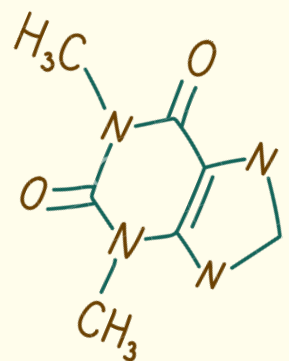
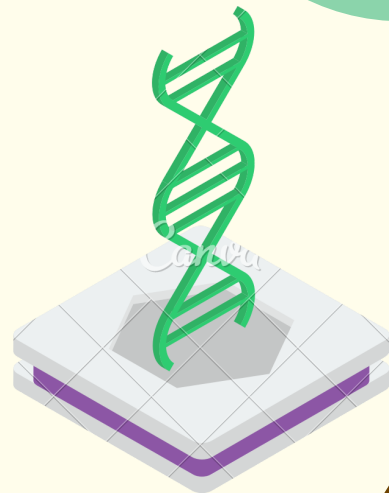
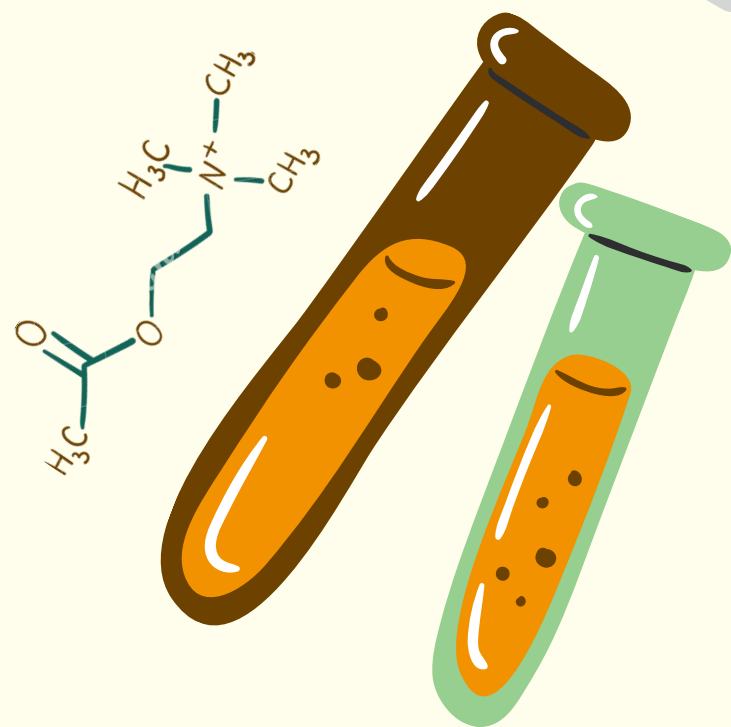
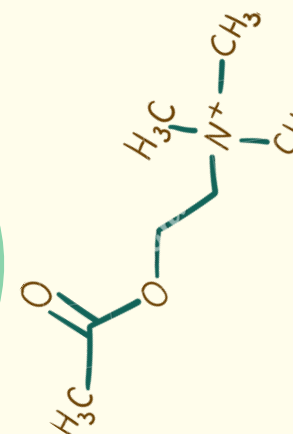
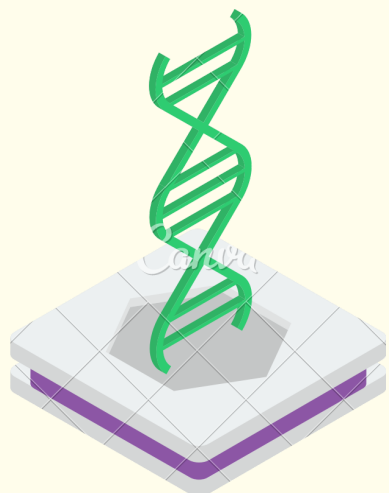
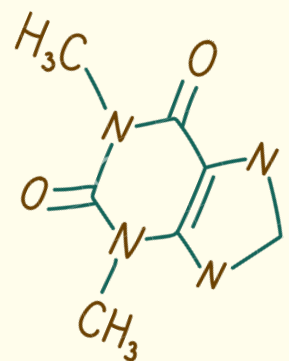


Age	All ages	Number of people	30 people approximately	Topic	Biotechnology
Date					
Purpose	The student is introduced to scientific concepts such as DNA and its characteristics and is encouraged to learn through experimentation.	Time	70 minutes		
Name of the activity			Expected learning		
Strawberry DNA extraction			Develops curiosity for biological subjects.		
sequence				Resources	
Presentation of team (5 minutes)					
We presented ourselves and the purpose of this zoom event.				Presentation	
Explanation (45 minutes)					
A) DNA Concepts.				Presentation	
We explained very basic concepts of DNA so that the demonstration of the DNA extracción would be easier to understand.					
B) Demontstration of DNA Extraction.					
The demonstration started with us crushing the strawberries. In a cup we added soap,salt and water and mixed it together ver well being carefull of not creating a lot of bubbles. Then we added about 4 scoops of this mixture to the before mentioned strawberries. After mixing that, it goes through a coffe filer to a cup. To finish, we added really cold alcohol very carefully so it doesn't mix. All the steps were narrated and we said the scientific explanation as of why each ingredient was used.				Strawberries, cups, coffe filters, soap, alcohol, ziploc bag and salt.	
E) Closure and invitation to follow us on social platforms					
Q & A (15-30 minutes)					



DNA extraction



**DNA is a molecule
that contains all of
our genetic
information.**

What is DNA?

Spiral-shaped

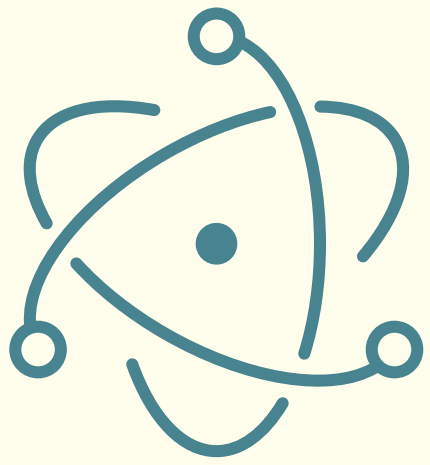


**It is responsible for
the way we are
physically: brunettes,
blondes, curly hair,
etc.**

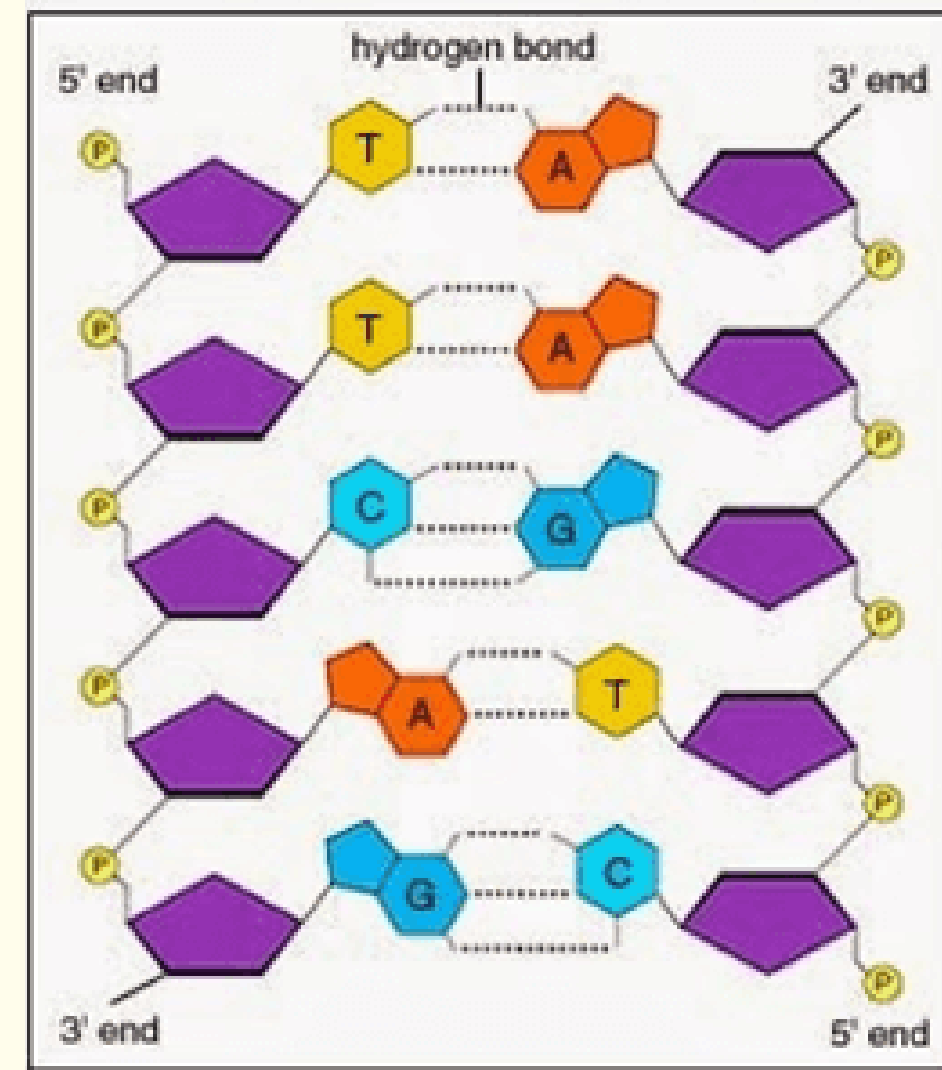
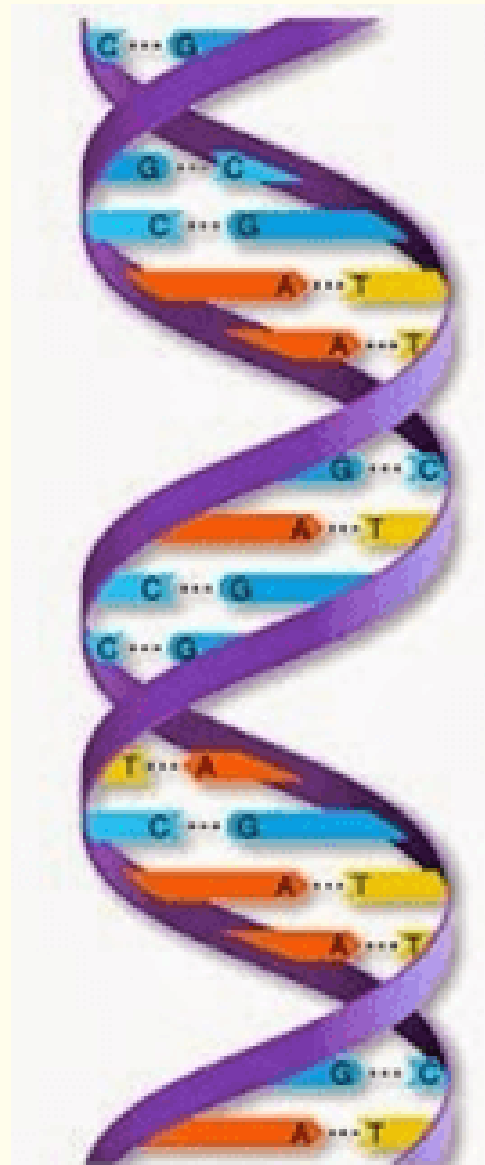
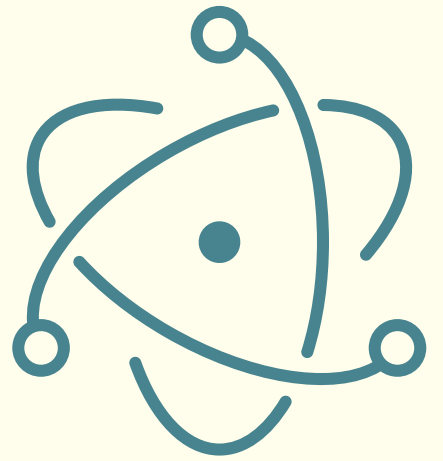


**It is present in the
cells of all living
beings:**

- **Humans**
- **Animals**
- **Plants**

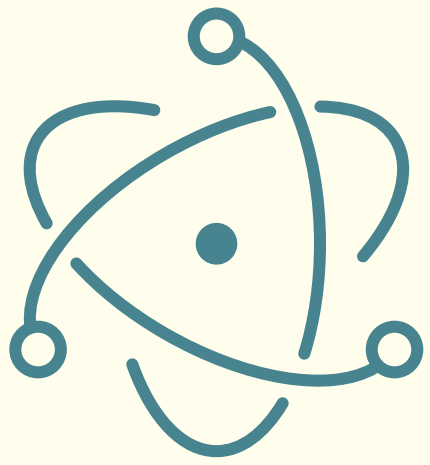


Physics in DNA

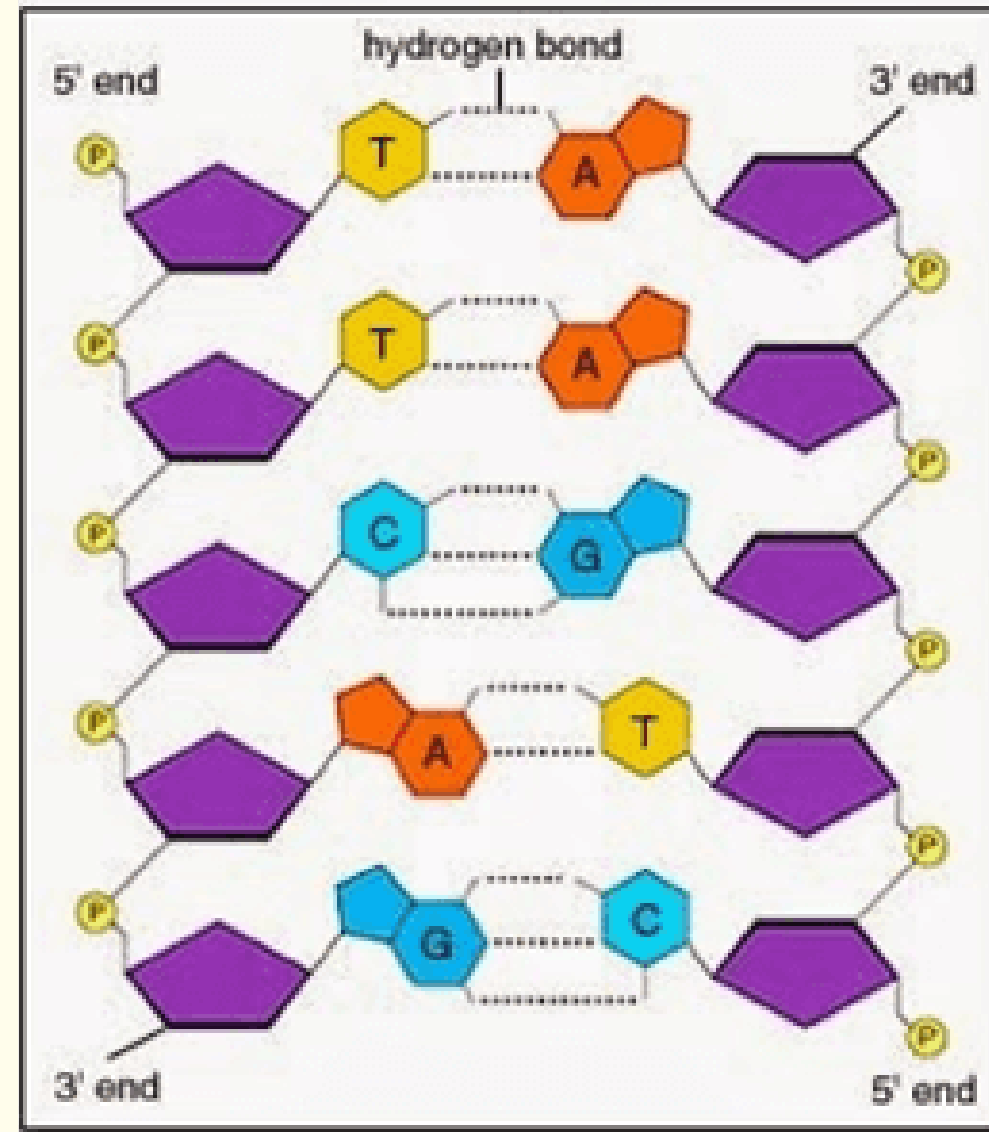


DNA is composed of 4 bases: Adenine, Thymine, Guanine and Cytosine.

These bases are linked to each other by hydrogen bridges.



Physics in DNA



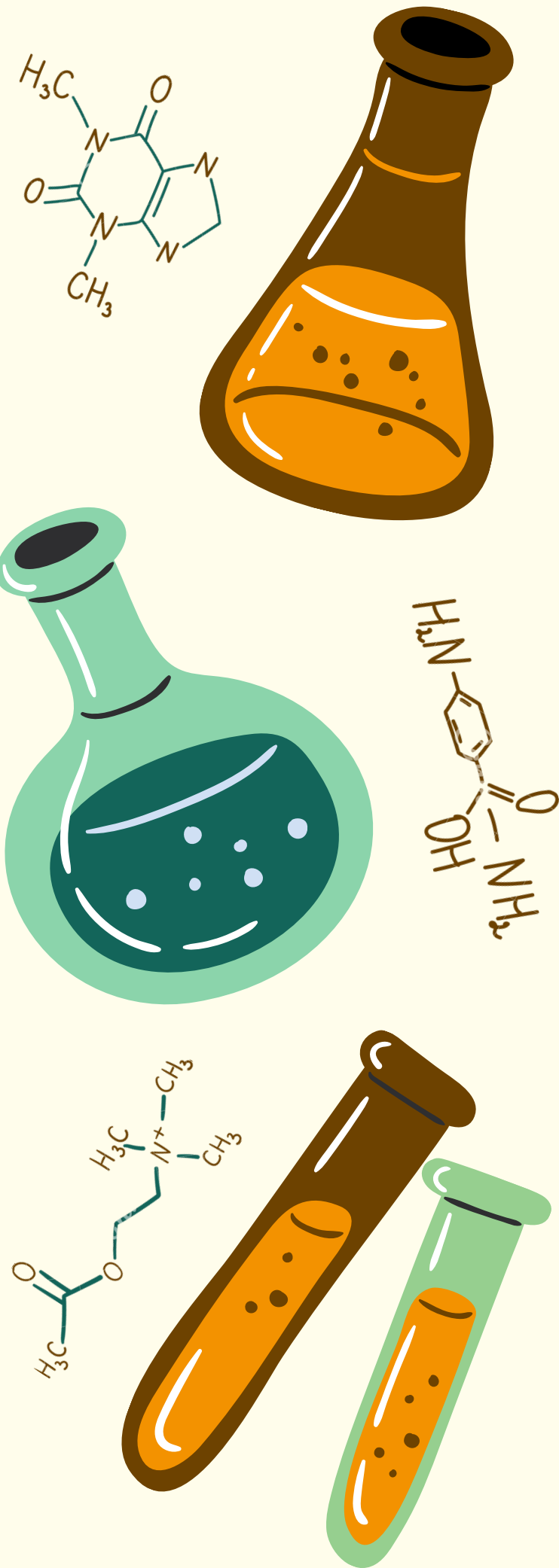
Phosphate groups have a negative charge, which makes the DNA negative.

The bonds are joined by means of the charges.



STRAWBERRY DNA EXTRACTION

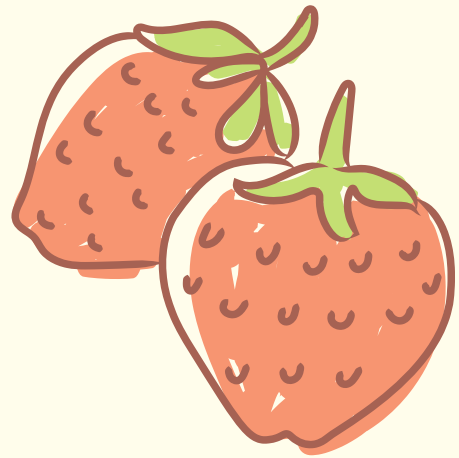
Made with materials you
can find at home



MATERIALS

• STRAWBERRIES

[2]



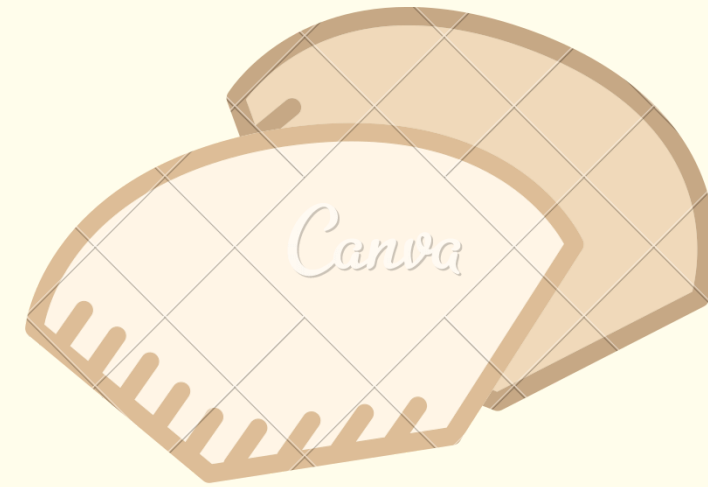
GLASSES[2]



LIQUID SOAP



COFFEE FILTER



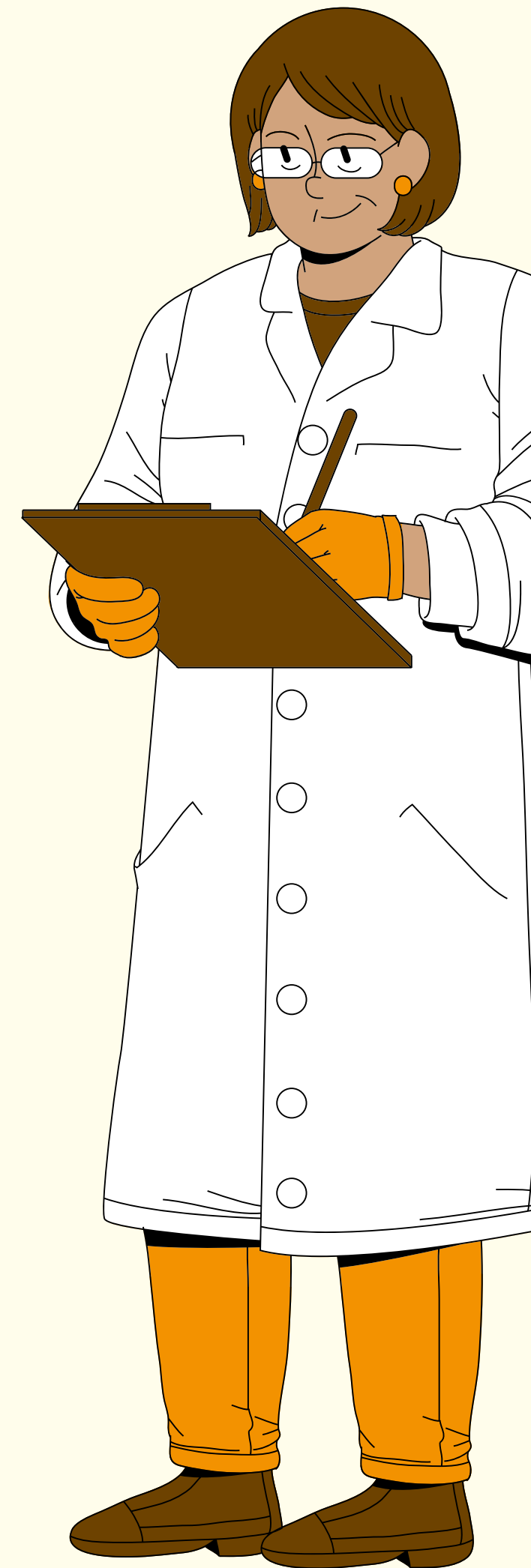
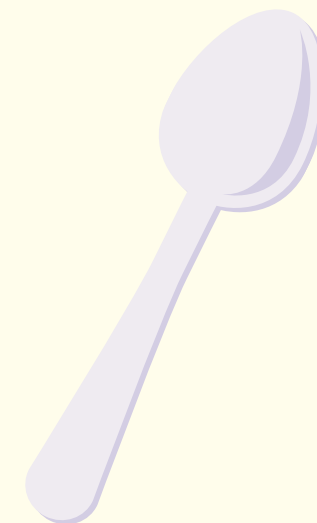
SALT



ETHYL ALCOHOL



SPOON





1

Crush strawberries and set aside

2

Put 2 tablespoons of soap or detergent in a glass

3

Add 1 tablespoon salt

4

Half cup of water

STEPS TO FOLLOW



5

Mix, avoiding bubbles, until homogeneous.

6

Add 2 tablespoons of the mixture to the crushed strawberries and mix.

7

Put filter in clean glass and filter the strawberries with the mixture.

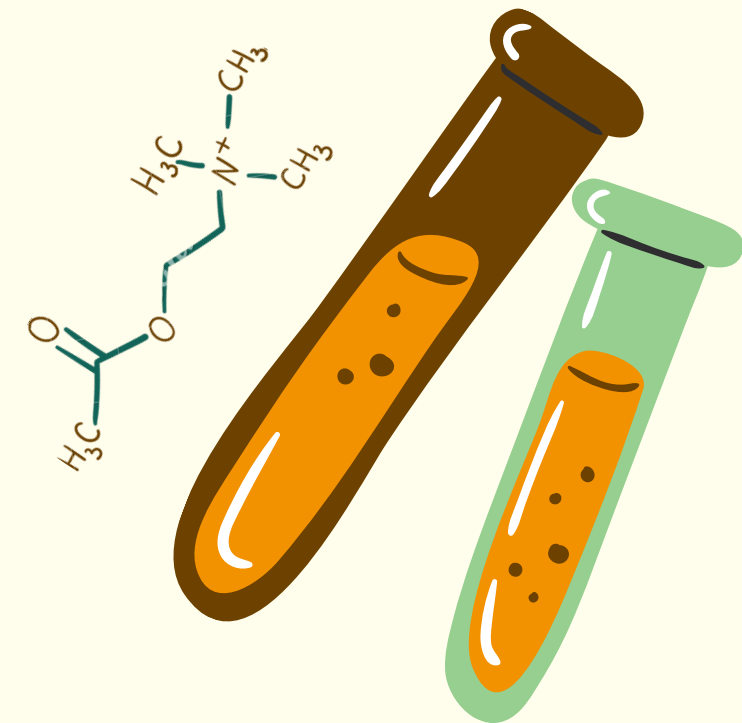
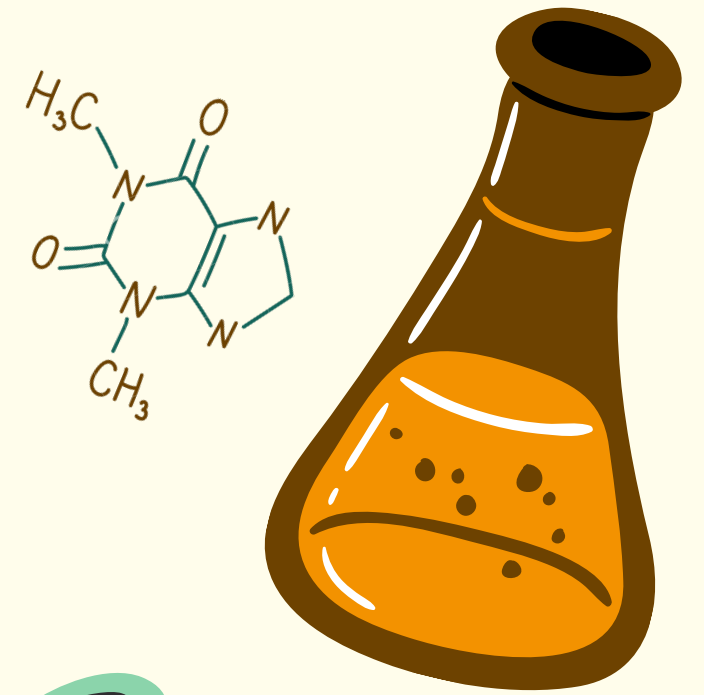
8

Add ethyl alcohol [WITHOUT REVOLVING].

i READY!

**This DNA can be carefully
extracted with a toothpick
and placed in a tube.**

**It can be made with any fruit, it can even be
made with your saliva!**



APPLICATIONS

DNA analysis is a tool that is increasingly used in both medical and criminal investigation. Although its first and fundamental application has been in the identification of persons and the determination of paternity, DNA analysis is now a tool that is routinely used in many areas.

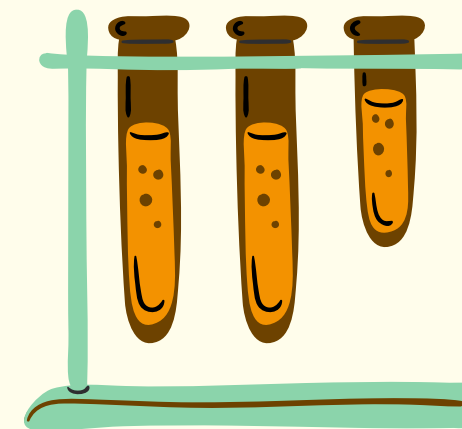
IDENTIFICATION



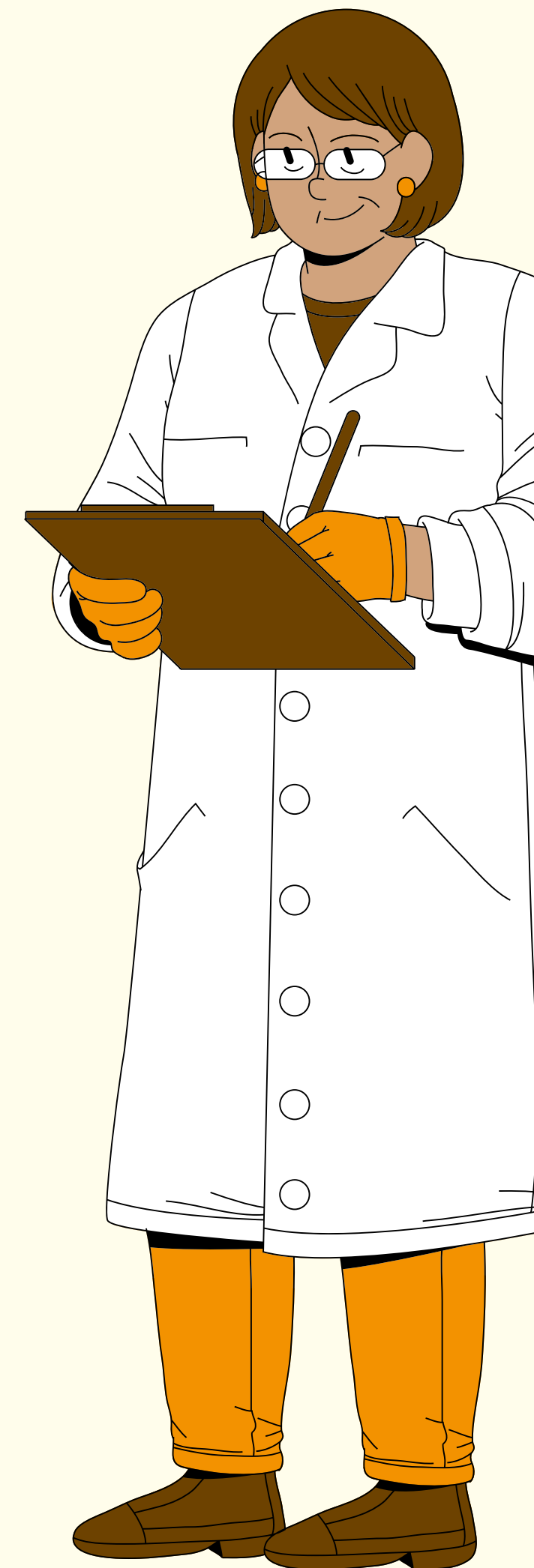
DISEASES



MEDICINE



(Sanitas, 2022)



THANK YOU

