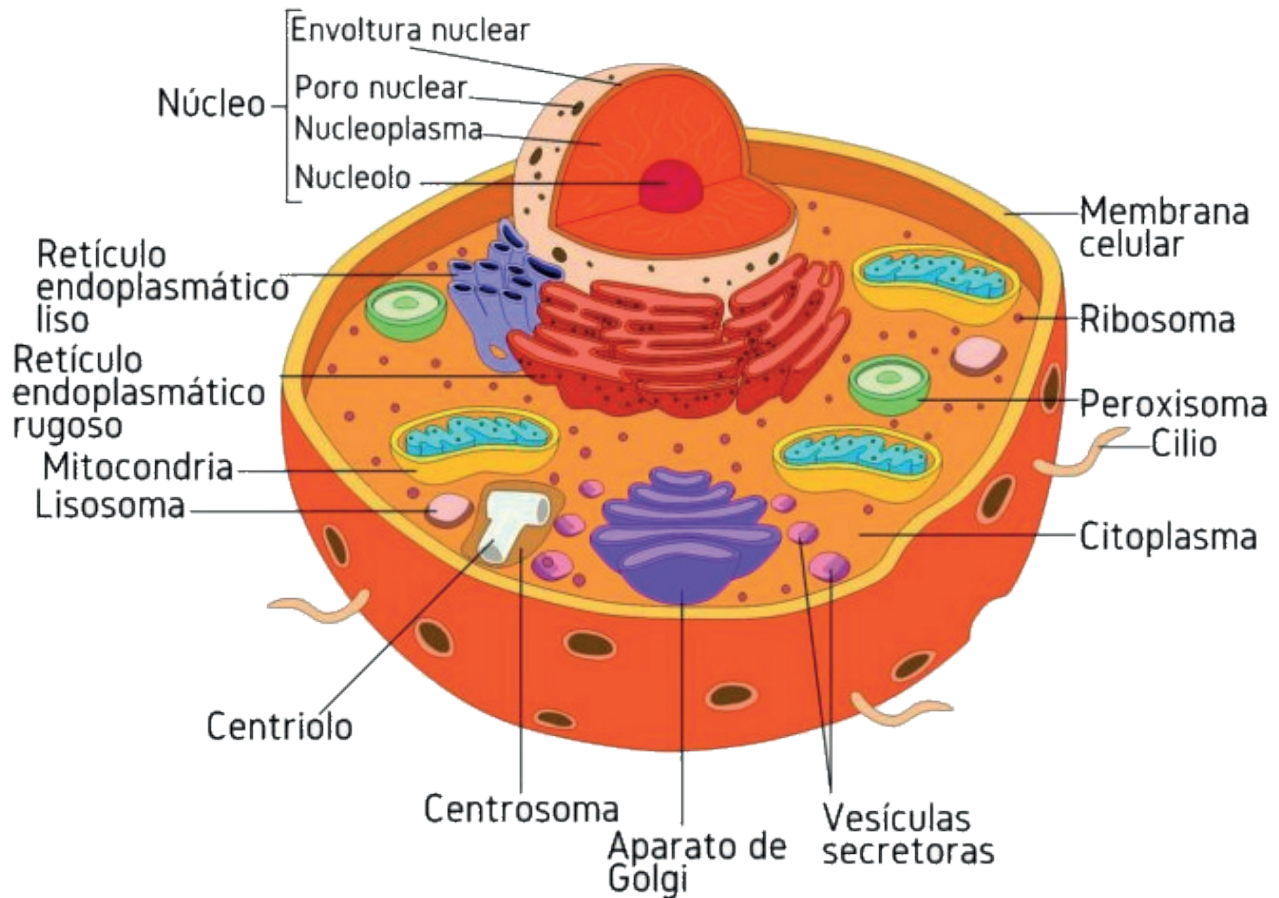
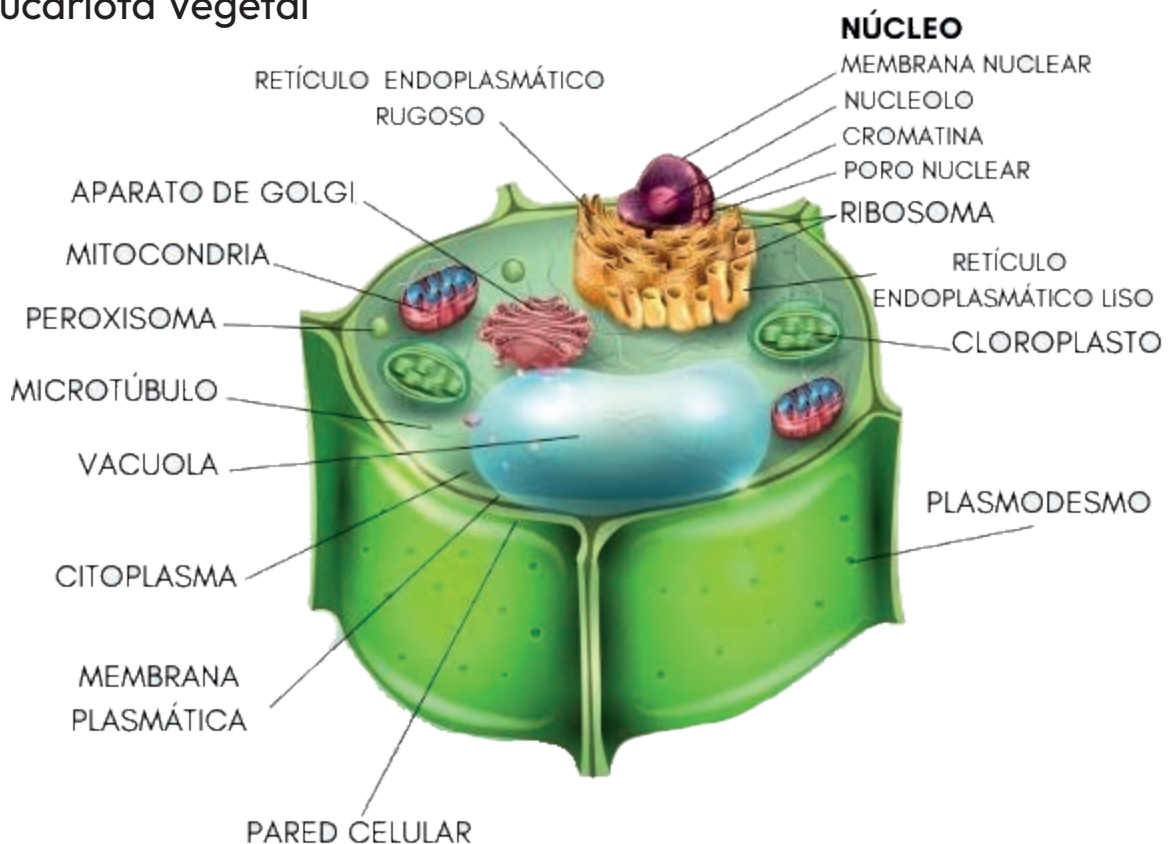


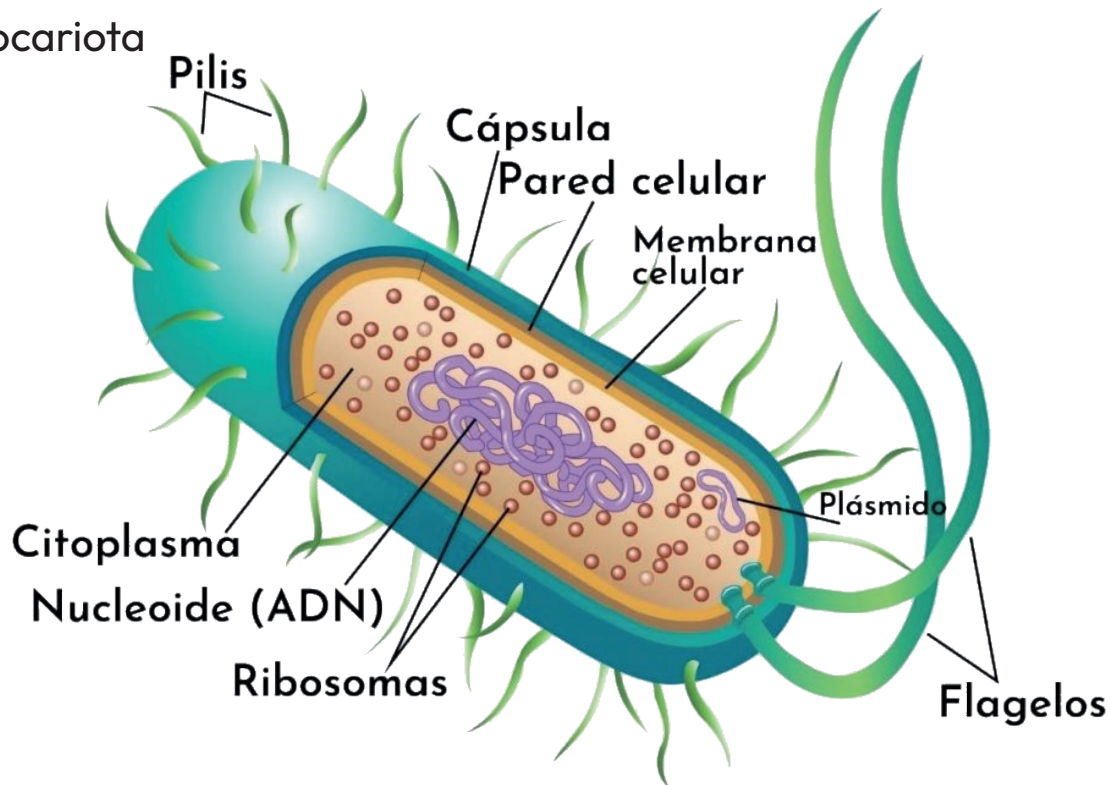
## Célula Eucariota Animal



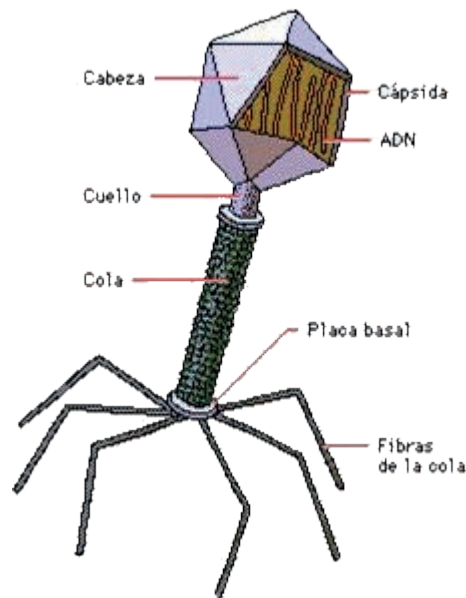
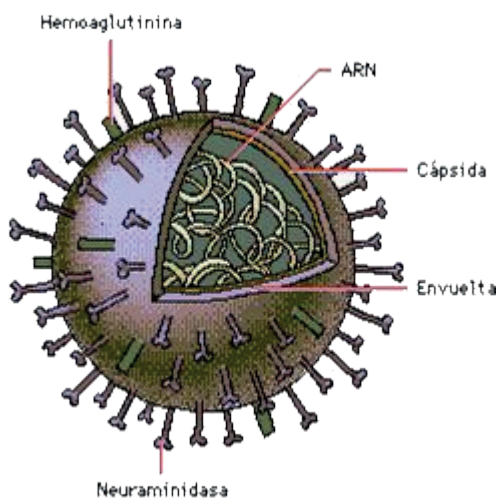
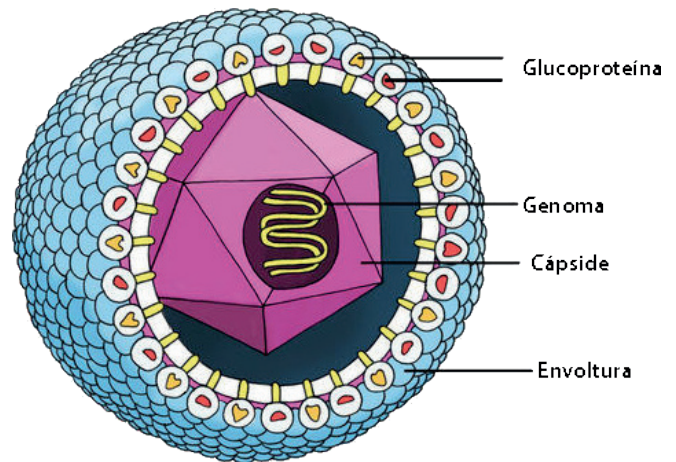
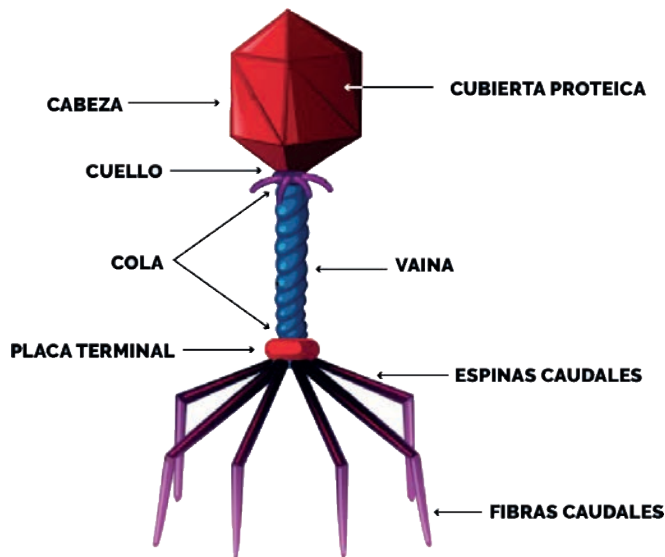
## Célula Eucariota Vegetal



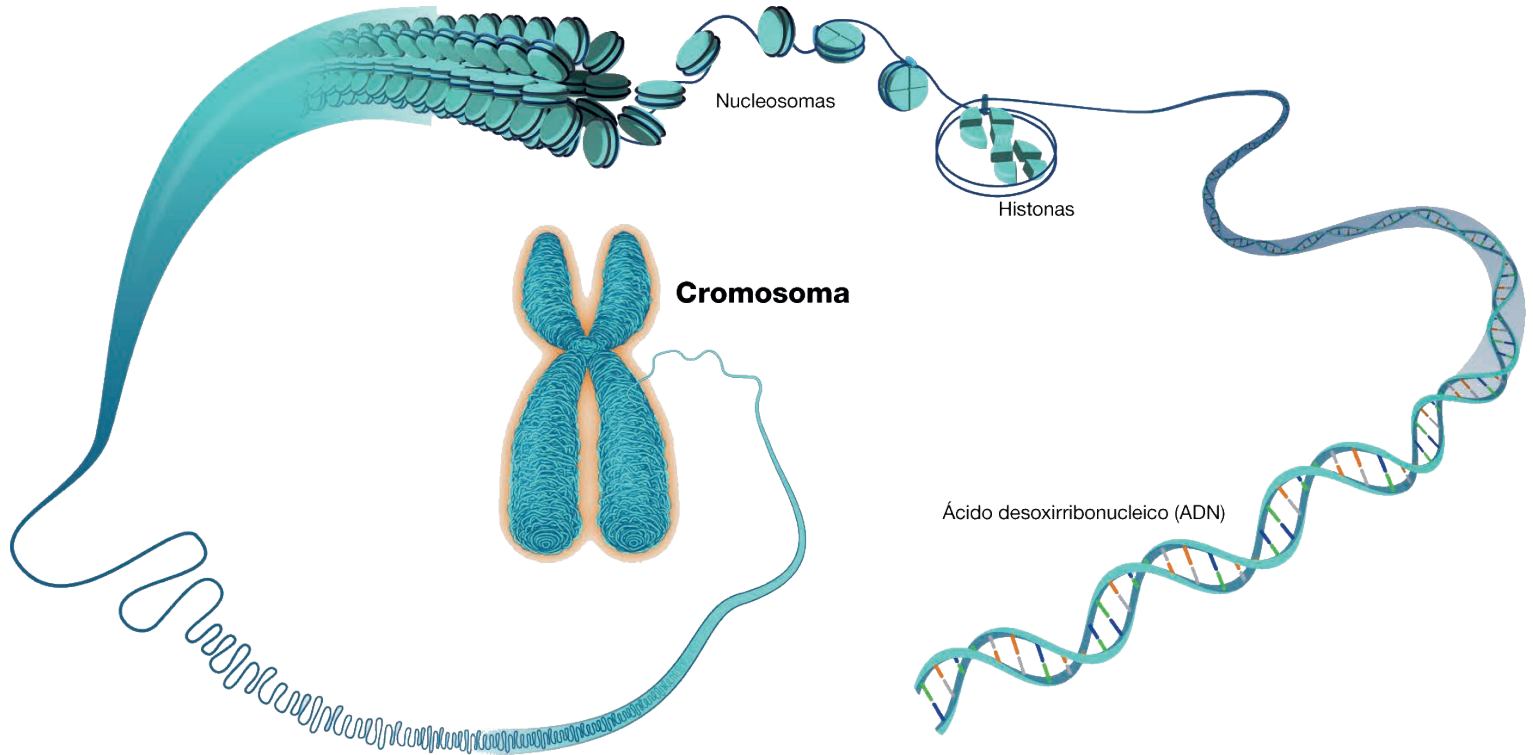
## Célula Procariota



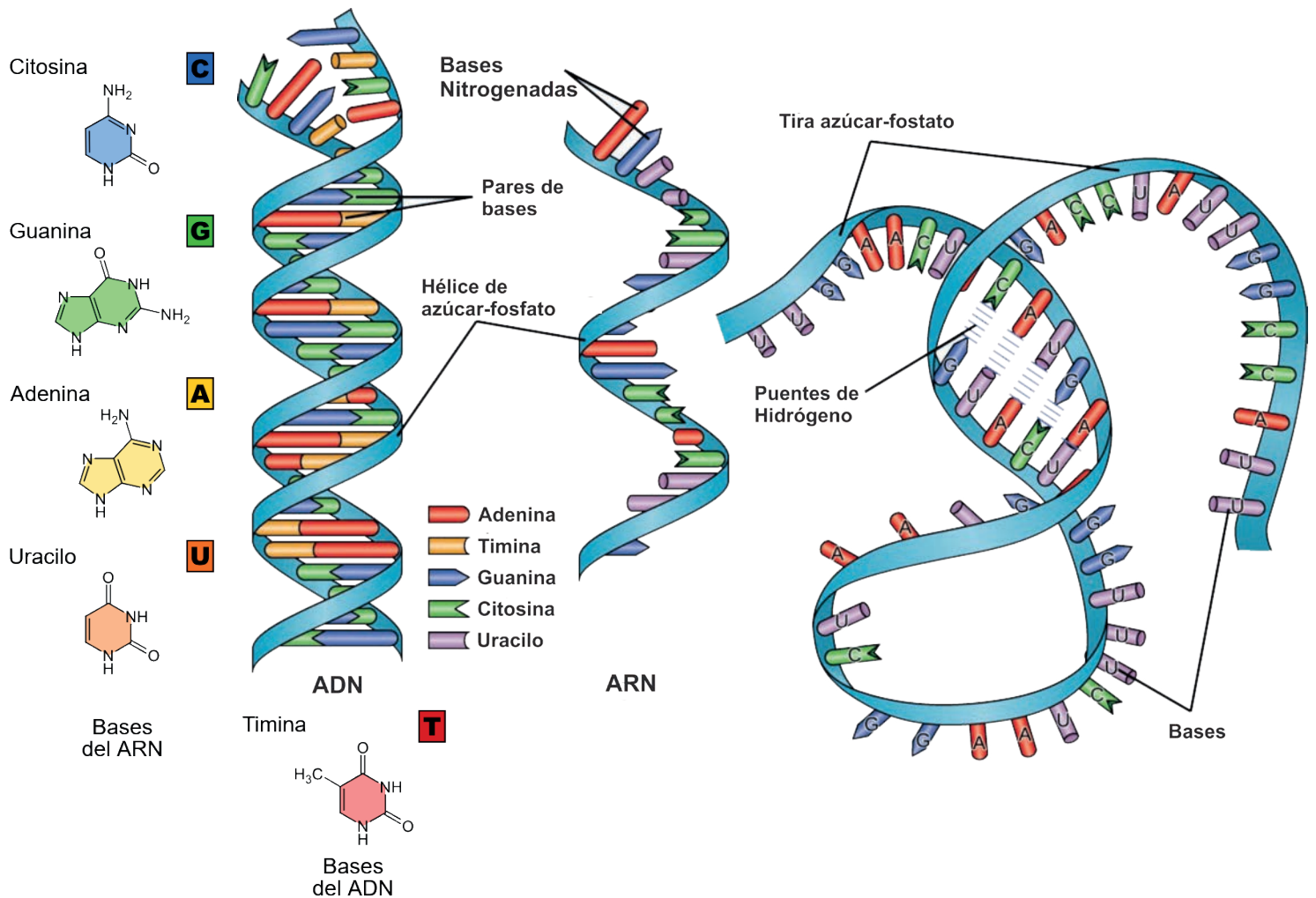
## Estructura de los Virus



## Cromosoma

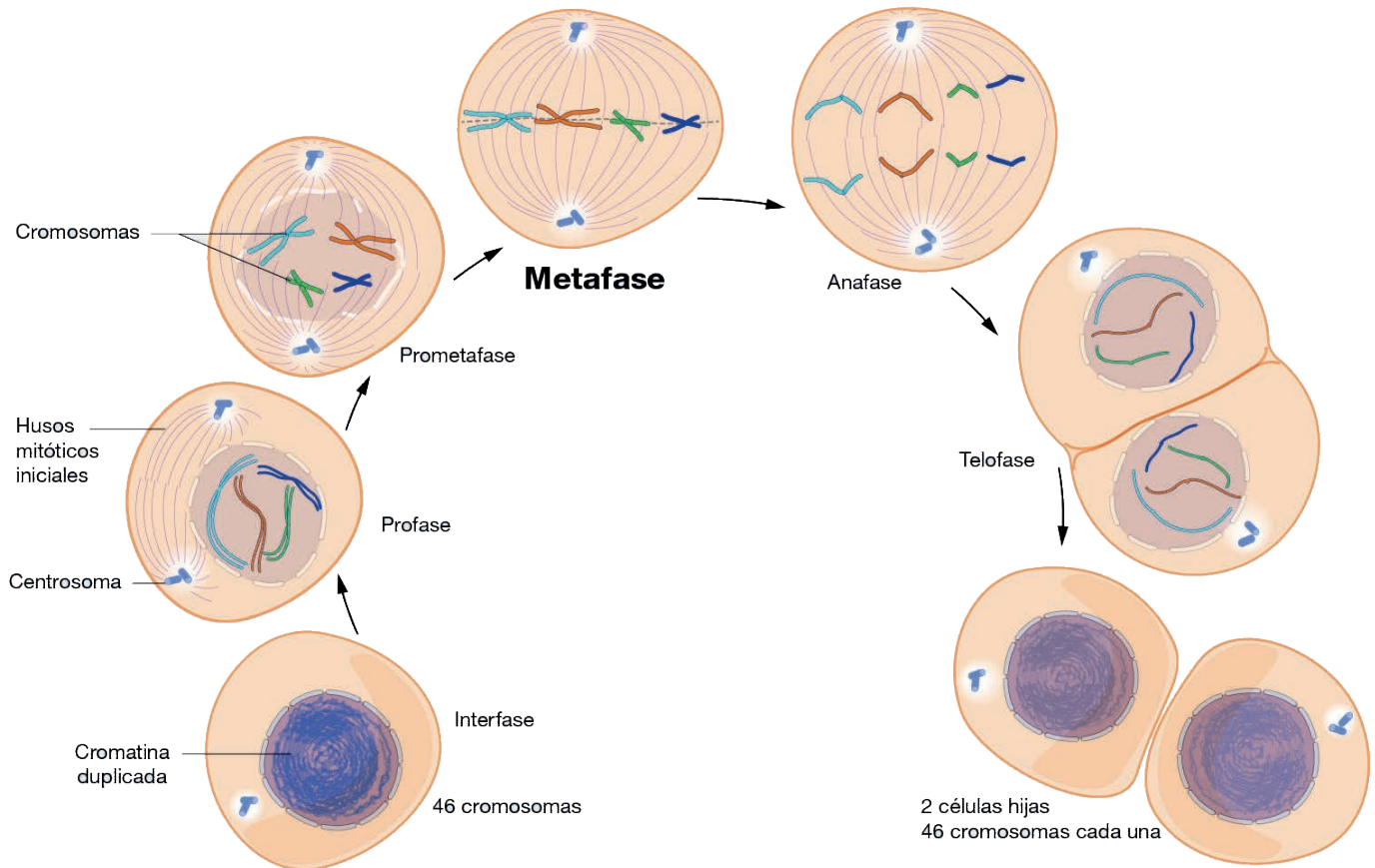


## Estructura del ADN y ARN

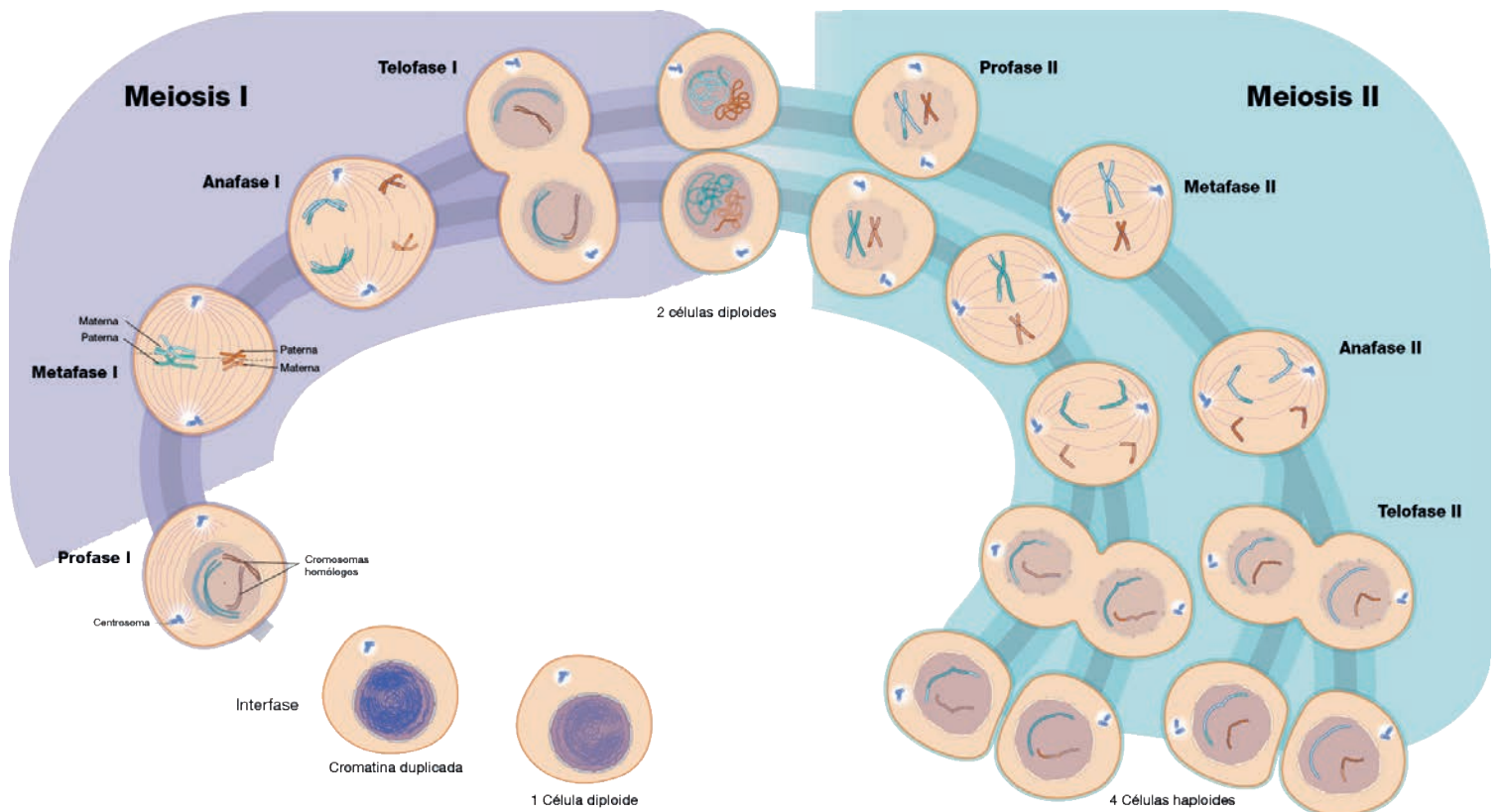




## Proceso de Mitosis: división celular

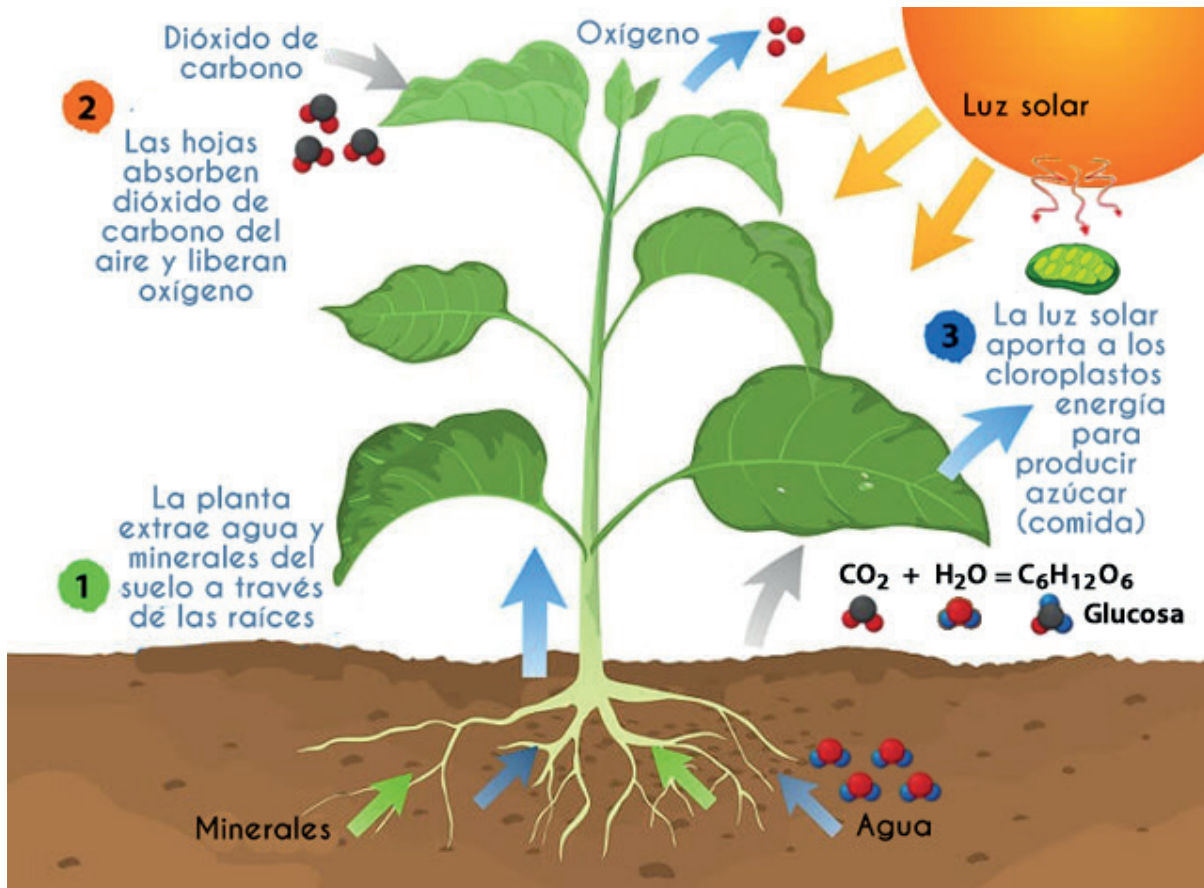


## Proceso de Meiosis: división celular

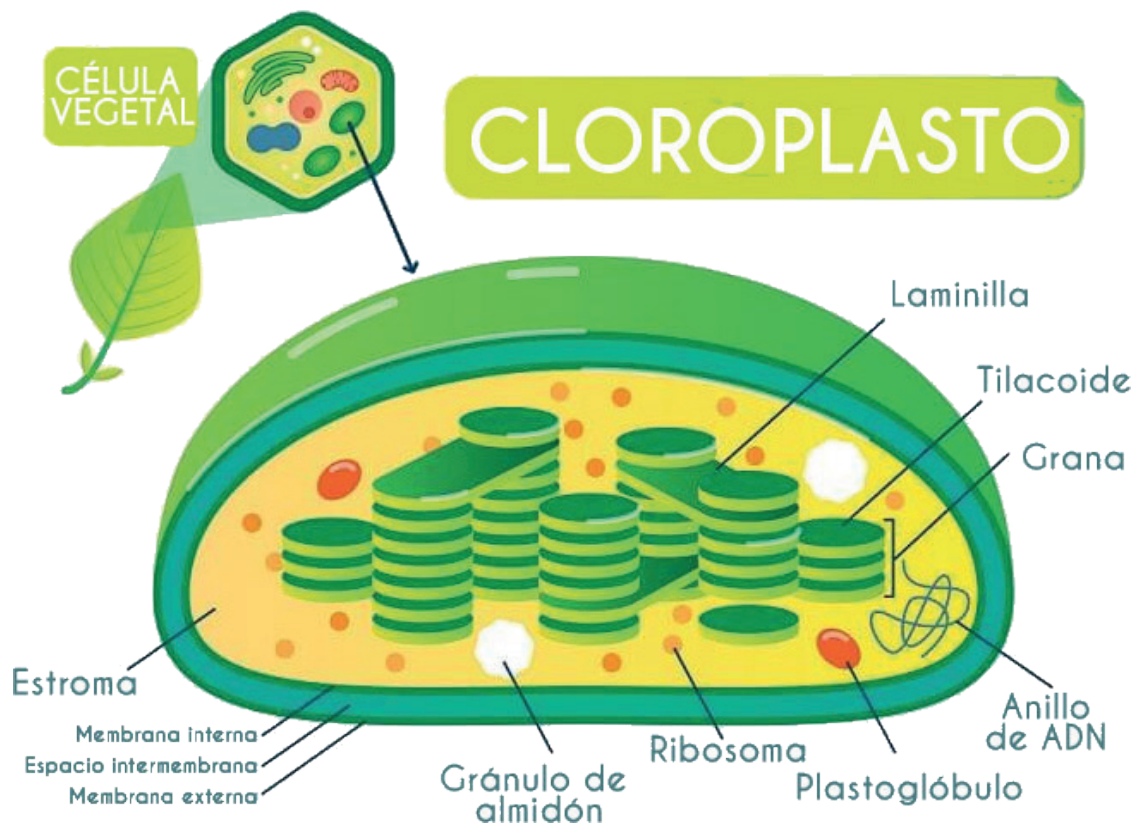




## Proceso de Fotosíntesis



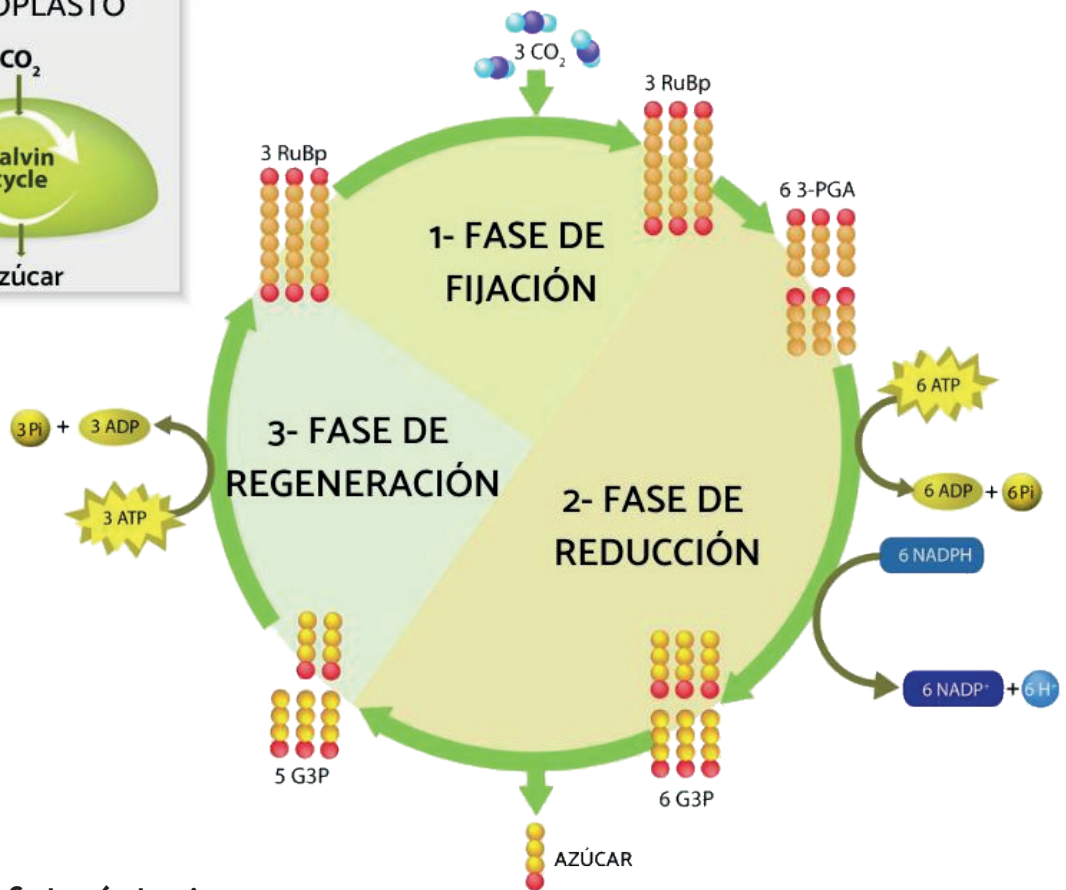
## Fotosíntesis: cloroplasto



**CLOROPLASTO**



The diagram shows a green oval representing a chloroplast. At the top, an arrow labeled  $\text{CO}_2$  points into the chloroplast. At the bottom, an arrow labeled "Azúcar" points out of the chloroplast. Inside the chloroplast, a circular arrow indicates the "Calvin cycle".



**Ciclo de Krebs**

**Clave**

- Hidrógeno
- Carbono
- Oxígeno
- Azufre
- Coenzima Q
- Adenosin trifosfato
- Guanosin trifosfato
- CoA
- Coenzima A

**NADH** Nicotinamida adenin dinucleótido  
**Piruvato deshidrogenasa** Enzima

The diagram illustrates the Citric Acid Cycle (Ciclo de Krebs) and the conversion of Pyruvate to Acetyl-CoA. The cycle involves the following steps and molecules:

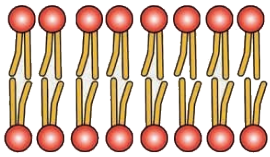
- Pyruvate (Piruvato)** is converted to **Acetyl-CoA** by the enzyme **Piruvato deshidrogenasa**, releasing  $\text{CO}_2$  and  $\text{NADH}$ . This step requires  $\text{CoA-SH}$  and  $\text{NAD}^+$ .
- Acetyl-CoA** enters the cycle by combining with **Oxalacetate** to form **Citrate (Citrato)**, catalyzed by **Citrato sintasa**. This step releases  $\text{H}_2\text{O}$  (Agua).
- Citrate** is converted to **cis-Aconitate (cis-Aconitato)** by the enzyme **Aconitasa**, releasing  $\text{H}_2\text{O}$  (Agua).
- cis-Aconitate** is converted to **D-Isocitrate (D-Isocitrato)** by the enzyme **Aconitasa**, releasing  $\text{H}_2\text{O}$  (Agua).
- D-Isocitrate** is converted to  **$\alpha$ -Ketoglutarate ( $\alpha$ -cetoglutarato)** by the enzyme **Isocitrato deshidrogenasa**, releasing  $\text{NADH}$ ,  $\text{H}^+$ , and  $\text{CO}_2$ . This step requires  $\text{NAD}^+$ .
- $\alpha$ -Ketoglutarate** is converted to **Succinyl-CoA** by the enzyme  **$\alpha$ -cetoglutarato deshidrogenasa**, releasing  $\text{NADH}$ ,  $\text{H}^+$ , and  $\text{CO}_2$ . This step requires  $\text{NAD}^+$  and  $\text{CoA-SH}$ .
- Succinyl-CoA** is converted to **Succinate (Succinato)** by the enzyme **Succinil-CoA sintetas**, releasing  $\text{GDP} + \text{P}_i$  and  $\text{CoA-SH}$ . This step requires  $\text{GTP}$ .
- Succinate** is converted to **Fumarate (Fumarato)** by the enzyme **Succinato deshidrogenasa**, releasing  $\text{QH}_2$  and  $\text{Q}$ .
- Fumarate** is converted to **Malate (Malato)** by the enzyme **Fumarasa**, releasing  $\text{H}_2\text{O}$  (Agua).
- Malate** is converted back to **Oxalacetate** by the enzyme **Malato deshidrogenasa**, releasing  $\text{NADH}$ ,  $\text{H}^+$ , and  $\text{NAD}^+$ .
- Oxalacetate** is converted to **Pyruvate (Piruvato)** by the enzyme **Piruvato carboxilasa**, requiring  $\text{HCO}_3^-$  and  $\text{ATP}$  (converting to  $\text{ADP} + \text{P}_i$ ).

Chemical structures are provided for Pyruvate, Acetyl-CoA, Citrate, cis-Aconitate, D-Isocitrate,  $\alpha$ -Ketoglutarate, Succinyl-CoA, Succinate, Fumarate, and Malate.

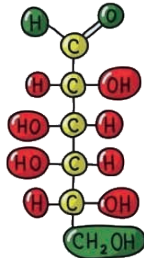


Biomoléculas

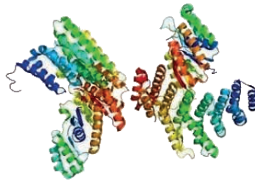
# Biomoléculas



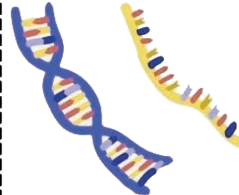
Lípidos



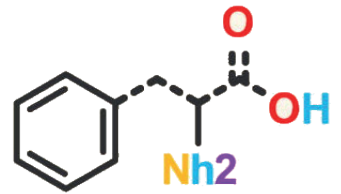
Carbohidratos



Proteínas



Ácidos nucleicos

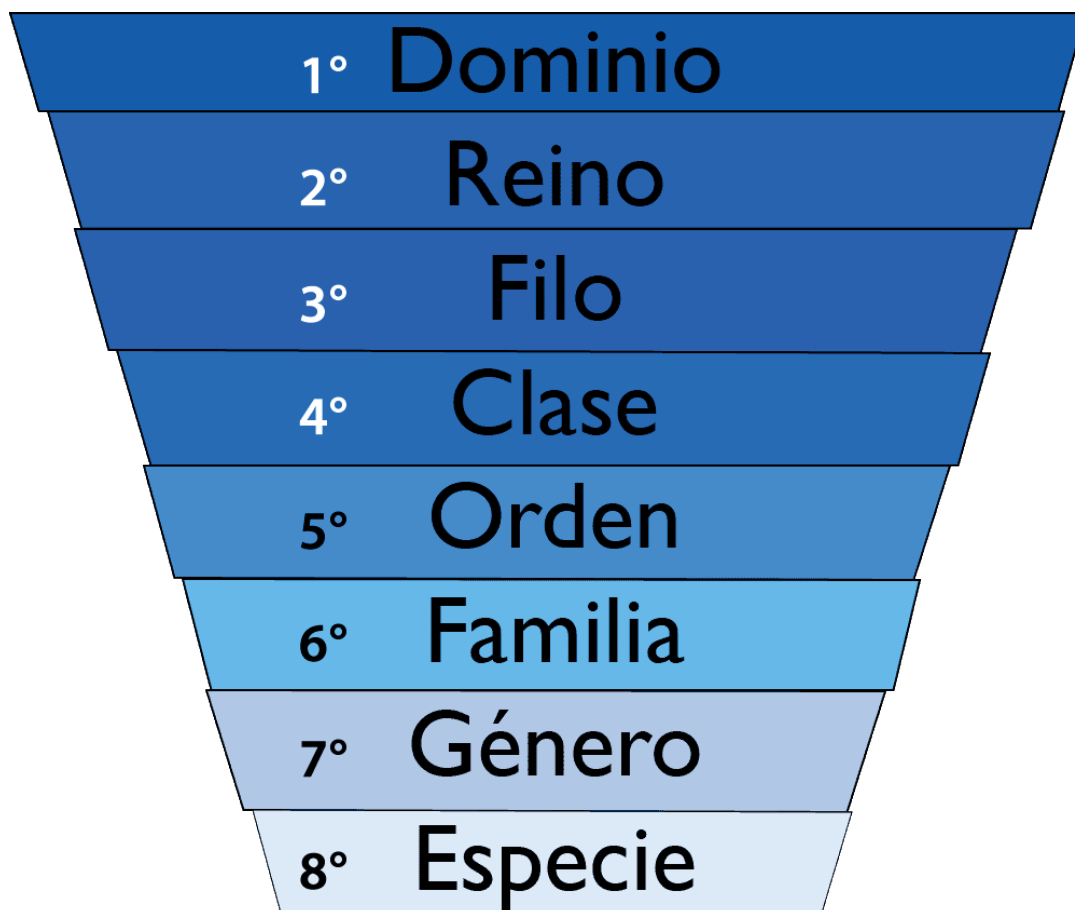


Aminoácidos



Vitaminas

Clasificación taxonómica de los seres vivos



# Los cinco reinos de los seres vivos

## Reino de las Plantas

- Pluricelulares.
- Sus raíces les impiden desplazarse.

### Angiospermas



### Helechos



### Musgos

### Gimnospermas



### Licopodios [Pinos de tierra]



### Equisetos [Cola de Caballo]



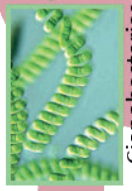
## Reino de las Protocistas

- Organismos sin tejidos ni órganos, que no pueden clasificarse en los otros reinos
- Pueden ser pluricelulares, como las algas, o unicelulares con núcleo.



## Reino de las Bacterias

- Son unicelulares que no tienen núcleo determinado
- Solo son visibles con el microscopio

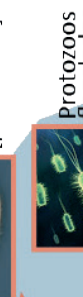


## Reino de las Hongos

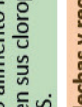
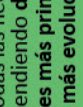
- Organismos sin tejidos ni órganos.
- No fabrican su alimento, como hacen las plantas, y se alimentan de restos de otros seres vivos.



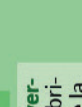
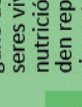
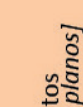
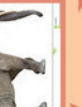
### Levaduras



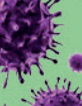
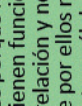
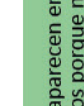
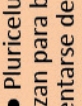
### Anfibios



### Mamíferos



### Aves

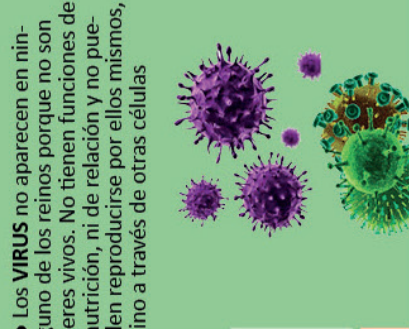


## Reino de los Animales

- Pluricelulares.
- Se desplazan para buscar cobijo, alimentarse de otros seres vivos o escapar.

## Fíjate bien:

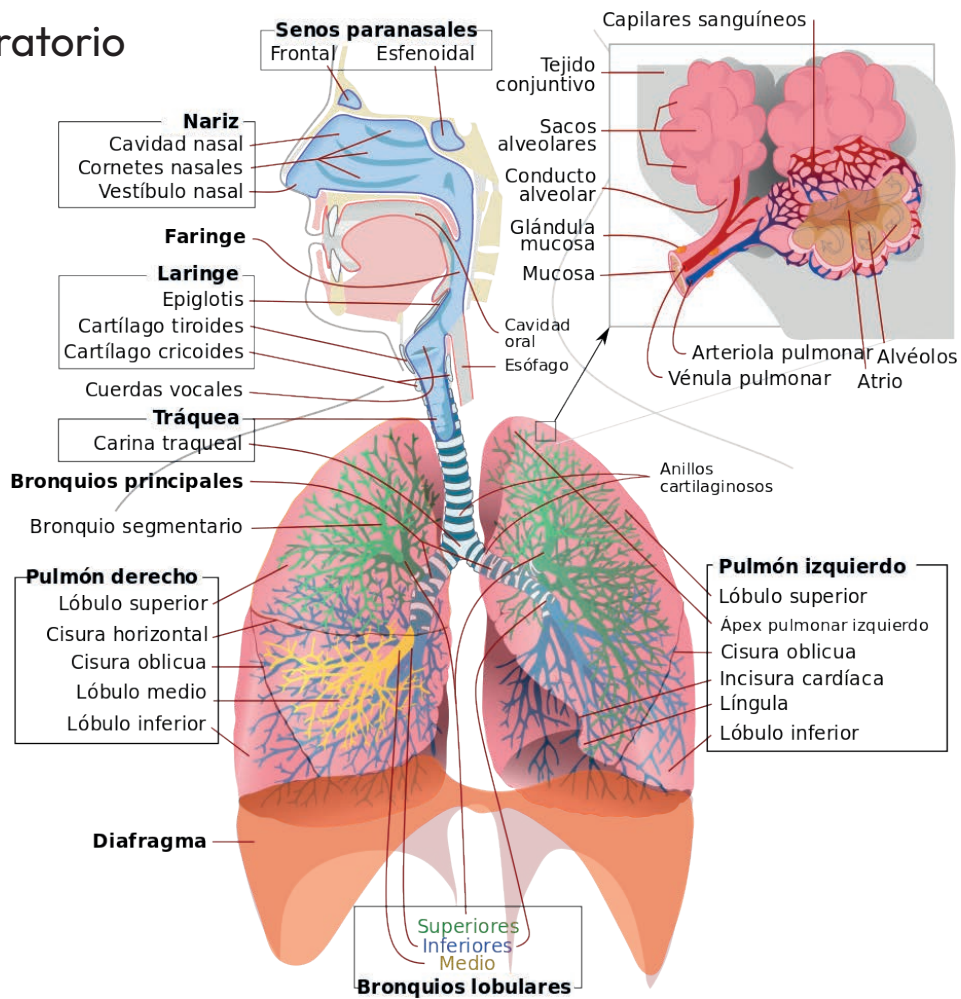
- Todas las flechas van ascendiendo desde los seres más primitivos a los más evolucionados
- Todas las flechas y recuadros verdes corresponden a seres que fabrican su propio alimento mediante la fotosíntesis en sus cloroplastos. SON AUTÓTROFOS.
- Todas las flechas y recuadros marrones corresponden a seres que se alimentan de otros seres vivos. SON HETERÓTROFOS



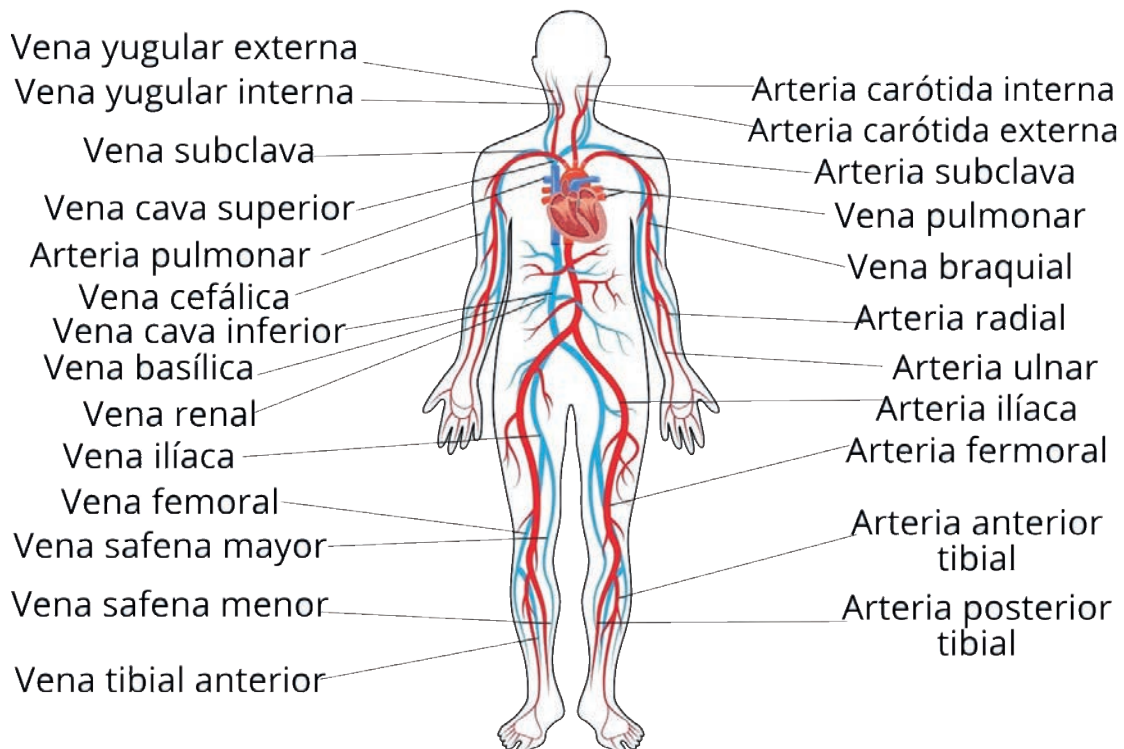
• Los **VIRUS** no aparecen en ninguno de los reinos porque no son seres vivos. No tienen funciones de nutrición, ni de relación y no pueden reproducirse por ellos mismos, sino a través de otras células



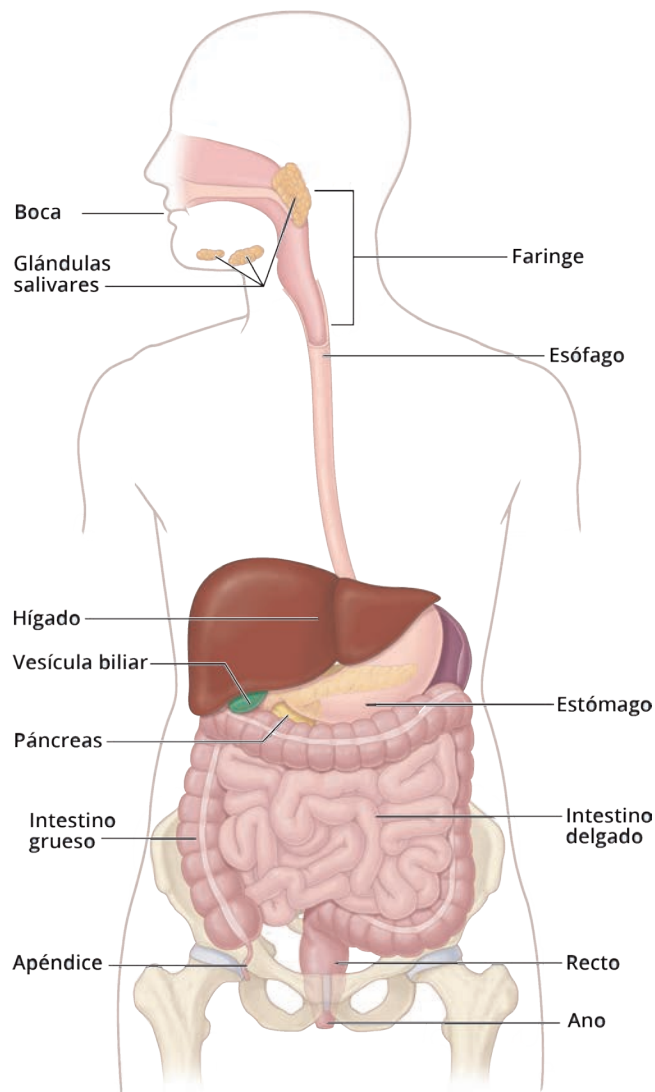
## Sistema respiratorio



## Sistema circulatorio

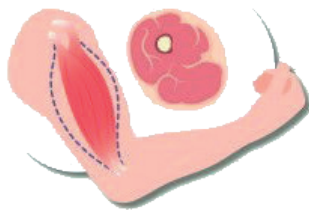


## Aparato digestivo

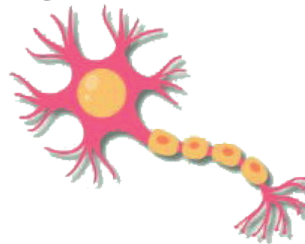


## Tejidos del cuerpo humano

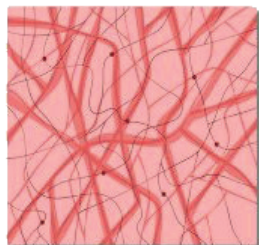
### Tejido muscular



### Tejido nervioso



### Tejido conectivo



### Tejido epitelial

