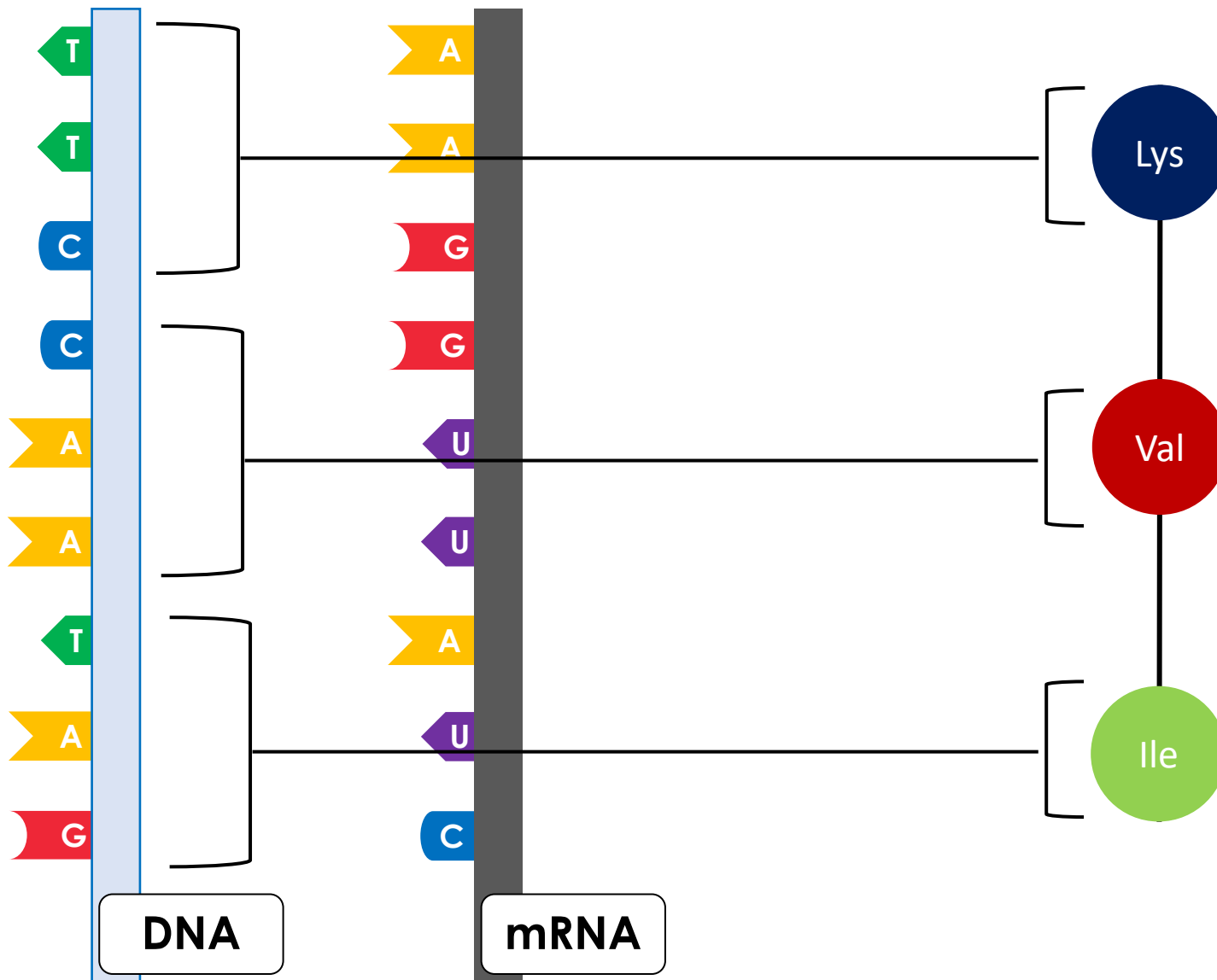
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

3 Translate the mRNA strand into an amino acid sequence.



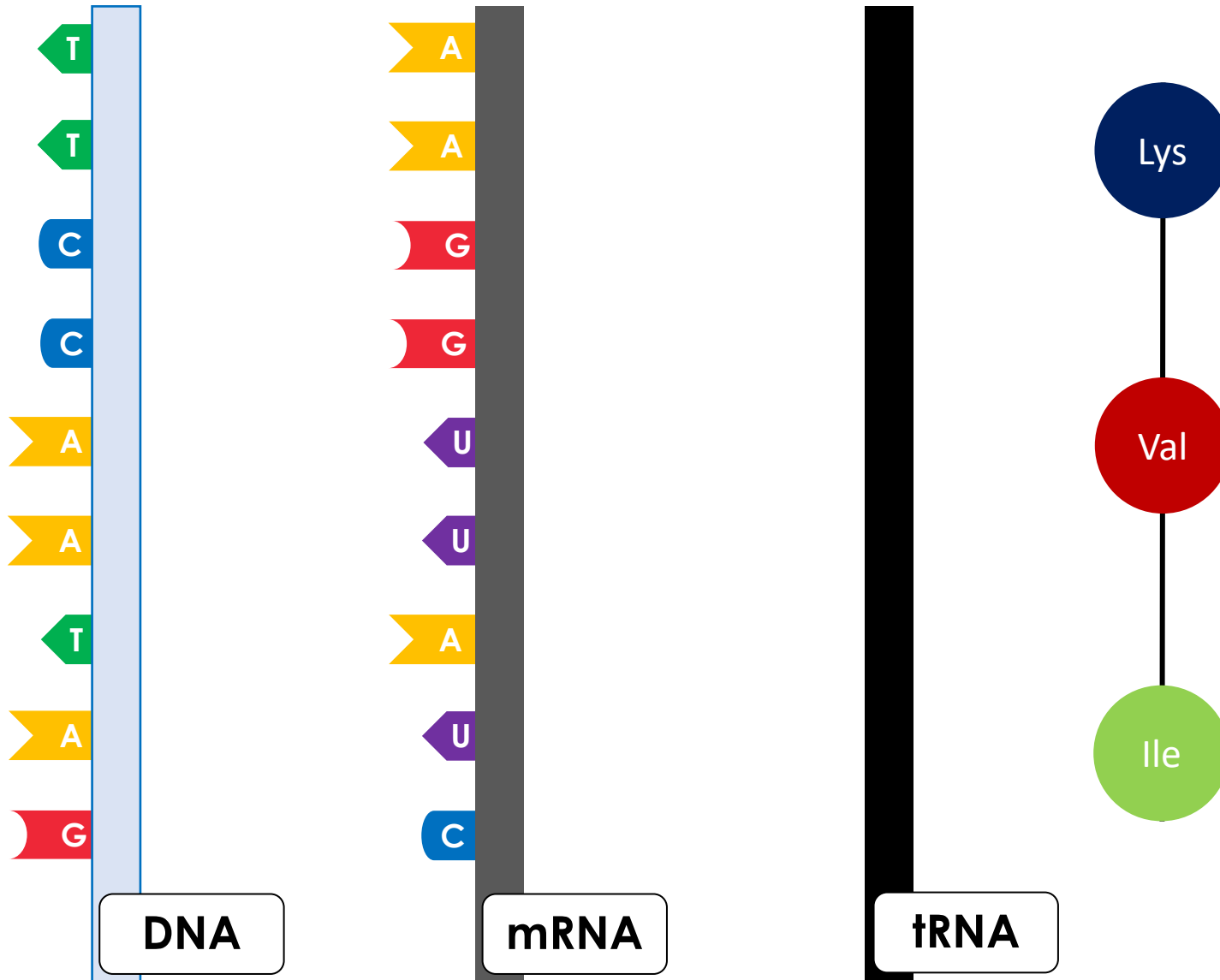
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

3 Translate the mRNA strand into an amino acid sequence.



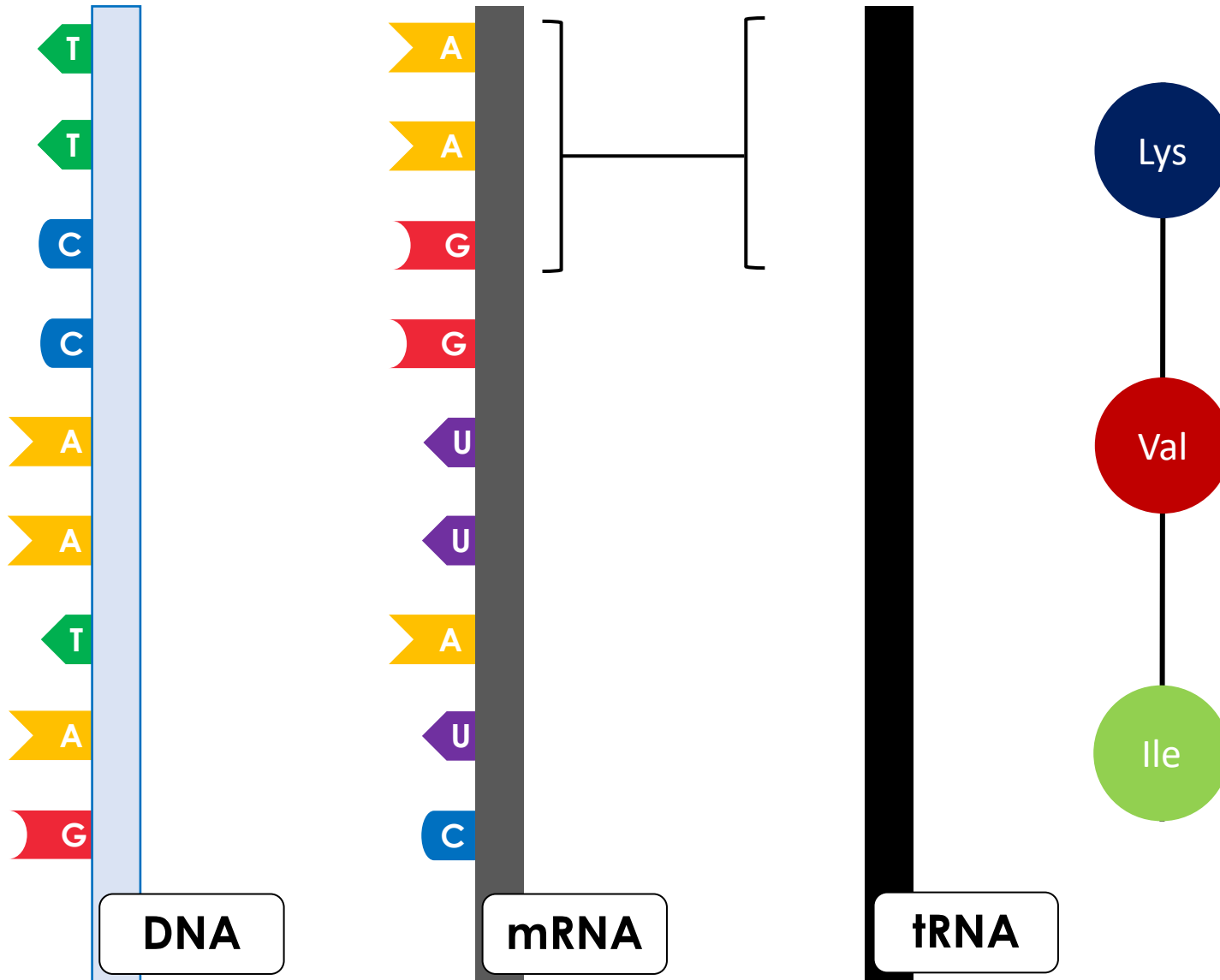
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 4 Determine the tRNA anticodons used during translation.



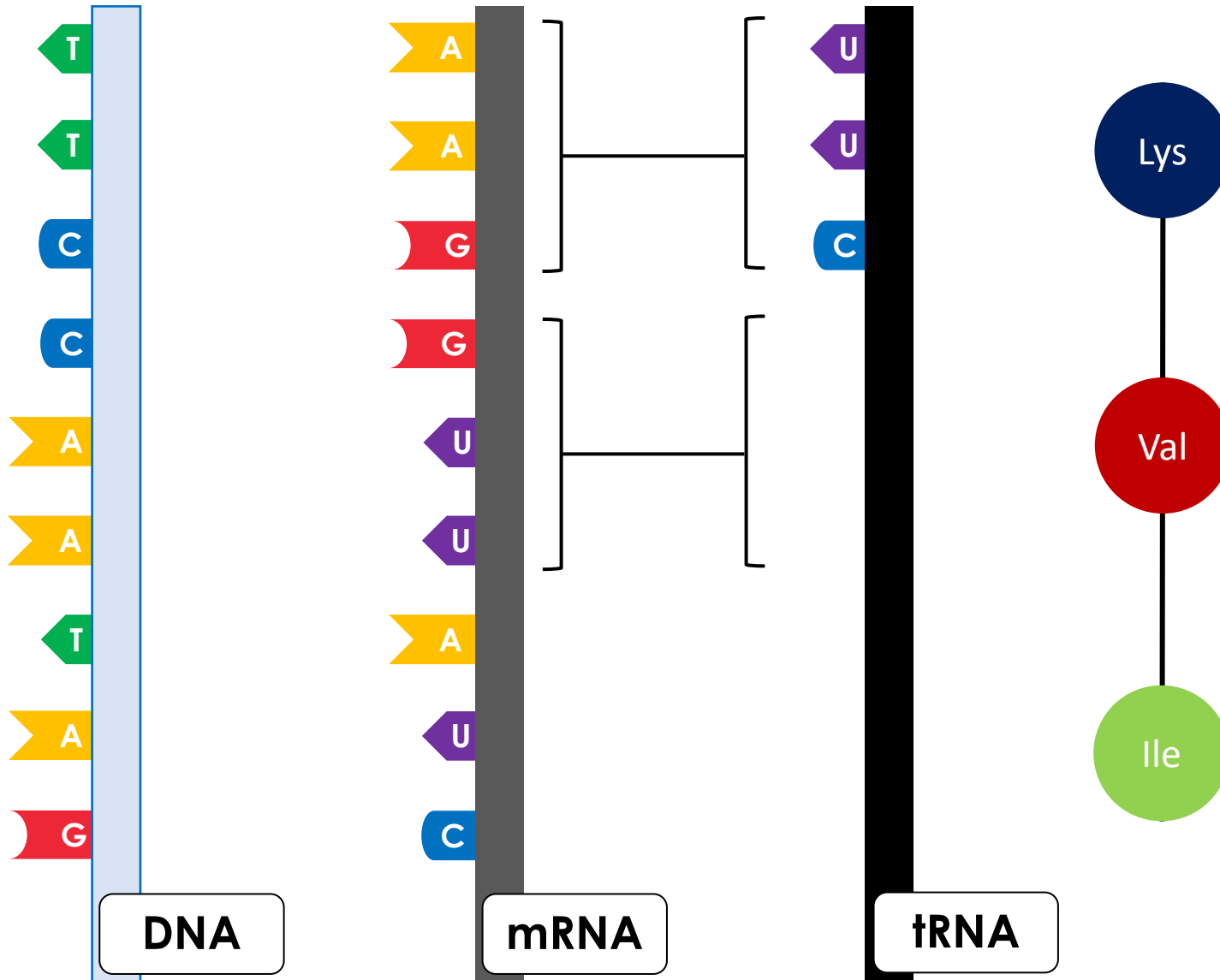
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 4 Determine the tRNA anticodons used during translation.



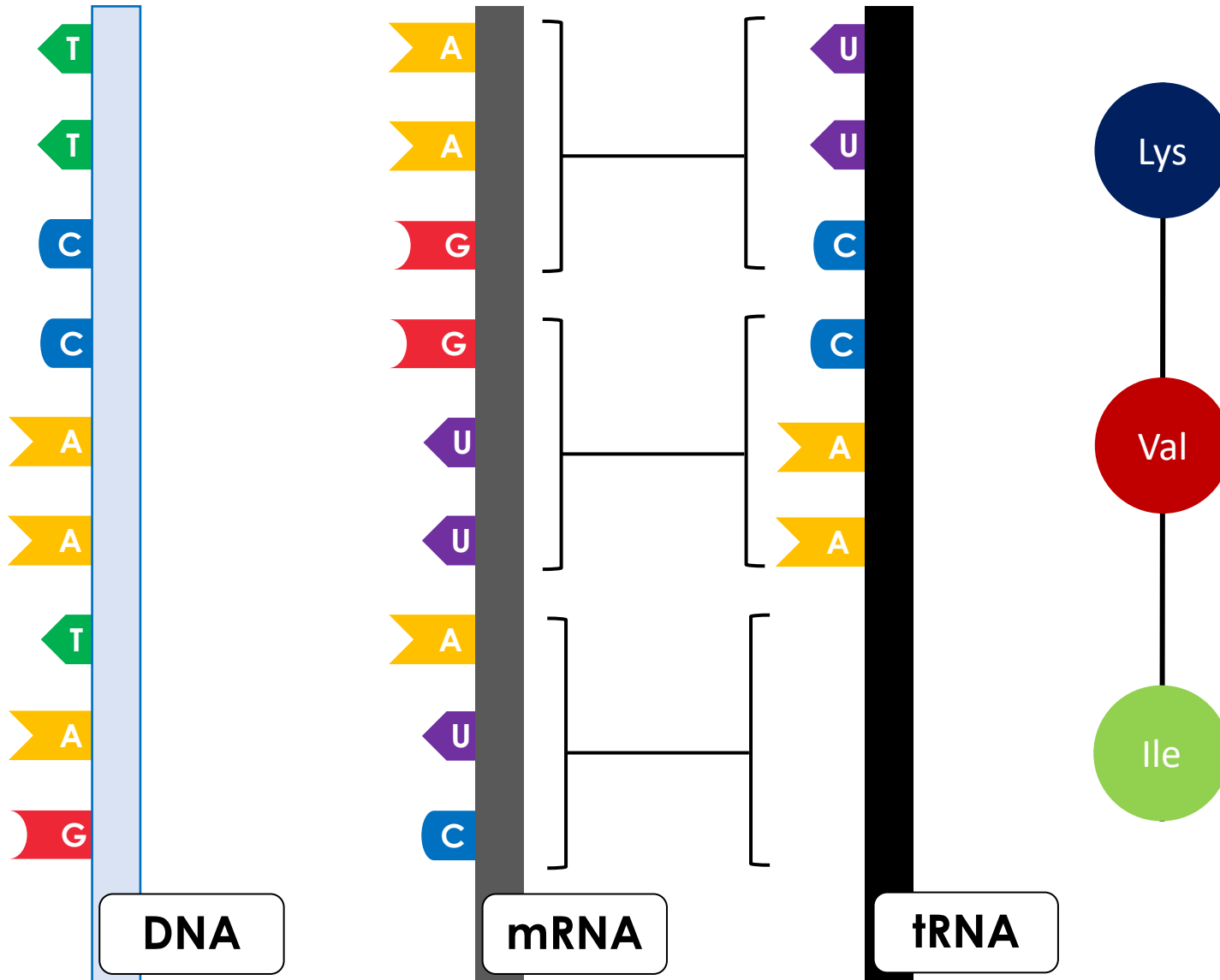
DNA base triplet	amino acid
AGC	Ser
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CAA	Val
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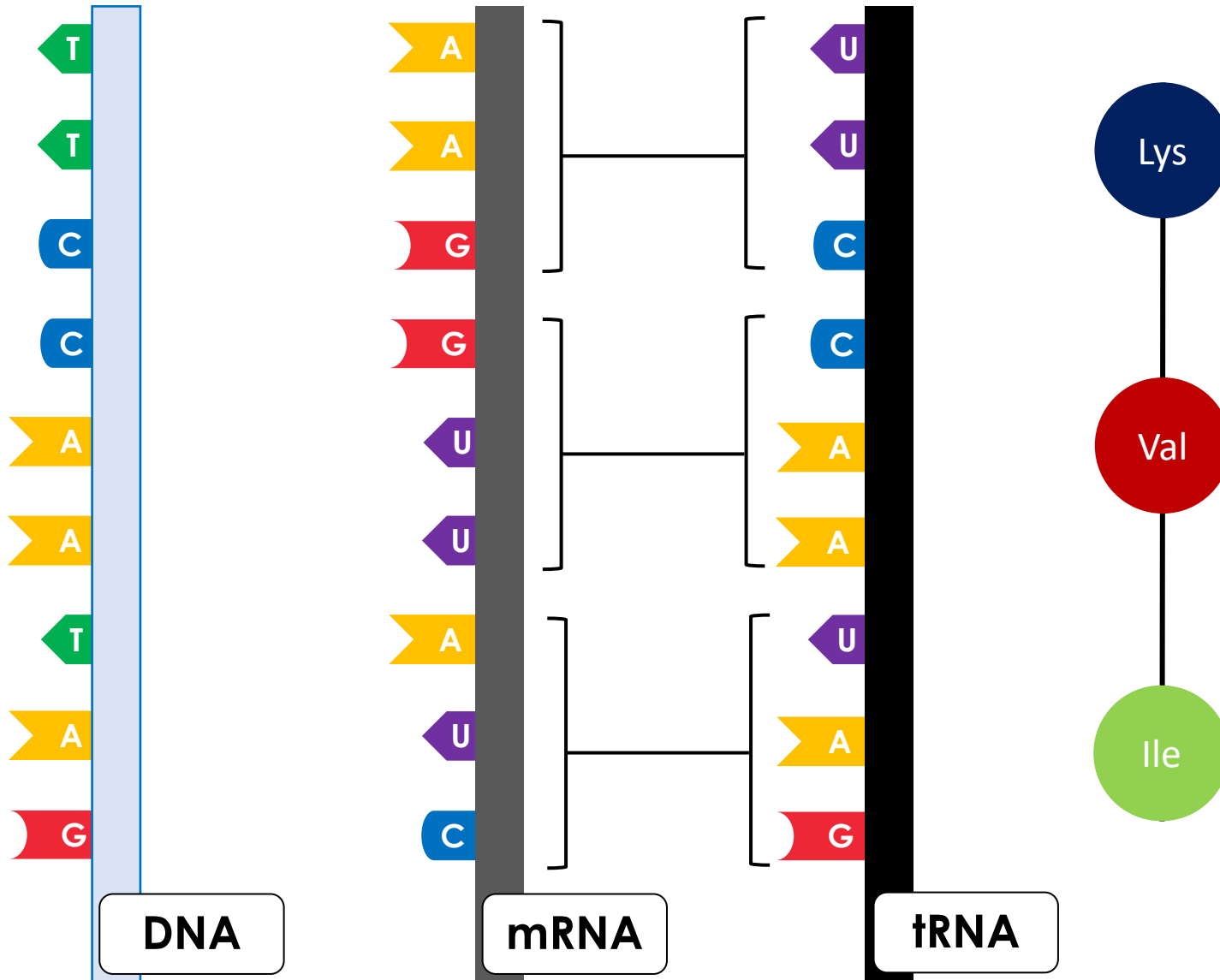
DNA base triplet	amino acid
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TAG	Ile
CAA	Val
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AAT	Leu
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- 4 Determine the tRNA anticodons used during translation.



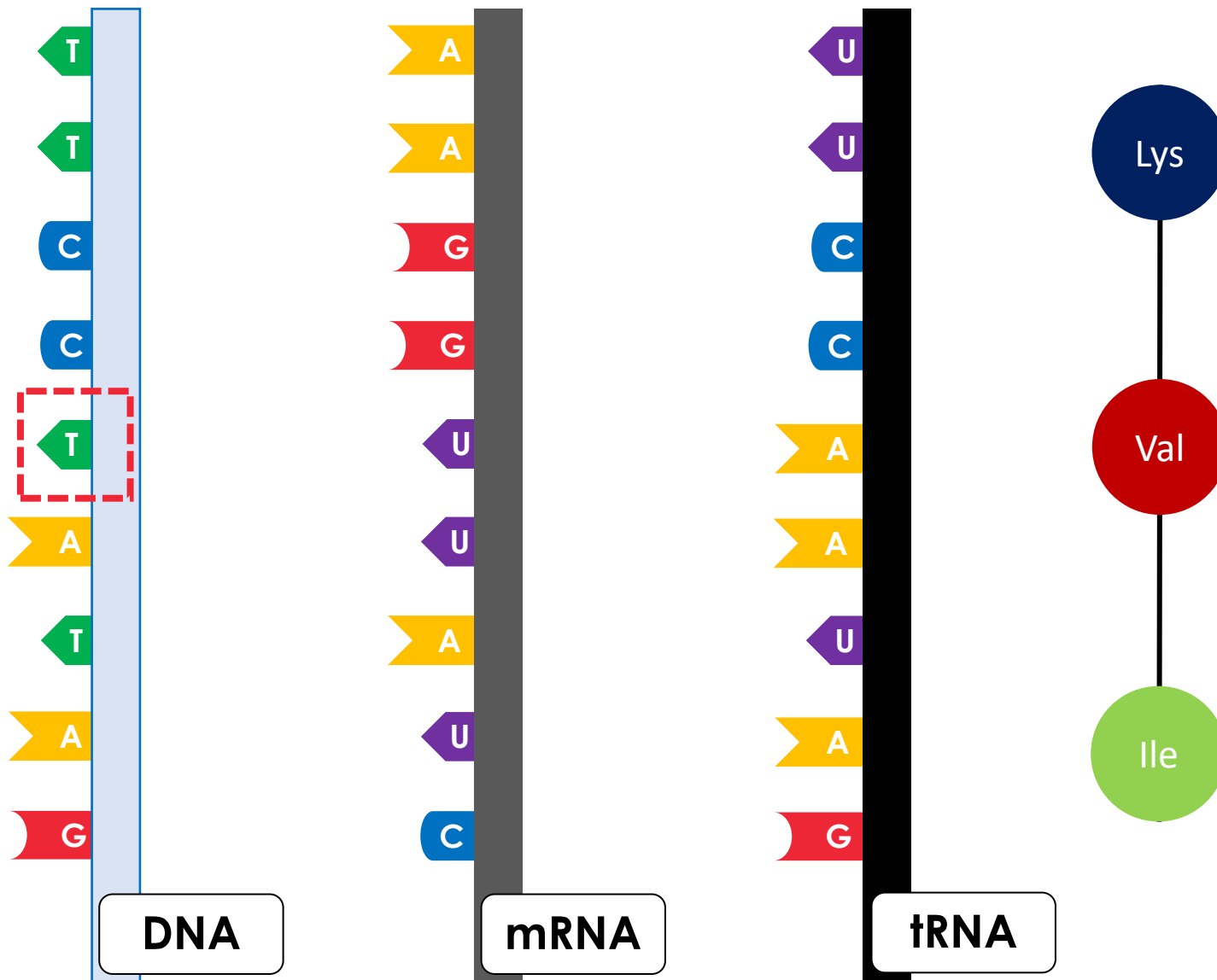
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
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- 4 Determine the tRNA anticodons used during translation.



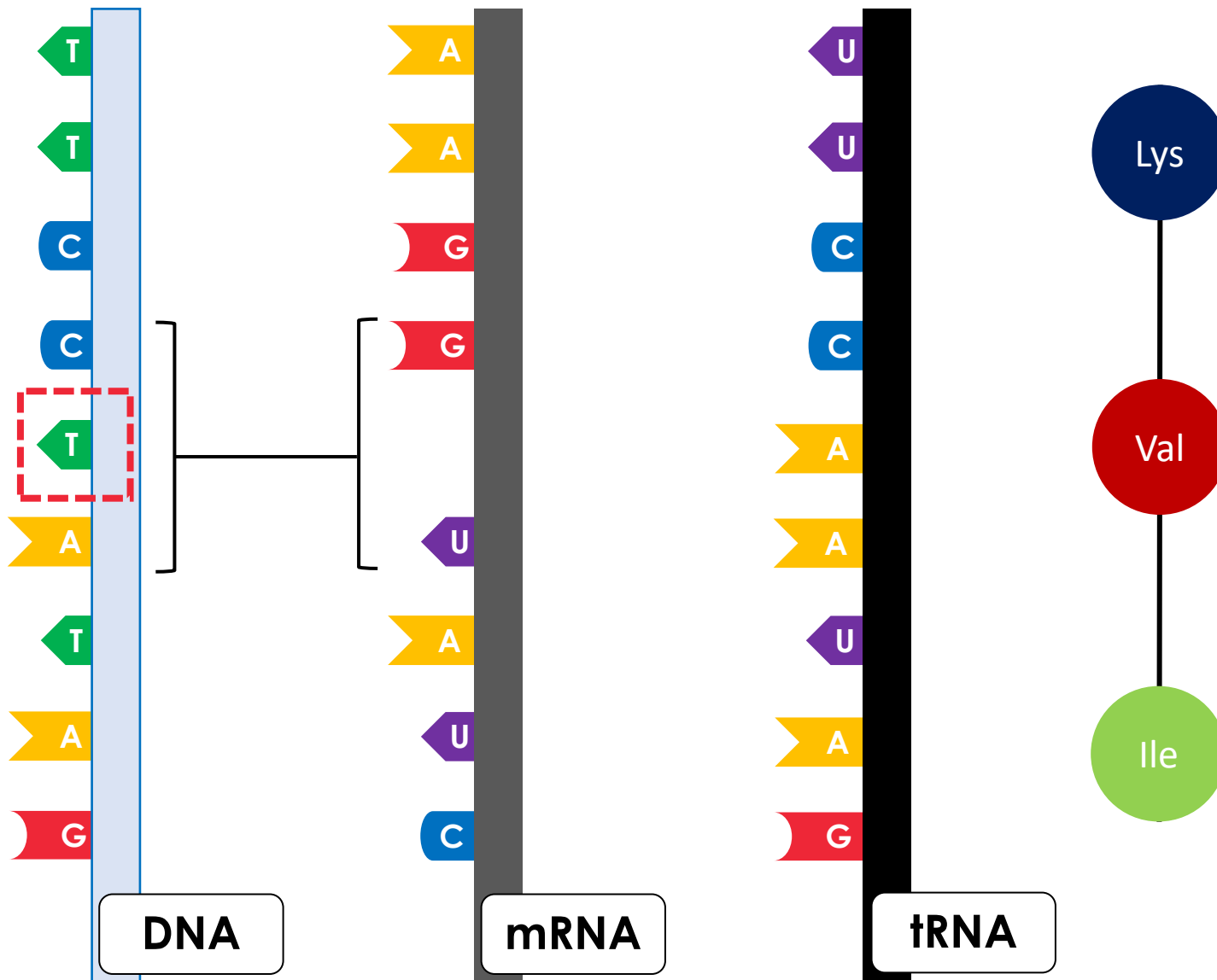
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 5 A gene mutation occurs. Explain what happens.



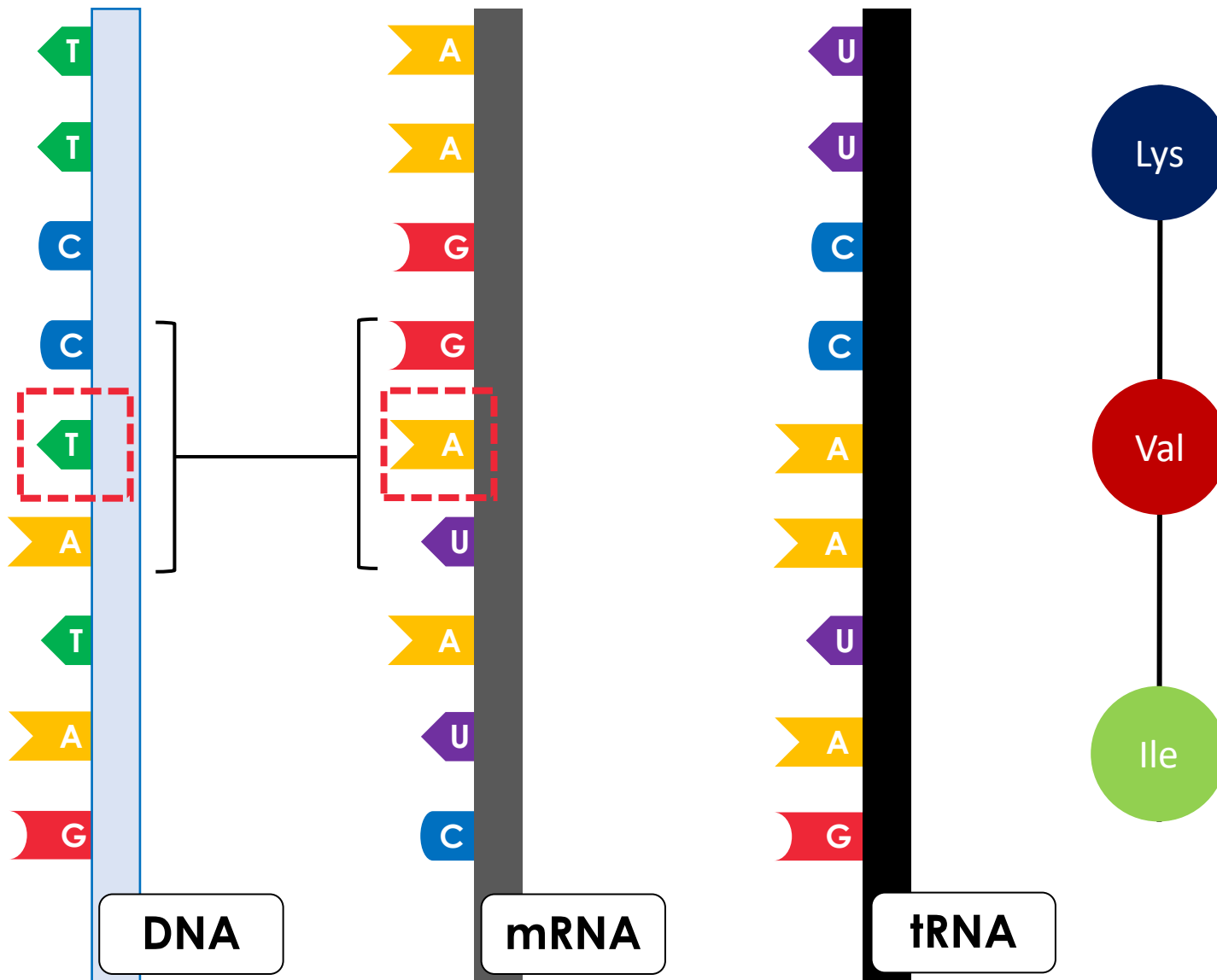
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 5 A gene mutation occurs. Explain what happens.



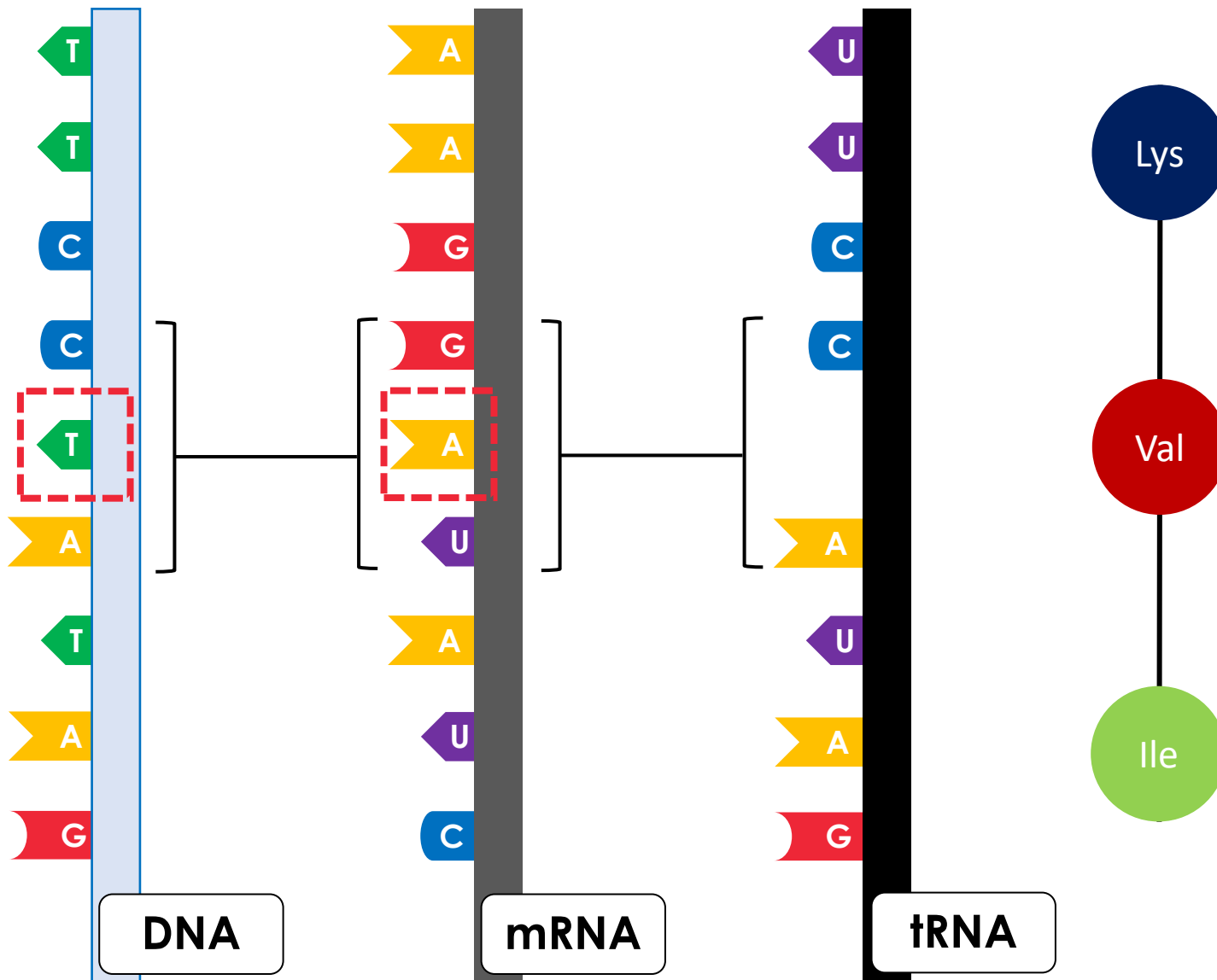
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 5 A gene mutation occurs. Explain what happens.



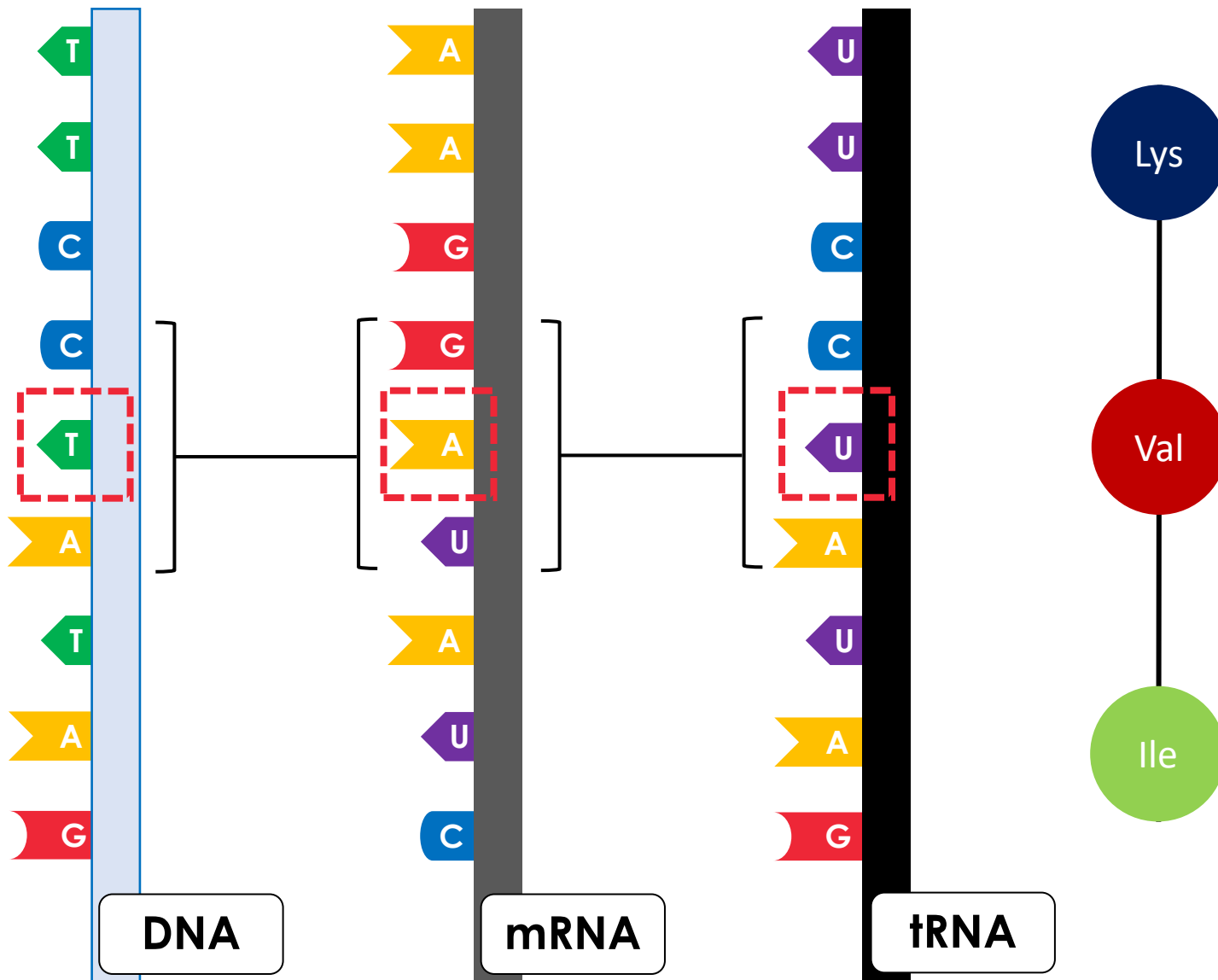
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 5 A gene mutation occurs. Explain what happens.



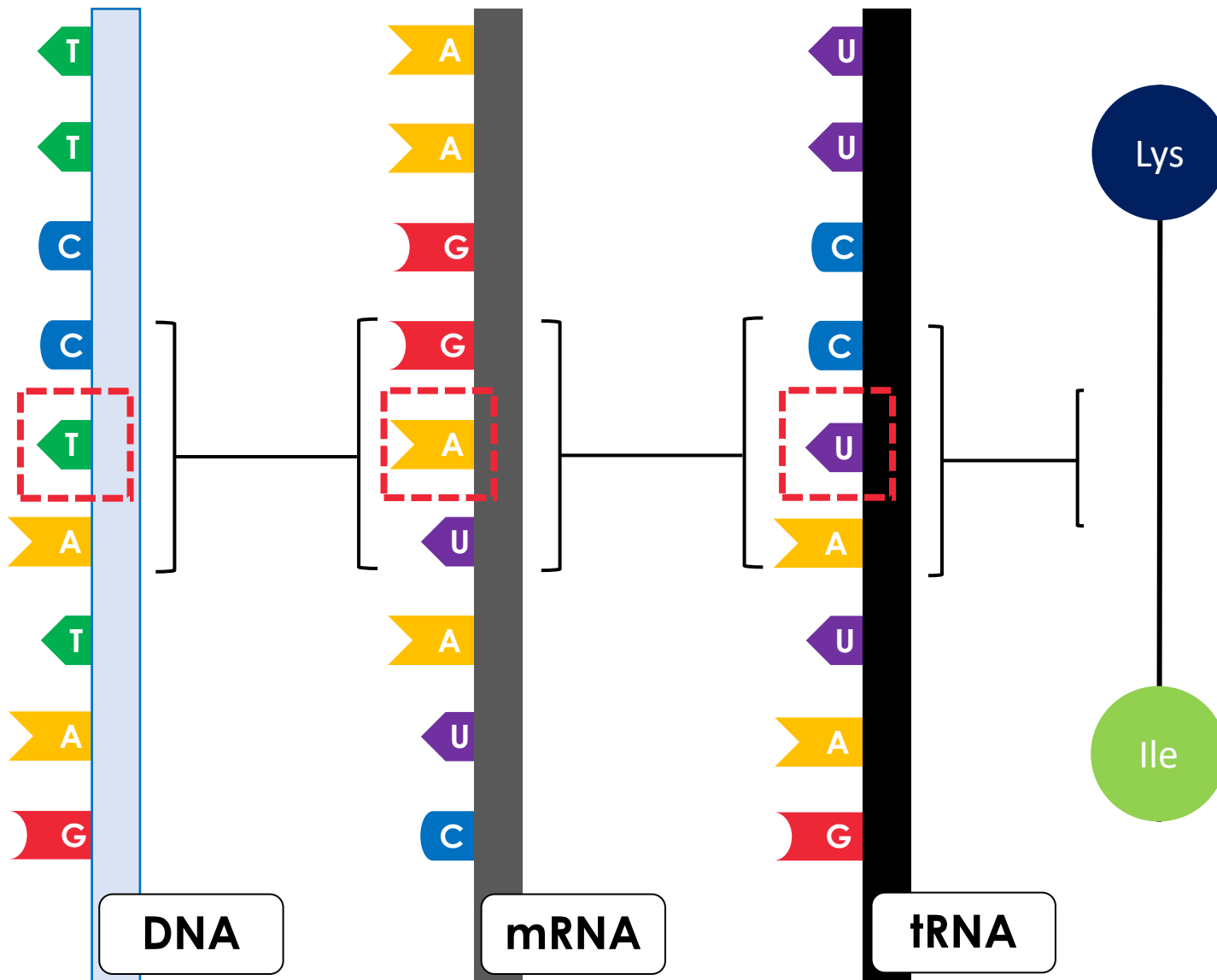
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
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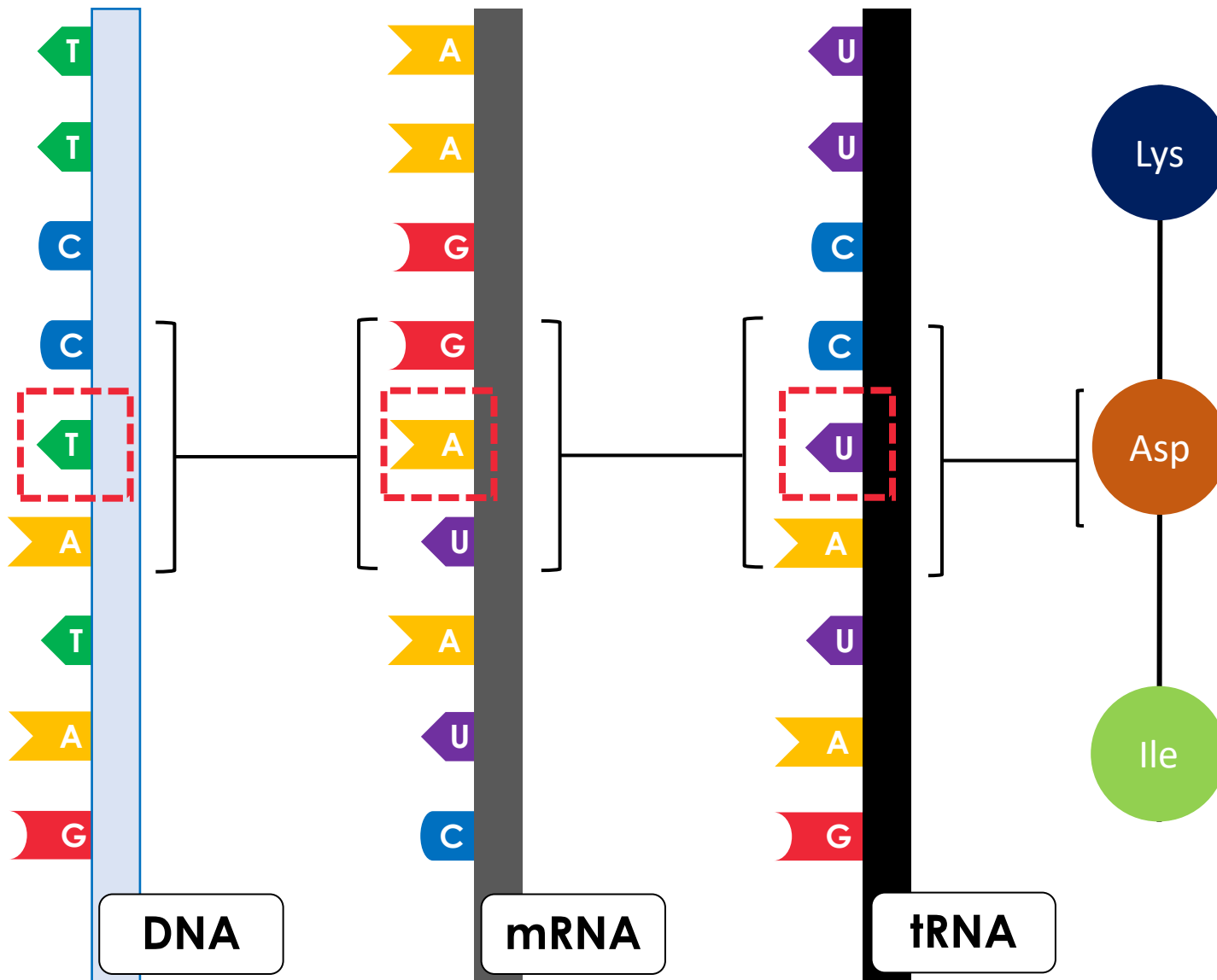
DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 5 A gene mutation occurs. Explain what happens.



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AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

- 5 A gene mutation occurs. Explain what happens.



Protein structure and function may change.

DNA base triplet	amino acid
AGC	Ser
TAG	Ile
CAA	Val
TTC	Lys
AAT	Leu
CTA	Asp

END