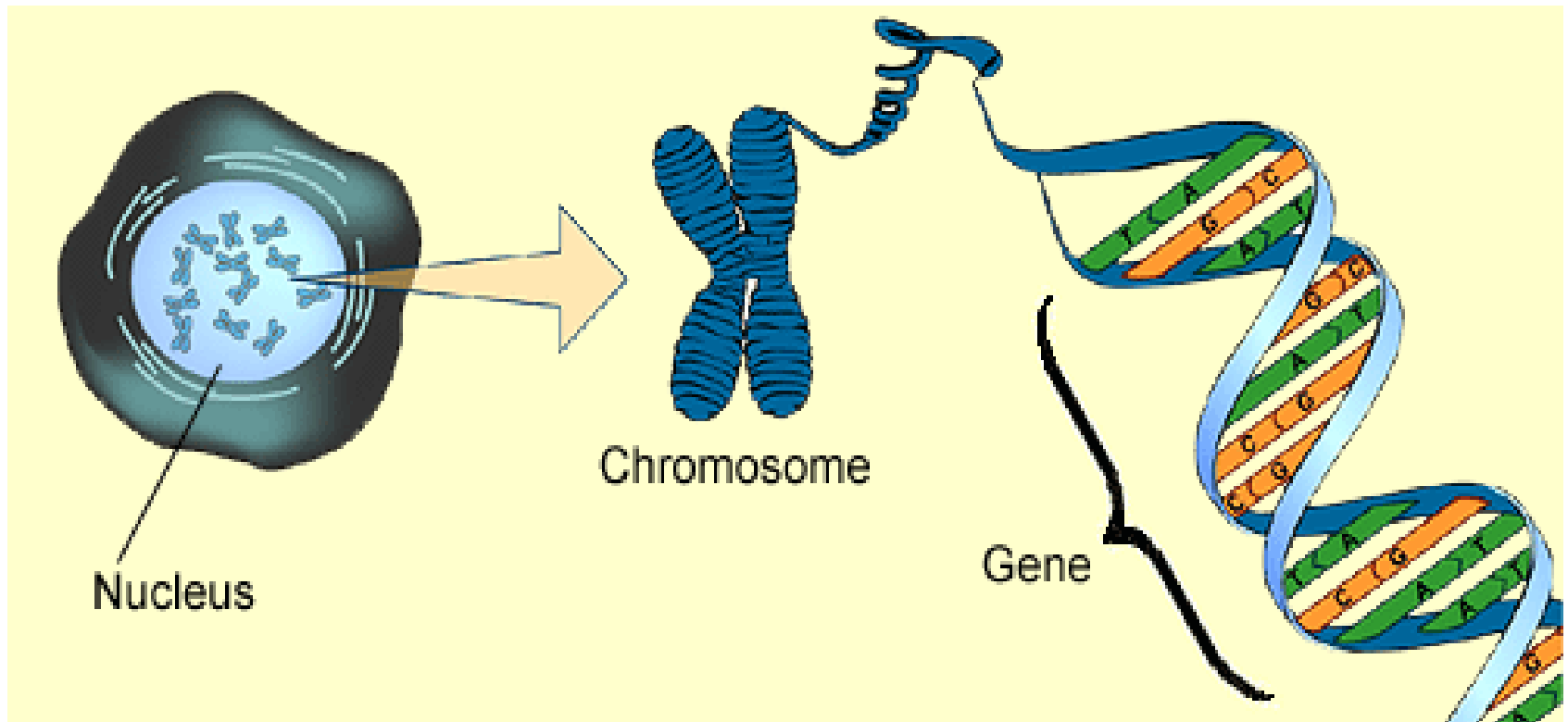


"Are we there yet?"

Finishing your poster...



Can you be creative?

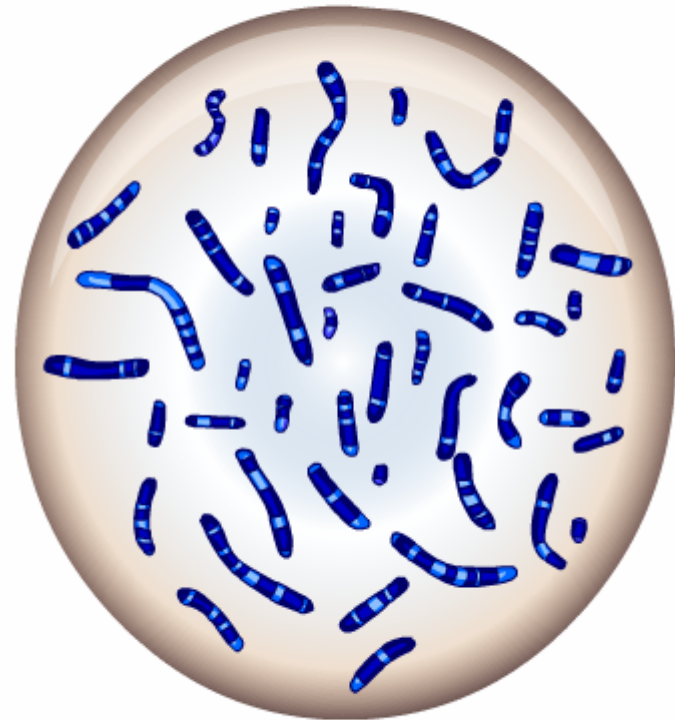


Human chromosomes



Click on the nucleus
to organize these
human chromosomes
into pairs.

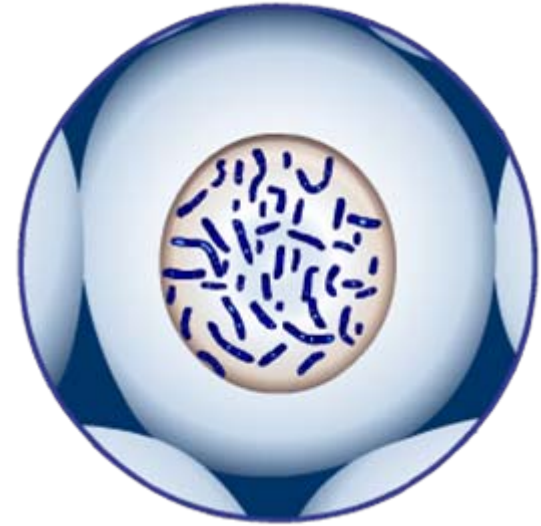
How many pairs
will there be?



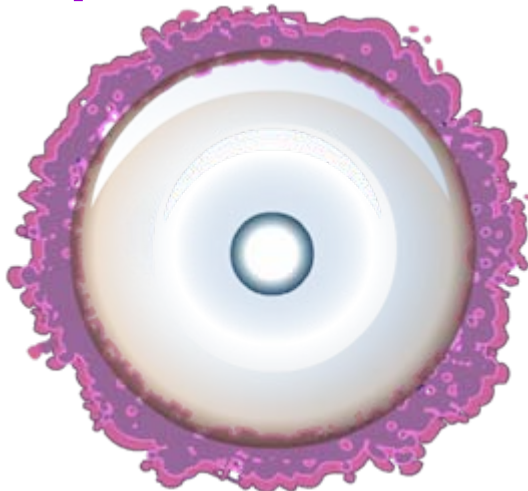
How many chromosomes?

- How many chromosomes are there in each new human body cell produced by mitosis?

**46 chromosomes
(23 matching pairs)**



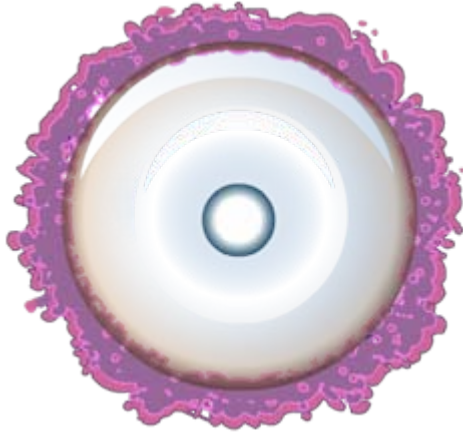
- How many chromosomes are there in human sex cells?
23 unpaired chromosomes



23 unpaired chromosomes

How many chromosomes?

- Human sex cells have a set of **23 unpaired chromosomes** – that's **half** the usual number.



Sex cells in animals and plants follow the same rules.

- They have **half** the usual number of chromosomes.
- They have a complete set of single chromosomes.

Why is this important for fertilization and reproduction?

X and Y chromosomes

- There are two types of sex chromosome with names that are very easy to remember!

X chromosome



Y chromosome



- Females** have two **X** chromosomes, one from each parent.



XX

- Males** have one **X** chromosome and one **Y** chromosome.

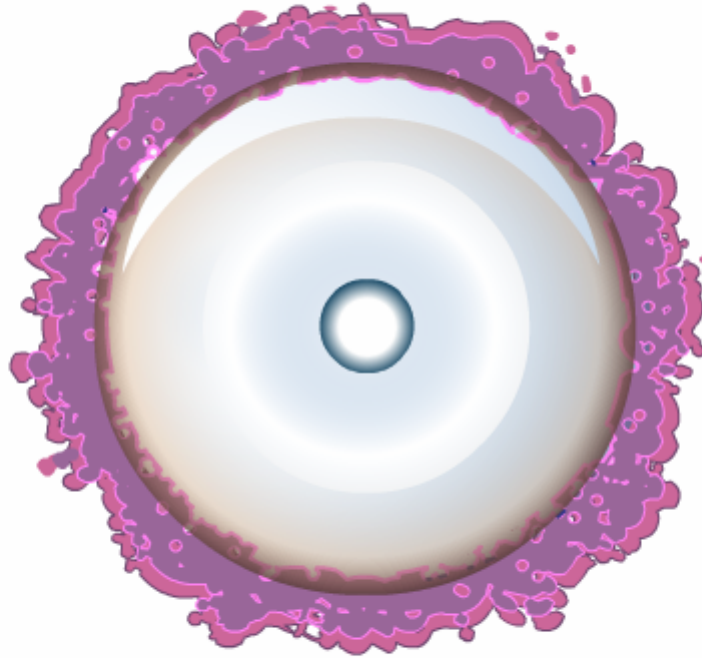


XY

Fertilization animation



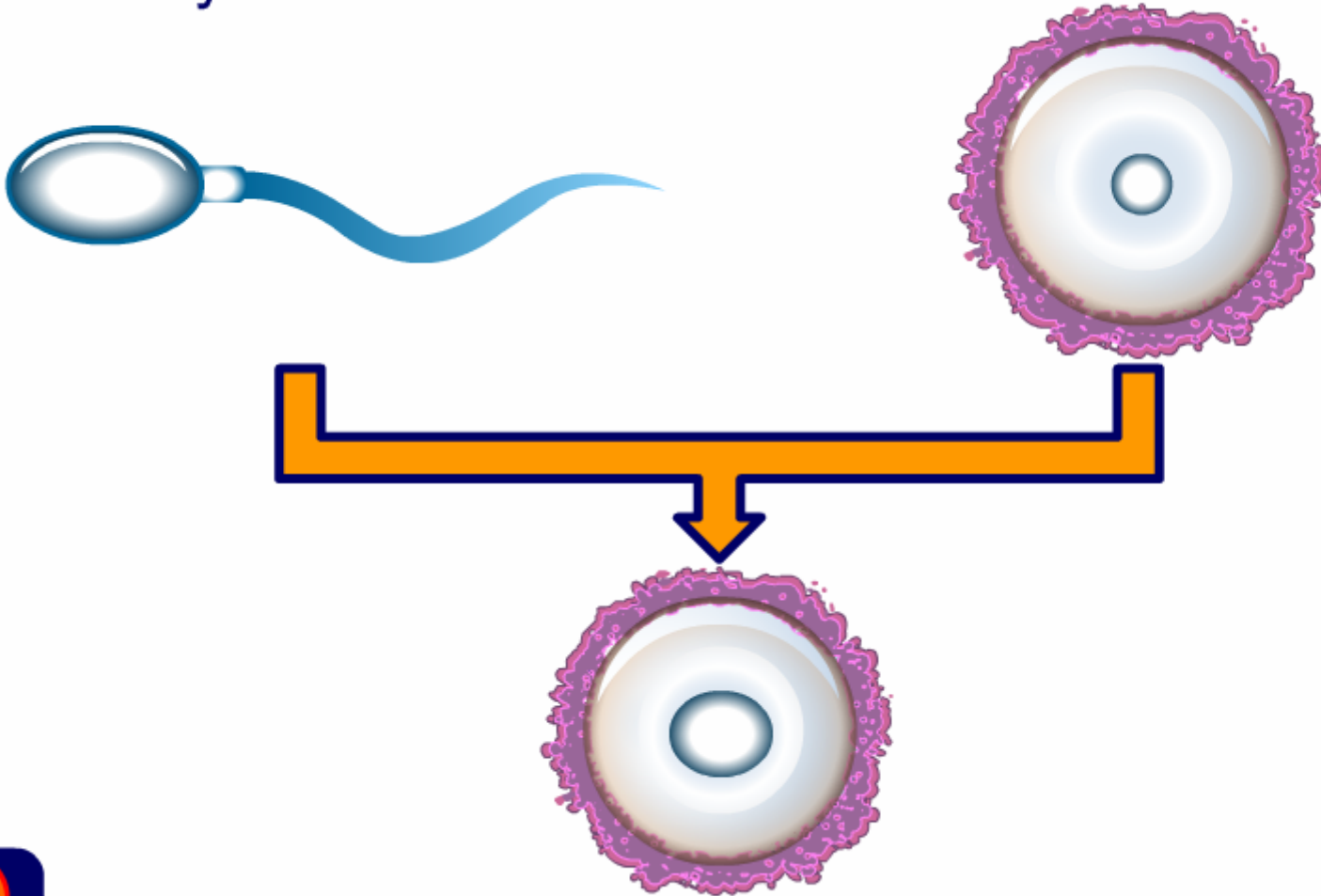
Click on the egg cell
to start the animation of fertilization.



Chromosomes and fertilization

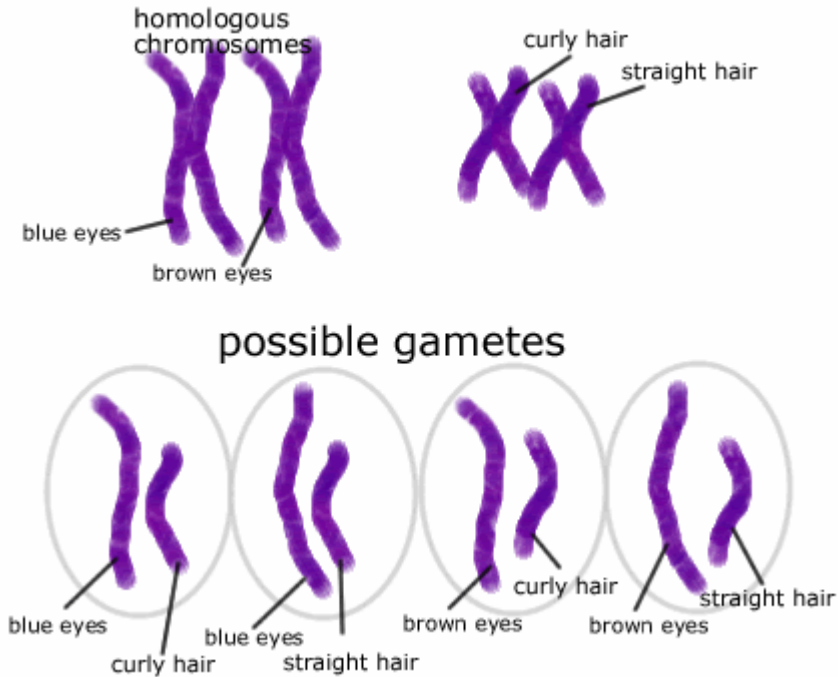


How many **chromosomes** do these human cells have?

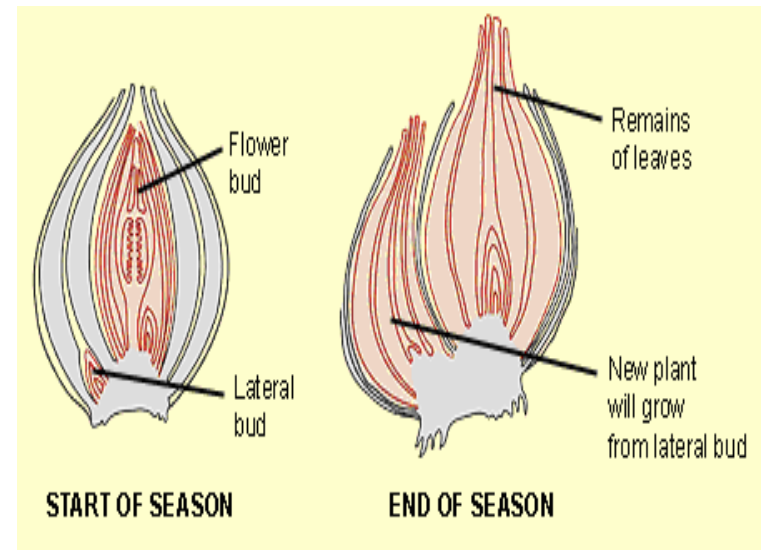


Reproduction

Sexual



Asexual





NUCLEOUS

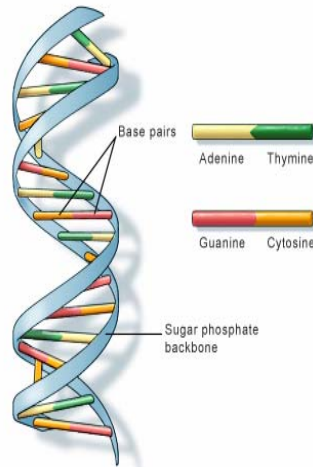
CELL



CHROMOSOME



GENE



DNA



HOMEWORK...