

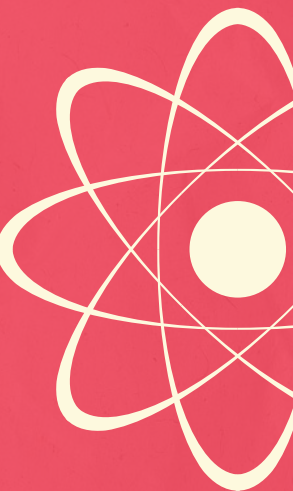
HEREDITY



ee



ee



ee

HEREDITY

Heredity refers to the passing of traits or characteristics from one parent to the child.



HEREDITARY TRAITS



DIMPLES



EYE COLOUR



HAND CLASPING

B1

www.menti.com and use the codes below

1

Dimples
3080 2680

2

Eye Color
2857 9101

3

Hand Clasping
9651 9340

WHAT CAUSES TRAITS TO BE
PASSED ON FROM PARENT TO CHILD

OR

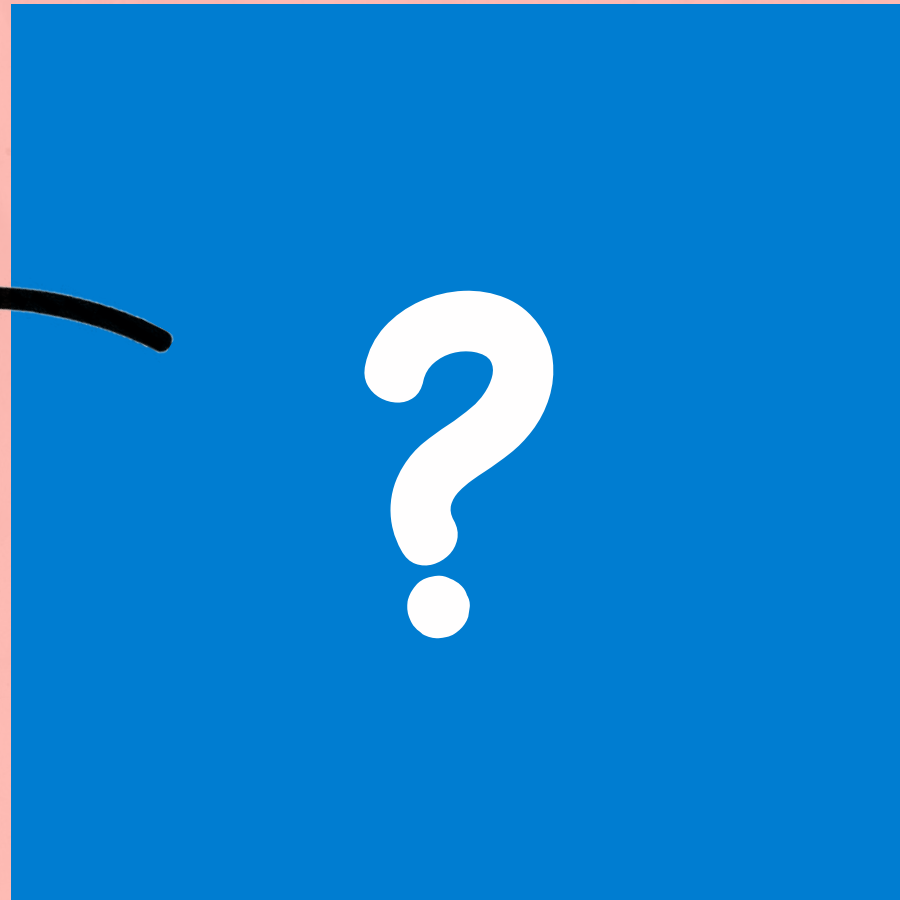
WHAT IS RESPONSIBLE FOR THESE
DIFFERENT TRAITS?

DO YOU REMEMBER WE STUDIED
NUCLEUS
YESTERDAY?





Nucleus



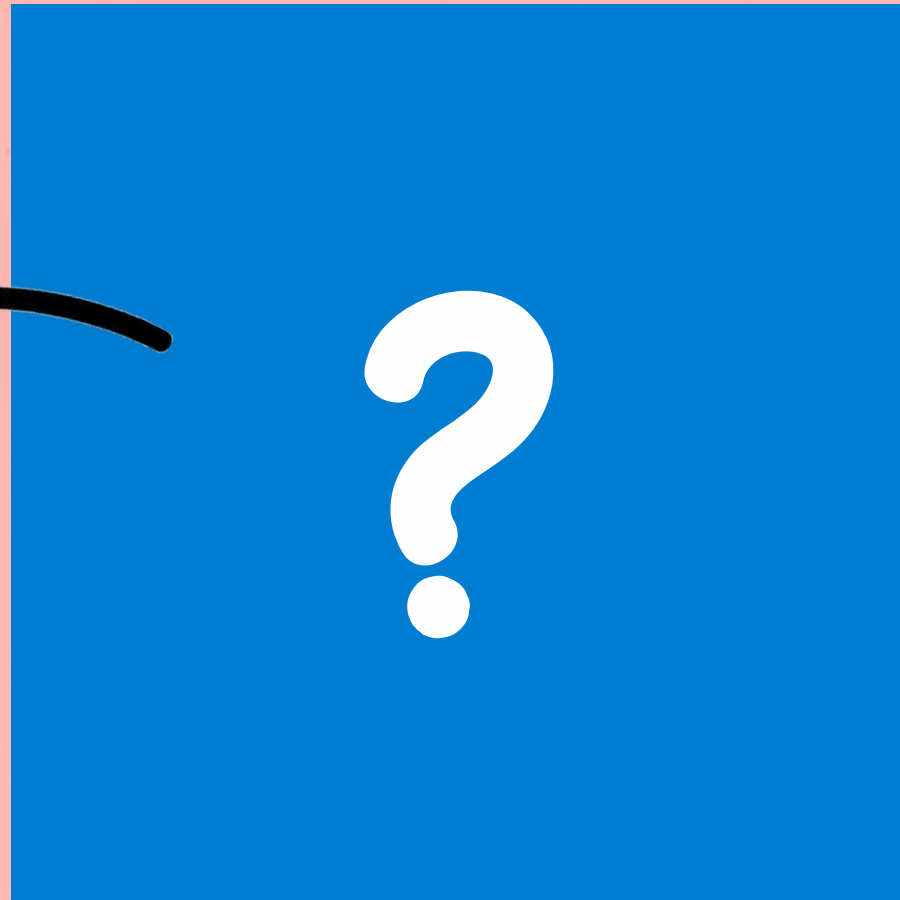
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What is inside
nucleus

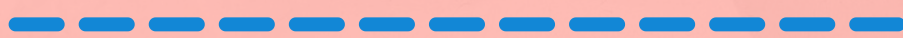




Nucleus



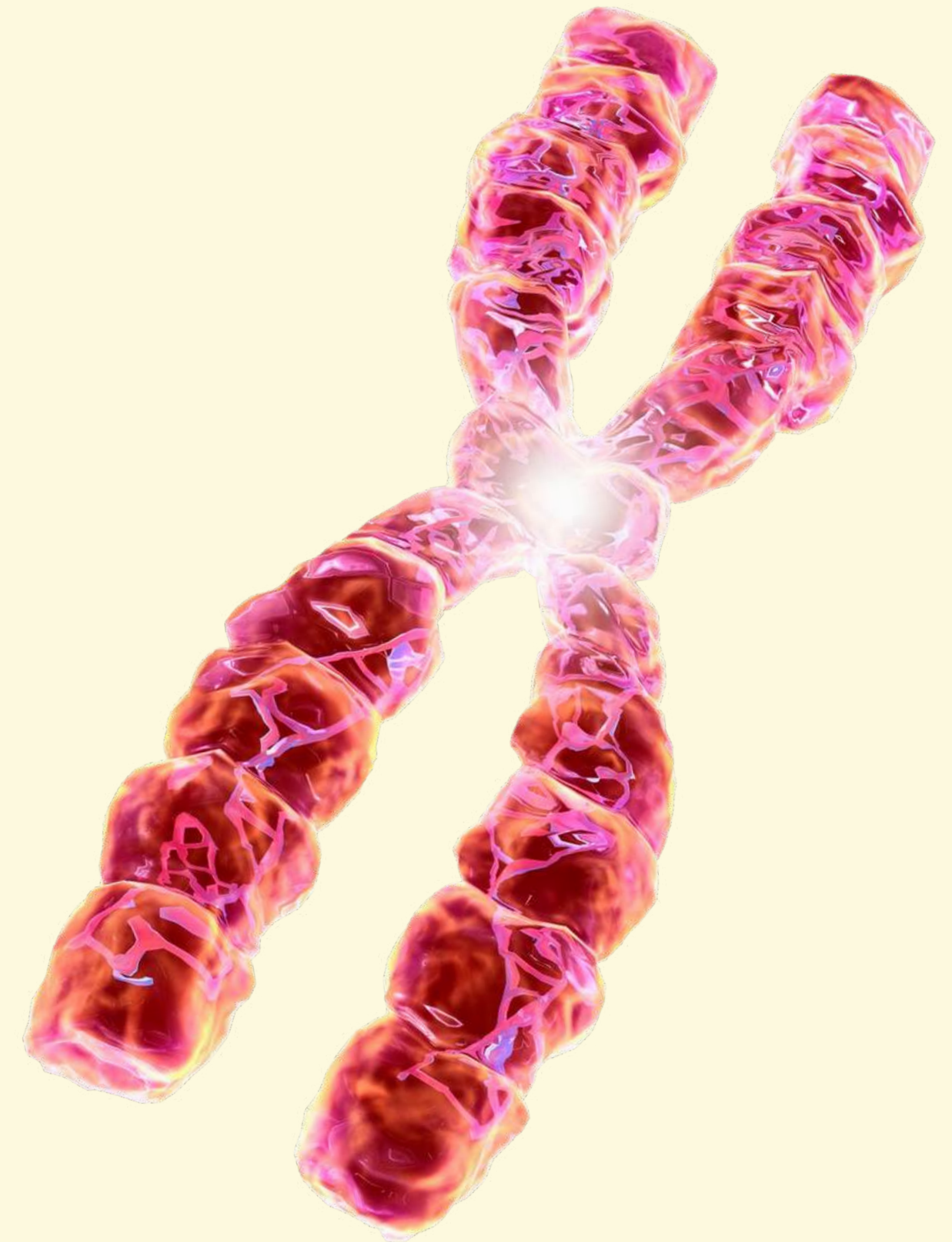
What is inside
nucleus

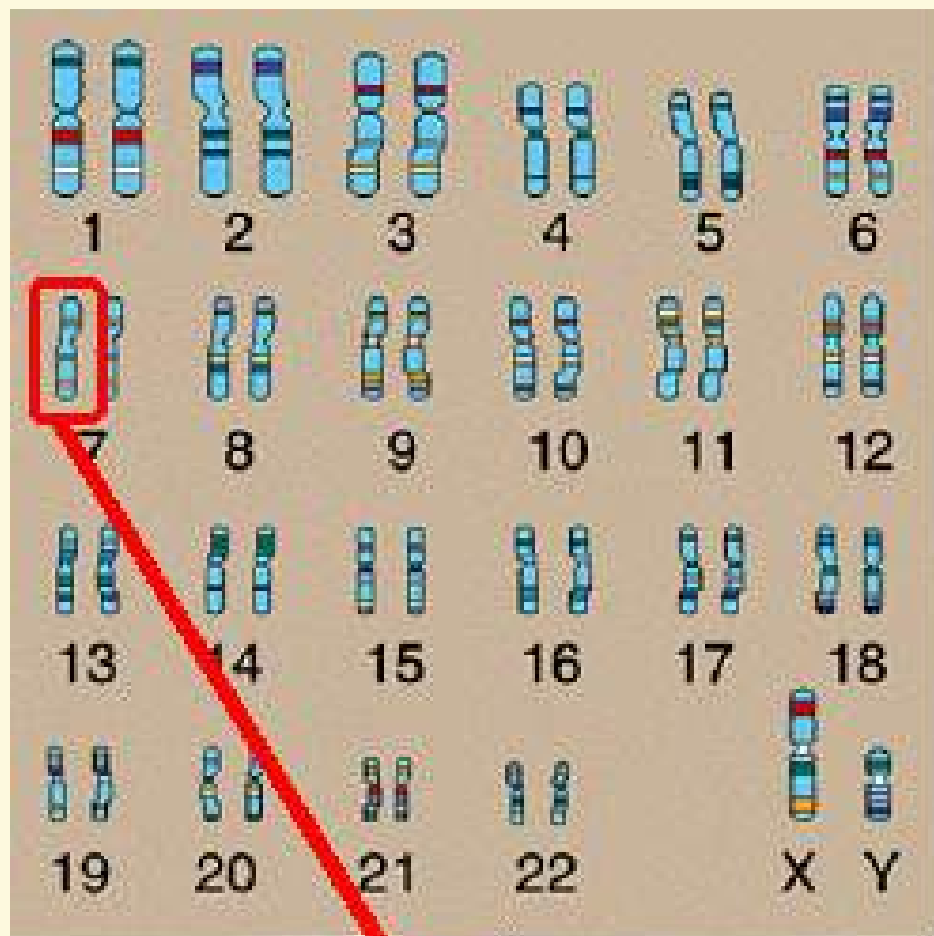


Chromosomes

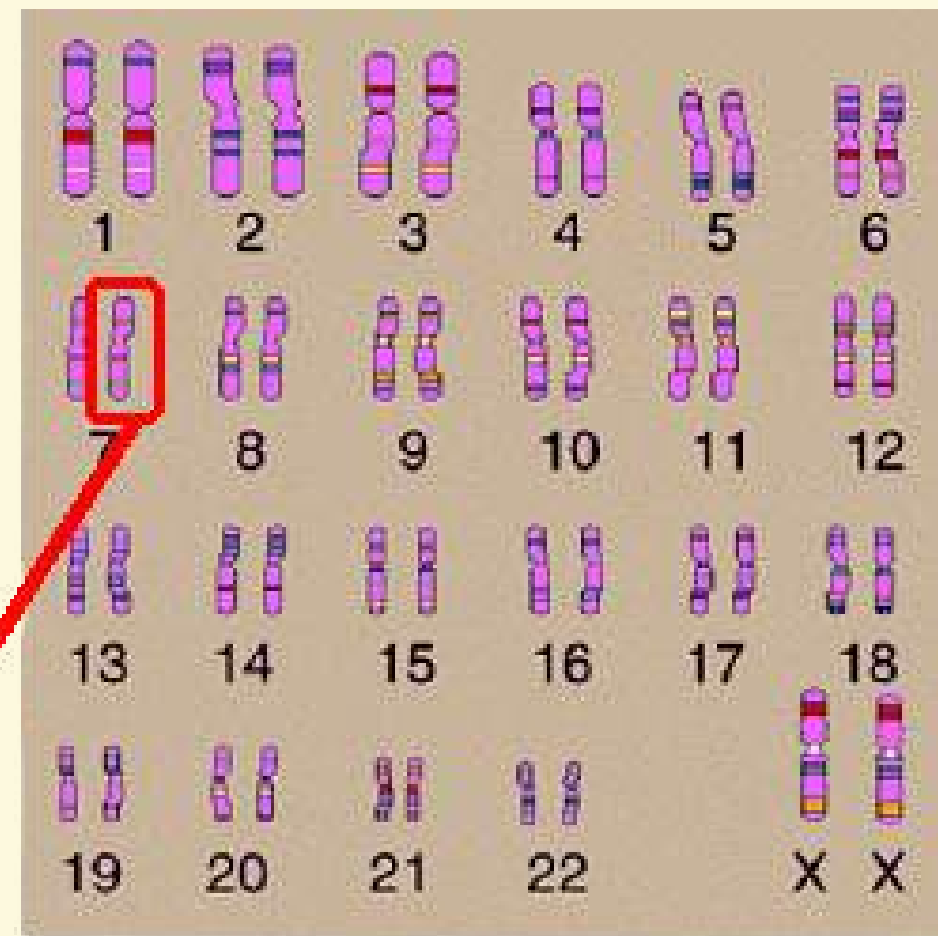
Chromosomes

Chromosomes are thread-like structures present in the nucleus of a eukaryotic cell, which carries genetic information from one generation to another. They play a vital role in cell division, heredity, variation, mutation, repair and regeneration..

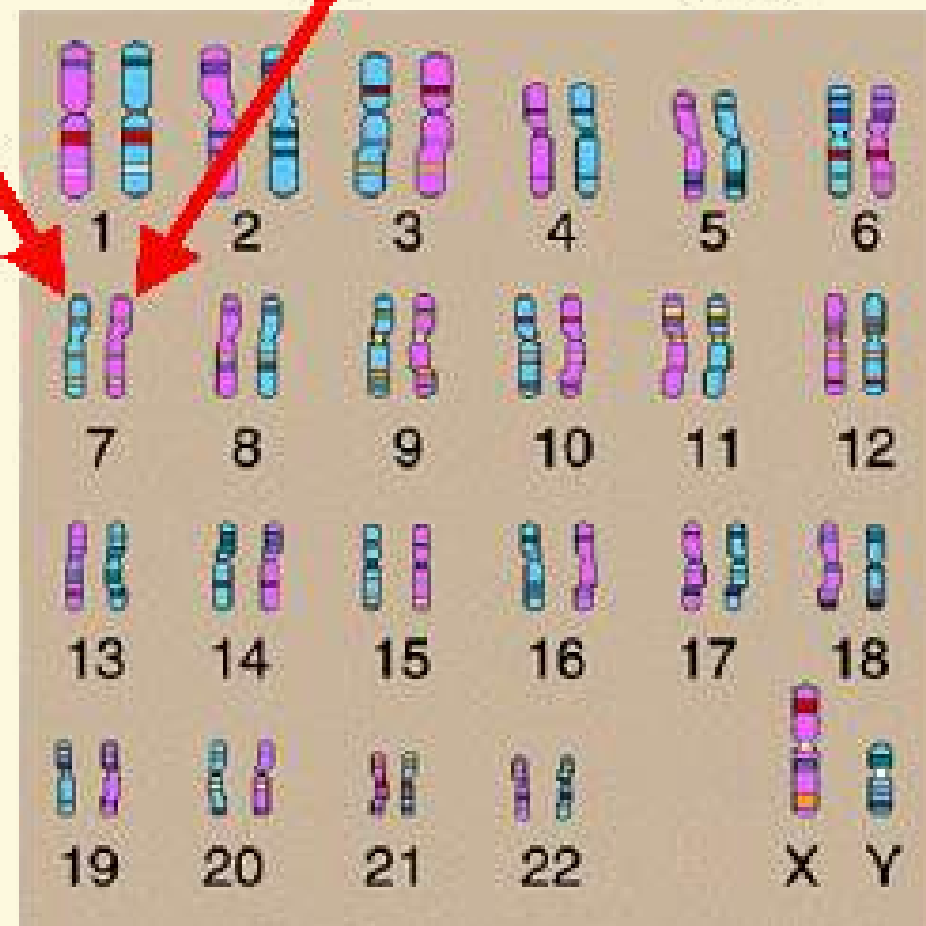




Father



Mother

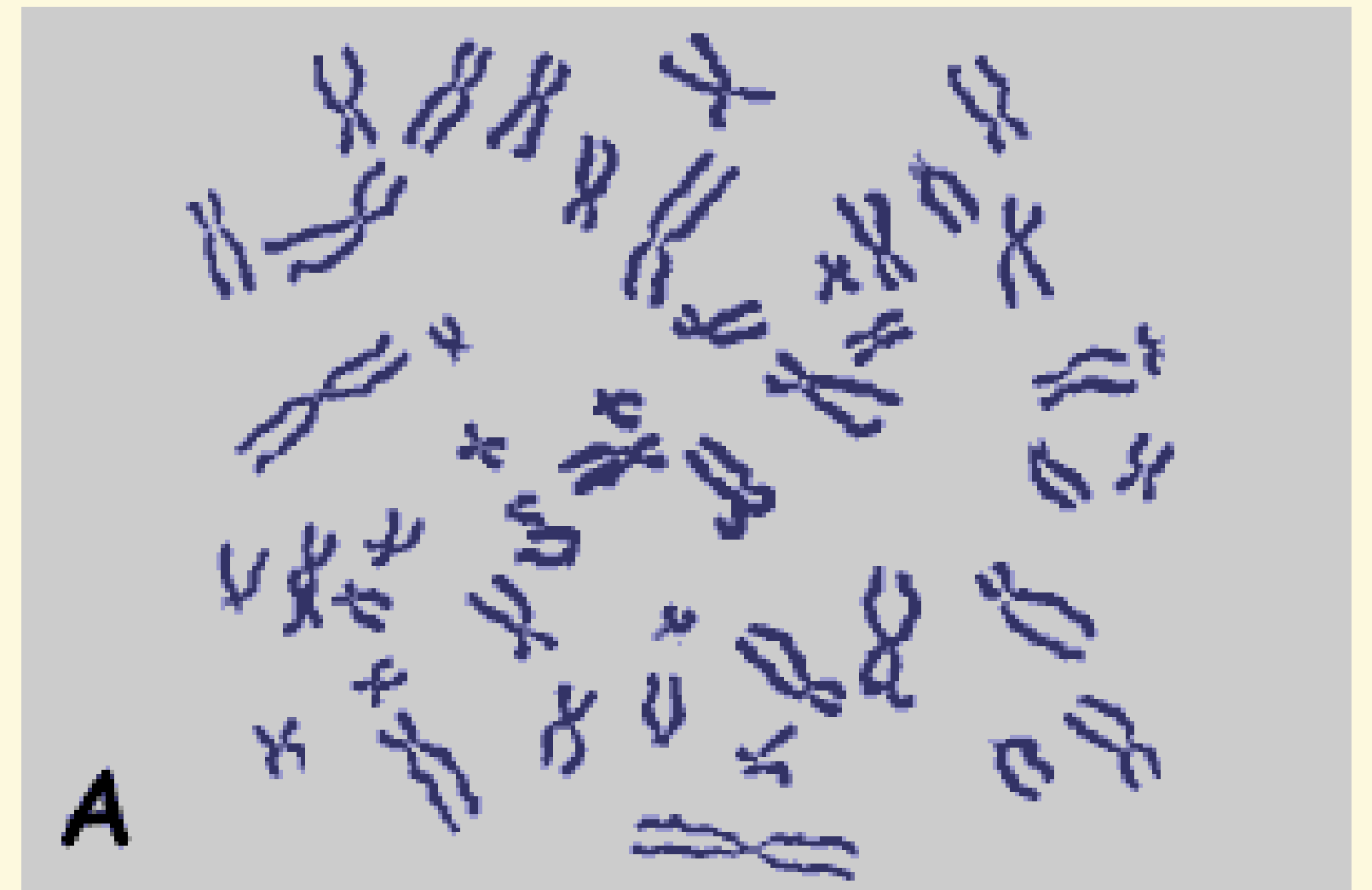


child

Inside their nucleus, different organisms contain a different number of chromosomes.



Common onion has _____ pairs of relatively large chromosomes

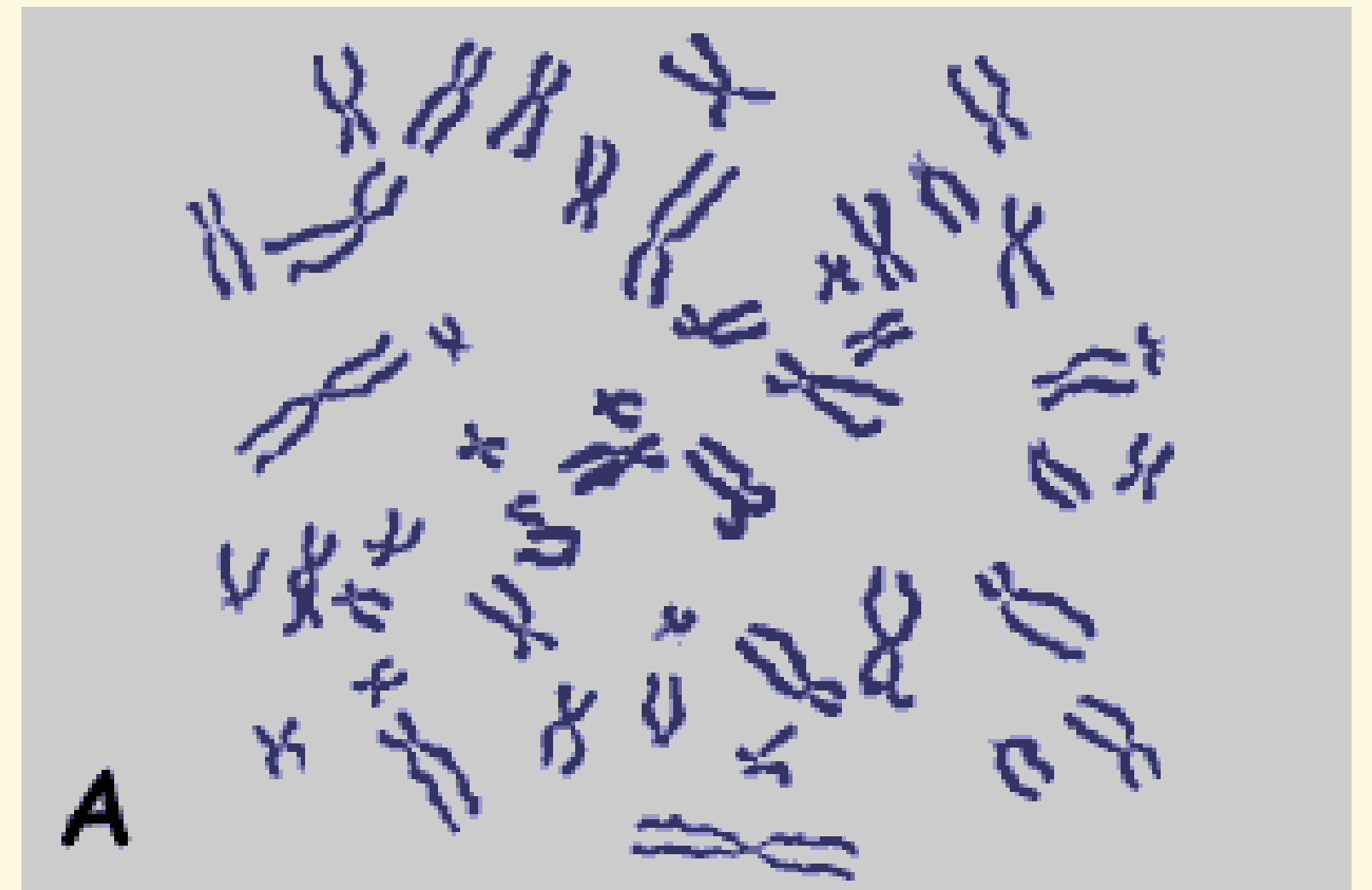


Can you count how many chromosomes we have?

Inside their nucleus, different organisms contain a different number of chromosomes.



Common onion has **16** pairs of relatively large chromosomes

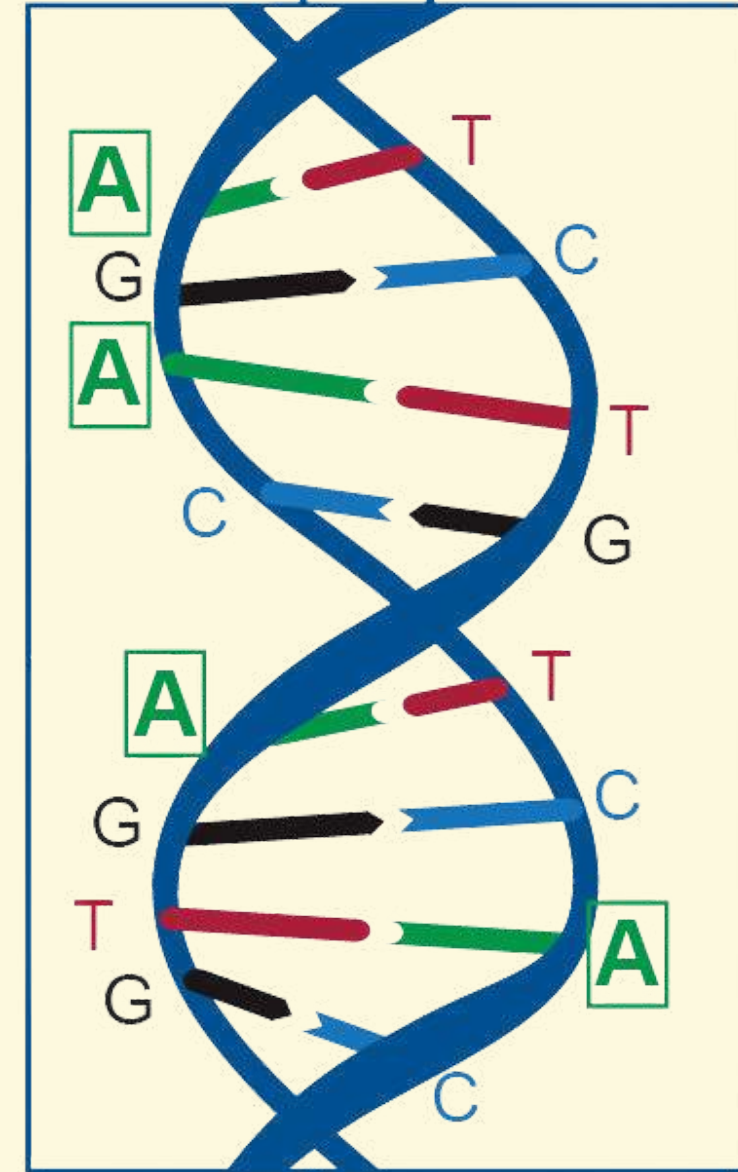
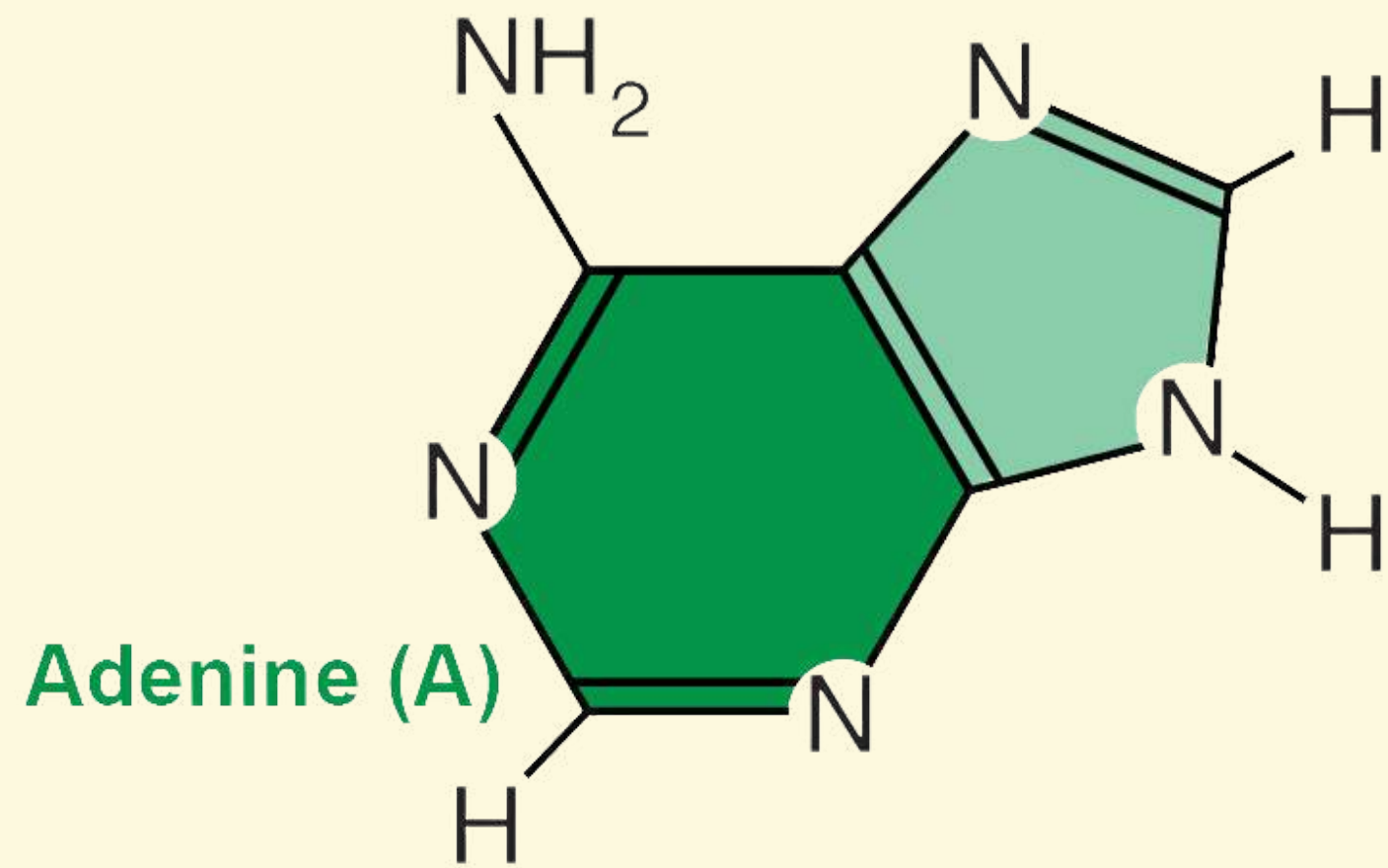


Can you count how many chromosomes we have?

Presence of more chromosome
can cause grave consequences.



When you uncoil these
chromosomes, what
do you see? Long
threads! These are
DNA.

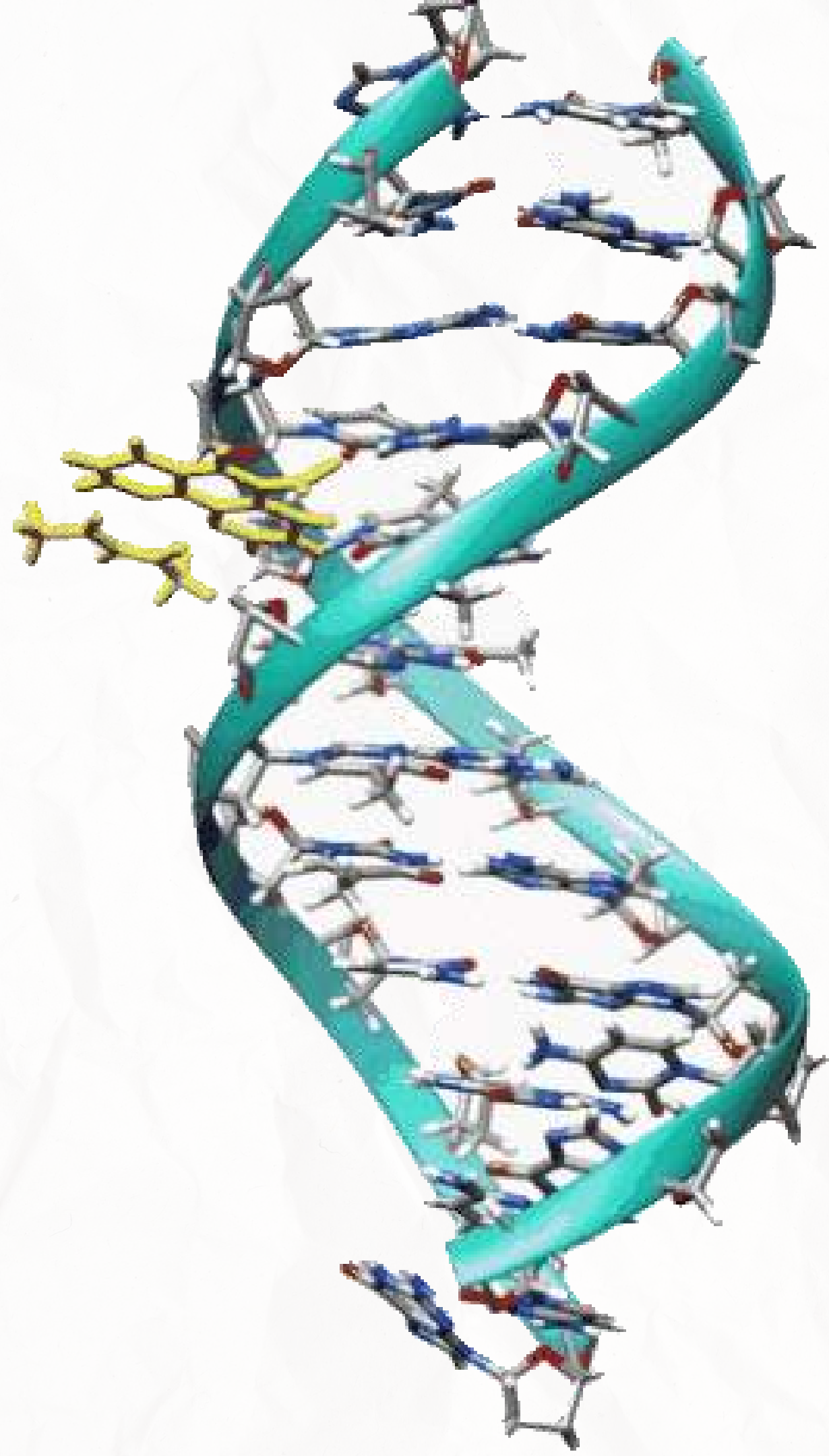


WHAT IS A DNA

DNA-

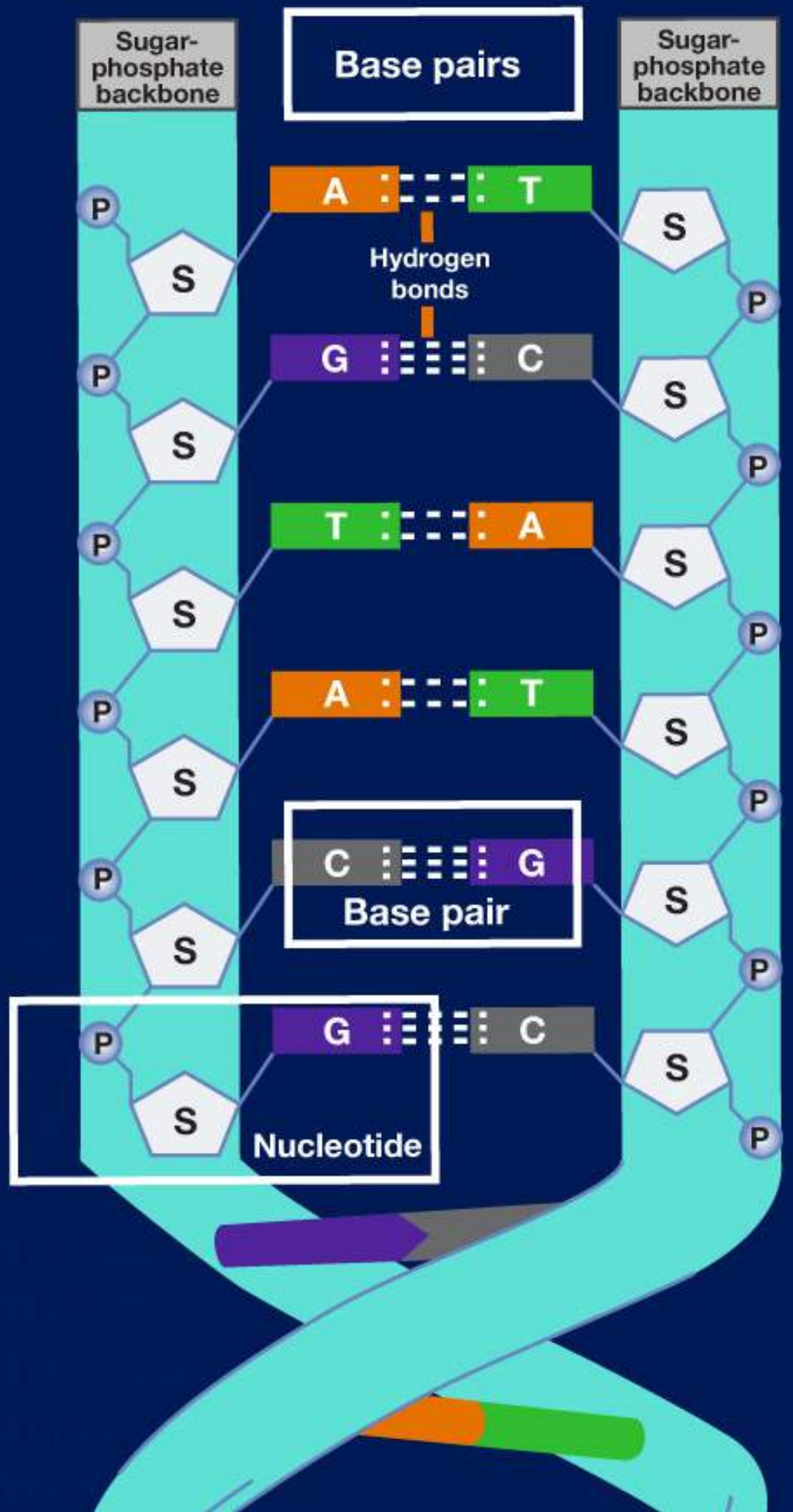
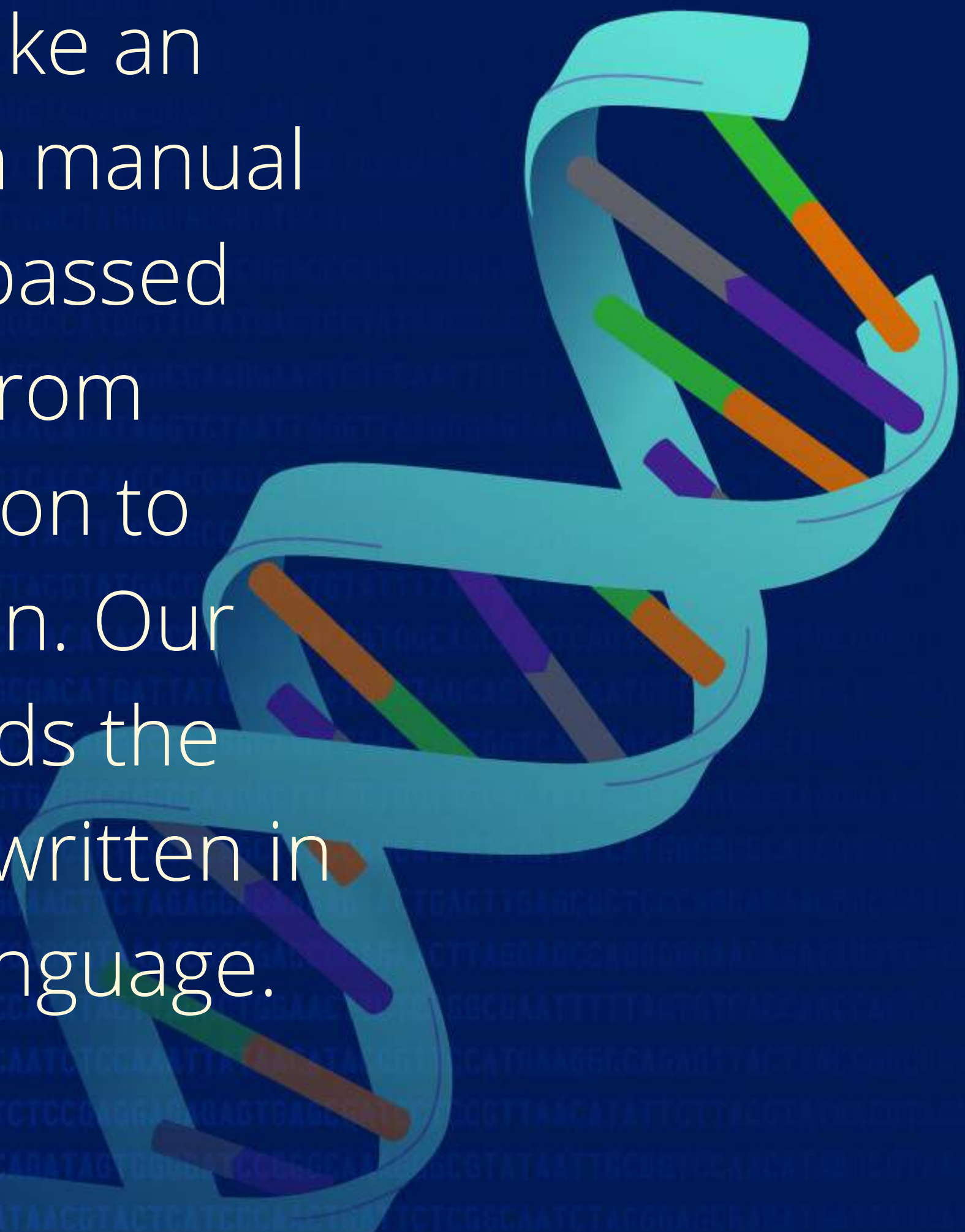
Deoxyribonucleic acid is the material that carries all the information about how a living thing will look and function.





DNA made
up of
carbon,
hydrogen,
oxygen,
nitrogen,
and
phosphorus

DNA is like an information manual which is passed down from generation to generation. Our body reads the commands written in a special language.



4 BASES

ADENINE

THYMINE

GUANINE

CYTOSINE

LANGUAGE OF LIFE

Make words from the 26 English alphabets .
similarly, there is 3-letter words or 'codons'
using only 4 letters of the alphabet: **A, T, G**
and C.

**Each word that can be made using these
ATGC letters are called aminoacids**

Words makes a sentence.

Similarly, Amino acids make proteins

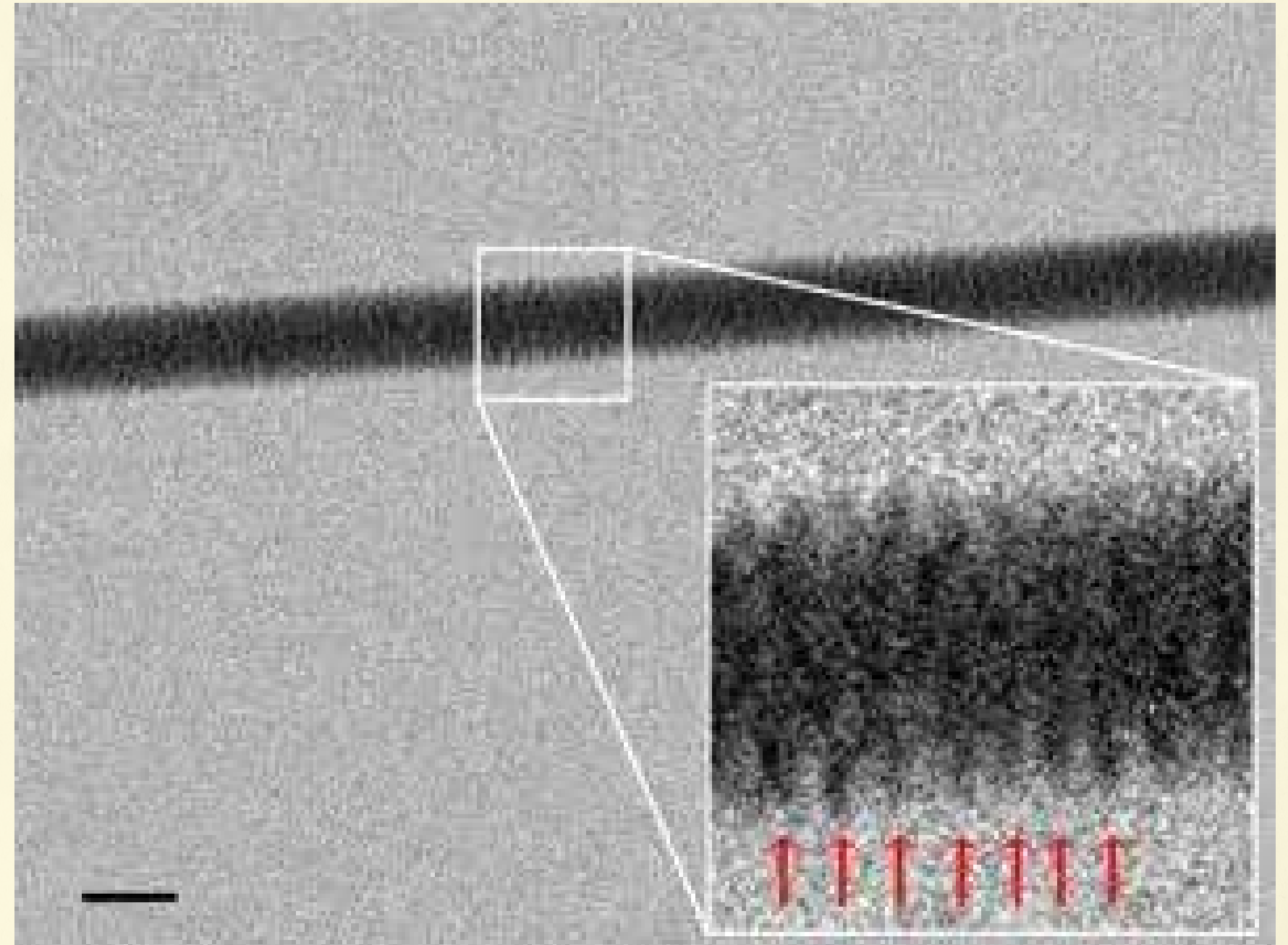
These Proteins are very important for
proper functioning of Living body.

What is DNA
code of your
name?

EXAMPLE - ANANYA
GCT GAC GCT GAC TAC GCT

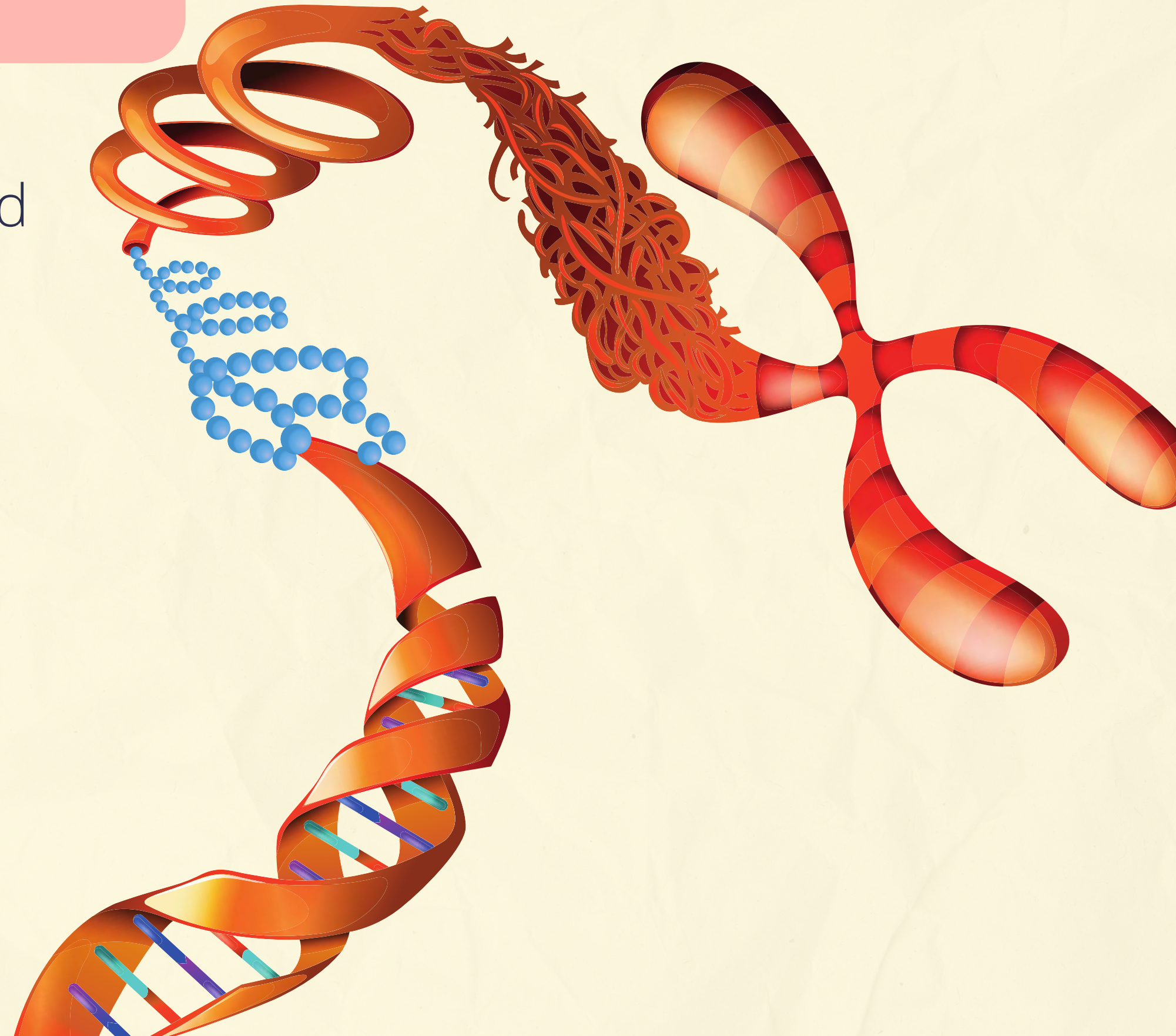
A	Alanine	GCT
B		GCA
C	Cysteine	TGC
D	Aspartic acid	GAT
E	Glutamic acid	GAG
F	Phenylalanine	TTT
G	Glycine	GGG
H	Histidine	CAT
I	Isoleucine	ATA
J		ATC
K	Lysine	AAG
L	Leucine	CTC
M	Methionine	ATG
N	Asparagine	GAC
O		GAT
P	Proline	CCC
Q	Glutamine	GAG
R	Arginine	CGT
S	Serine	TCA
T	Threonine	ACT
U		ACG
V	Valine	GTC
W	Tryptophan	TGG
X		GTA
Y	Tyrosine	TAC
Z		TAT

Actual DNA under electron microscope



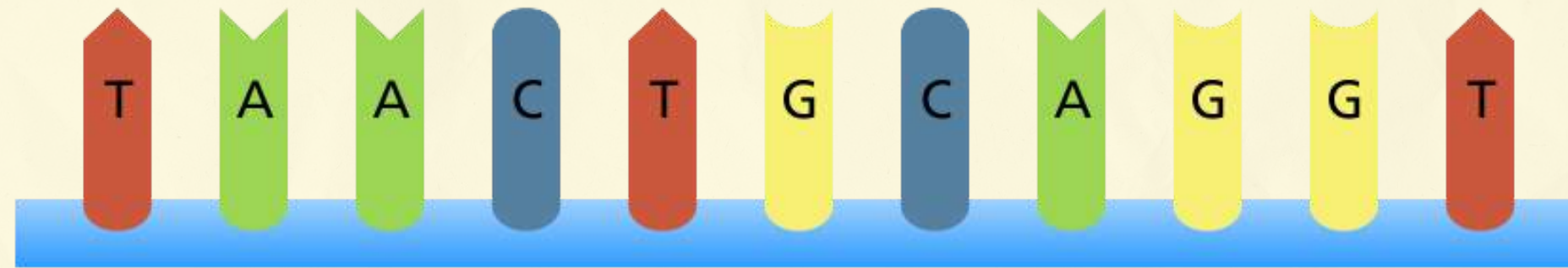
DNA -> Chromosome

These strands of DNA are first coiled and then supercoiled, much like a telephone wire.

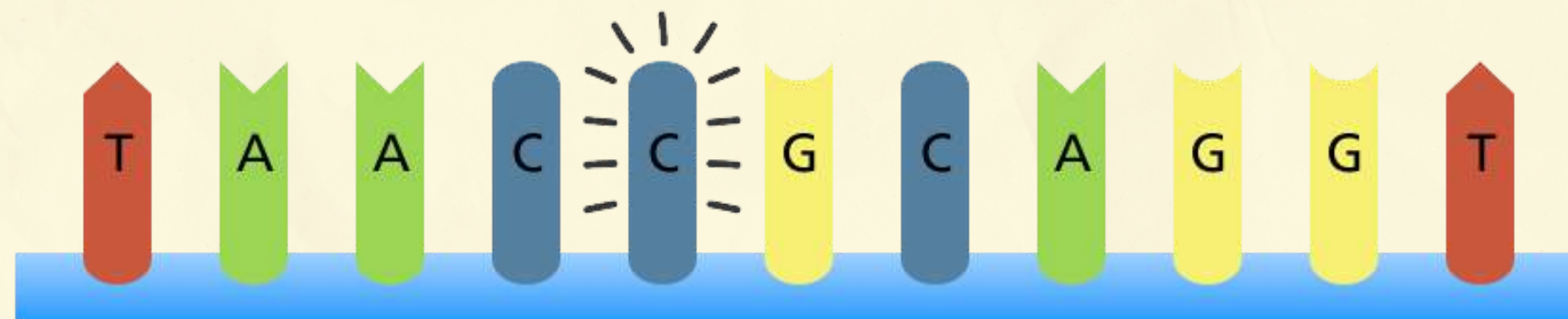


MUTATIONS IN DNA

Original sequence



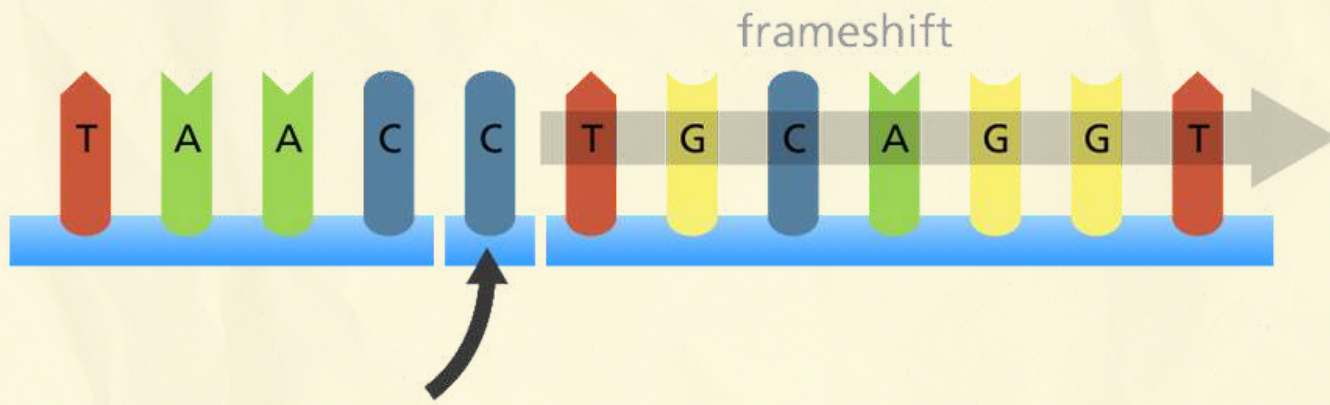
Point mutation



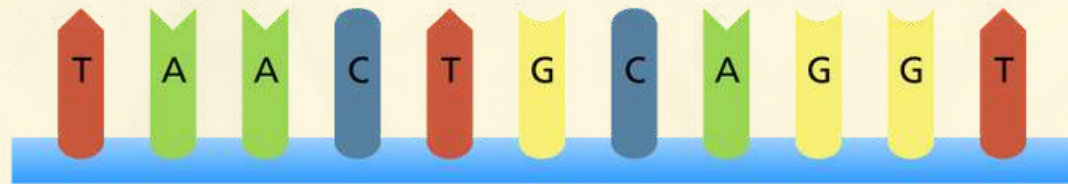
Original sequence



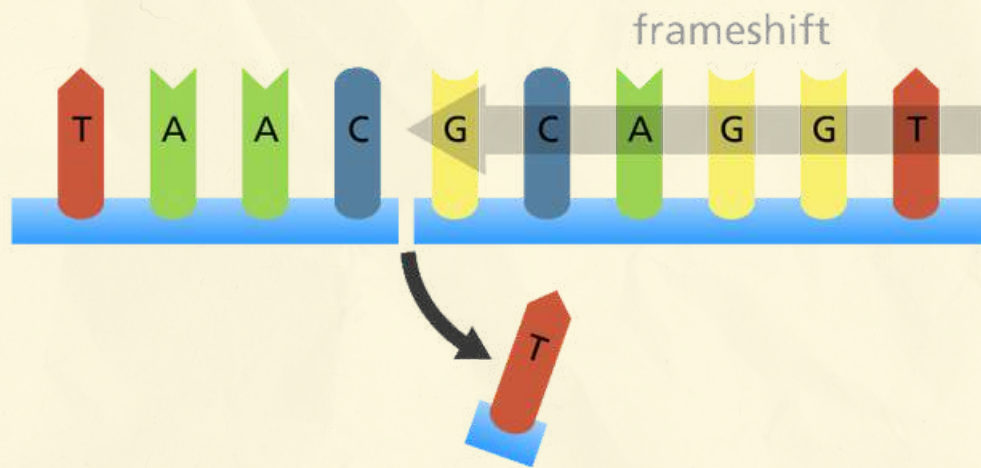
Insertion



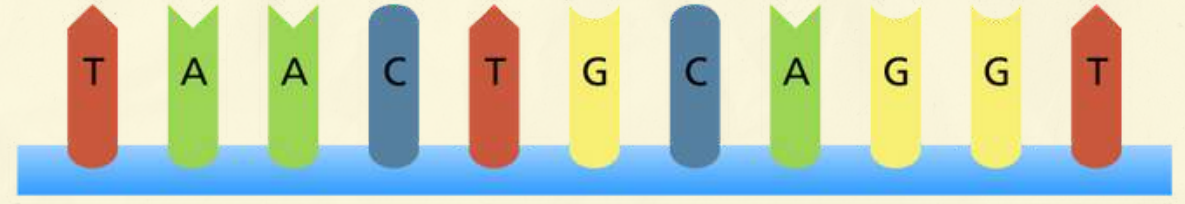
Original sequence



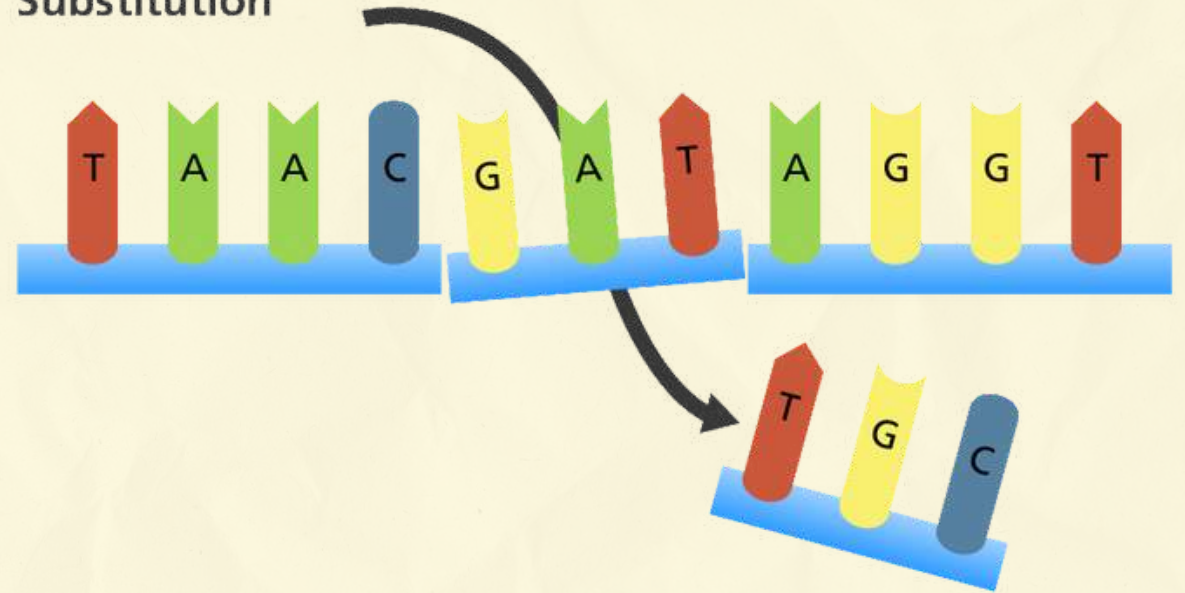
Deletion



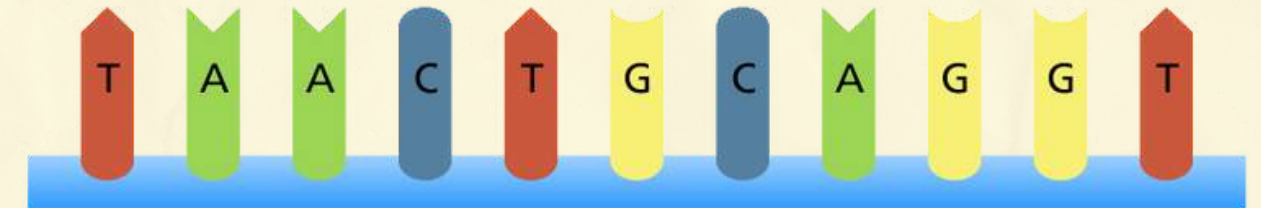
Original sequence



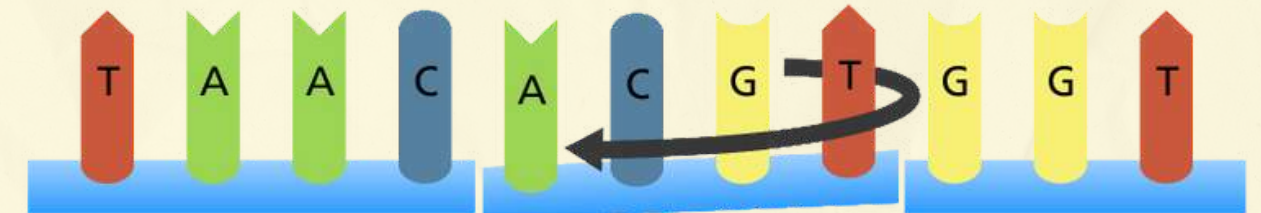
Substitution



Original sequence



Inversion



DIMPLES ARE TYPE OF MUTATION

The gene responsible for facial dimples is said to be carried by chromosome 5, and it influences the formation of defective muscle to develop, resulting in the formation of dimples.





W

O

R

D

A			
		T	
	C		
			G

O

K

U

**IF YOU COULD DESIGN A
MICROBE WITH A
SUPERPOWER, WHAT
WOULD IT BE?**