

# DNA Replication

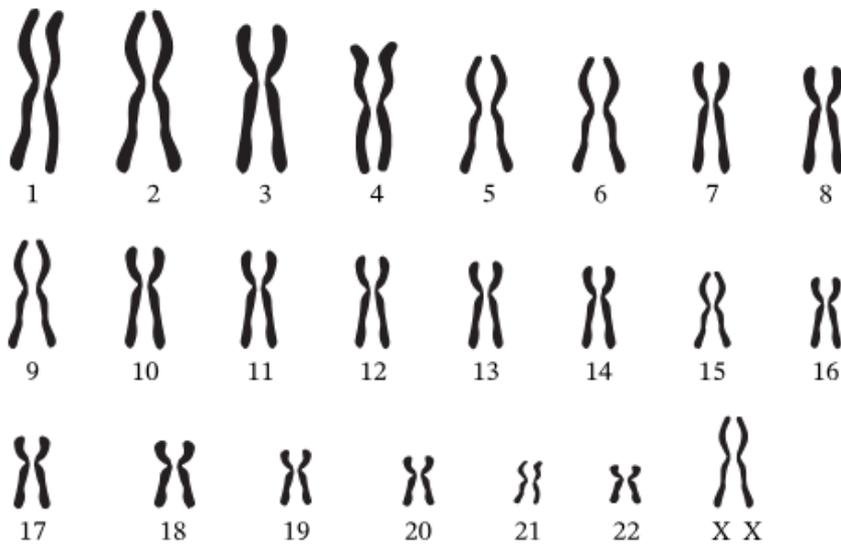
15<sup>th</sup> February 2026

## Targeted outcomes

Relate the structure of the DNA double helix to its functions.

Use modelling to show that DNA replication is semi-conservative.

1. A karyotype is as follows:

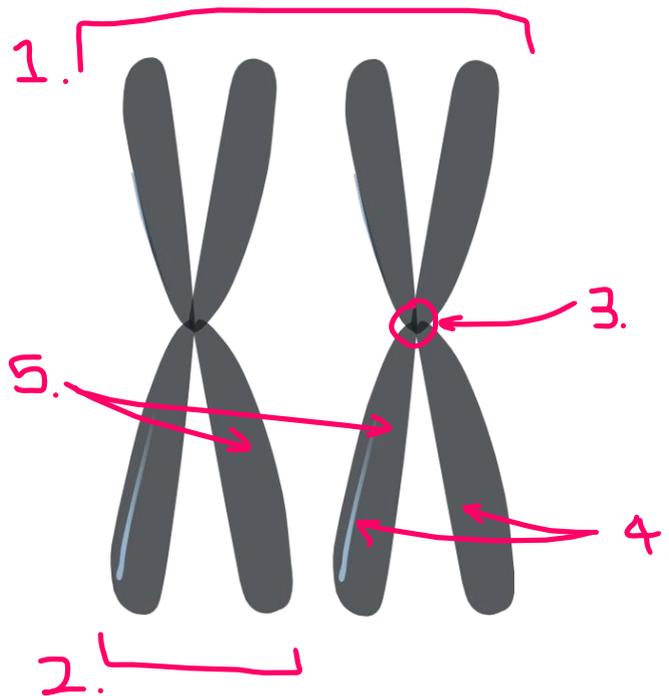


Observing the shape of the chromosomes, has DNA replication occurred? Why?

2. DNA replication

- A. Does not occur during Interphase
- B. Does not occur before cell division
- C. Occurs after mitosis
- D. Occurs during Interphase

3. Can you identify the elements in the following diagram? :



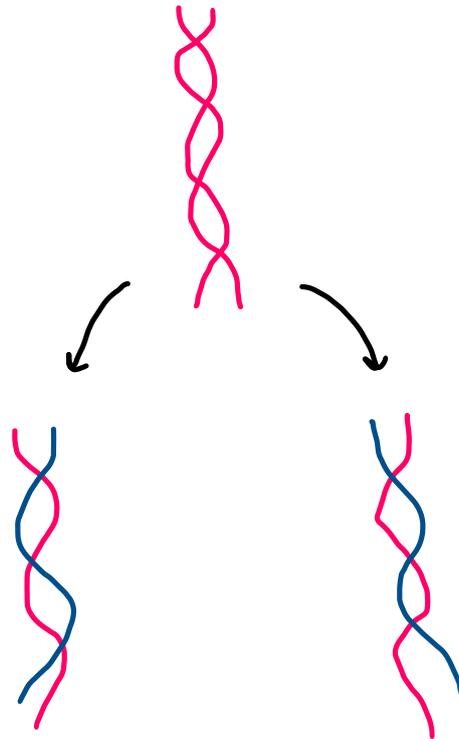
4. It can be said that a karyotype containing 23 chromosomes contains '22 pairs of autosomes'. What is an autosome? And why does a karyotype have 22 of them?

5. Please complete the below table:

**The process of DNA replication**

Step Number	What happens?	What enzyme is involved?
1		
2		
3		
4		

6. What characteristic of the process of DNA replication is the below diagram attempting to illustrate? Why?



7. Please complete the below table:

<b>Structural feature of DNA</b>	<b>Description</b>	<b>Function of DNA that this structure supports</b>	<b>How it supports the function</b>
Double helix shape			
Strong sugar-phosphate backbone			
Complementary base pairing			
Weak bonds between bases			