

Human Sex Determination

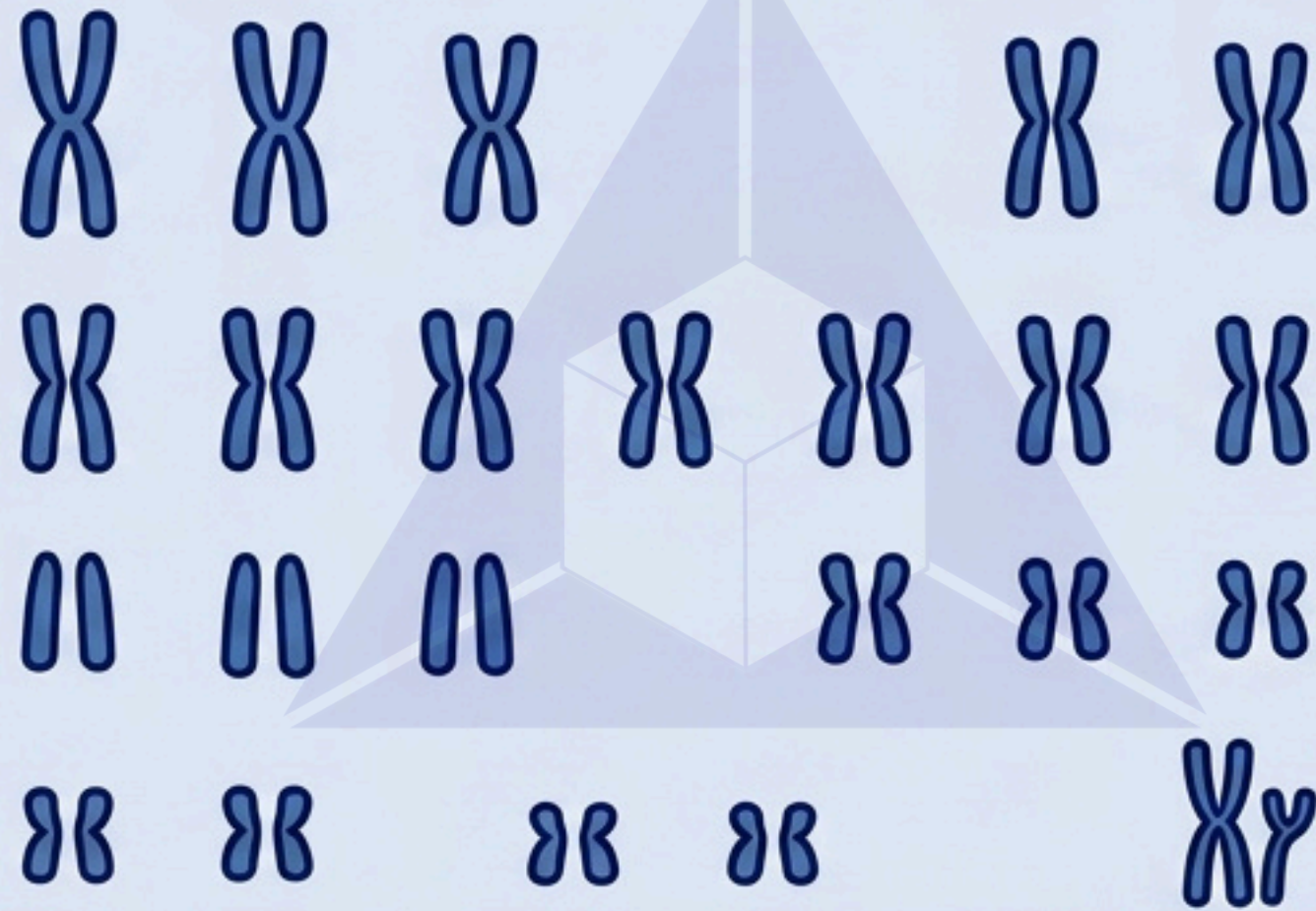


The genetic mechanics of inheritance



The Human Blueprint: 23 Pairs

Every normal human cell contains 46 chromosomes, arranged in 23 pairs.



22 Pairs: Autosomes

(Exactly the same in males and females)

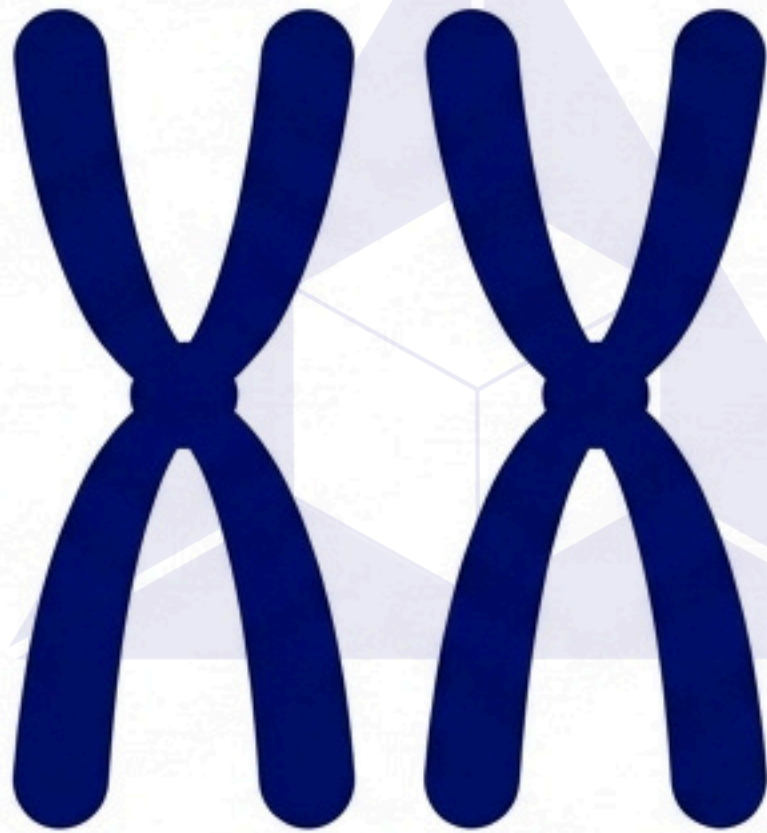


1 Pair: Sex Chromosomes

(Determinants of biological sex)

Genetic Profiles

Female: XX



Females possess a matching pair of X chromosomes alongside the 22 autosomes.

Male: XY



Males possess one X chromosome and a distinctively smaller Y chromosome.



**You've Learned the Theory.
Let's Test Them Now.**

$$E=mc^2$$



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Practice Now



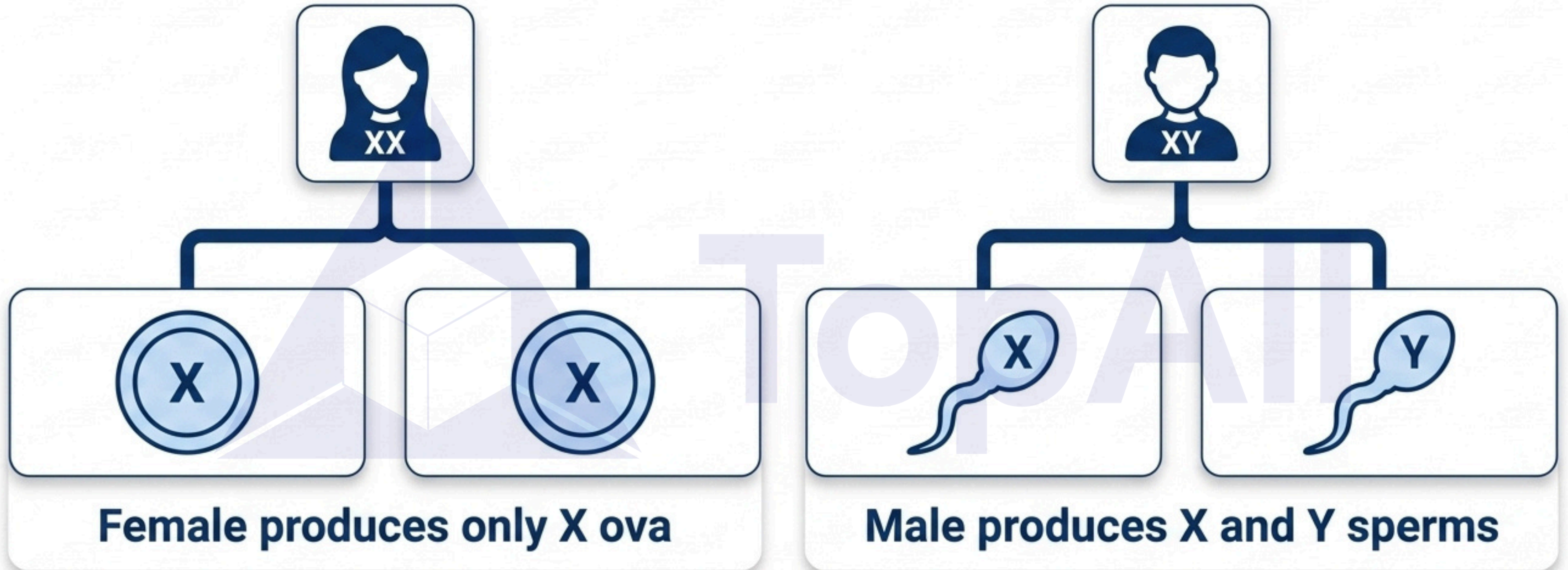
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Key Highlights

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Gametogenesis: The Divergence



Amber Quick-Tip Card

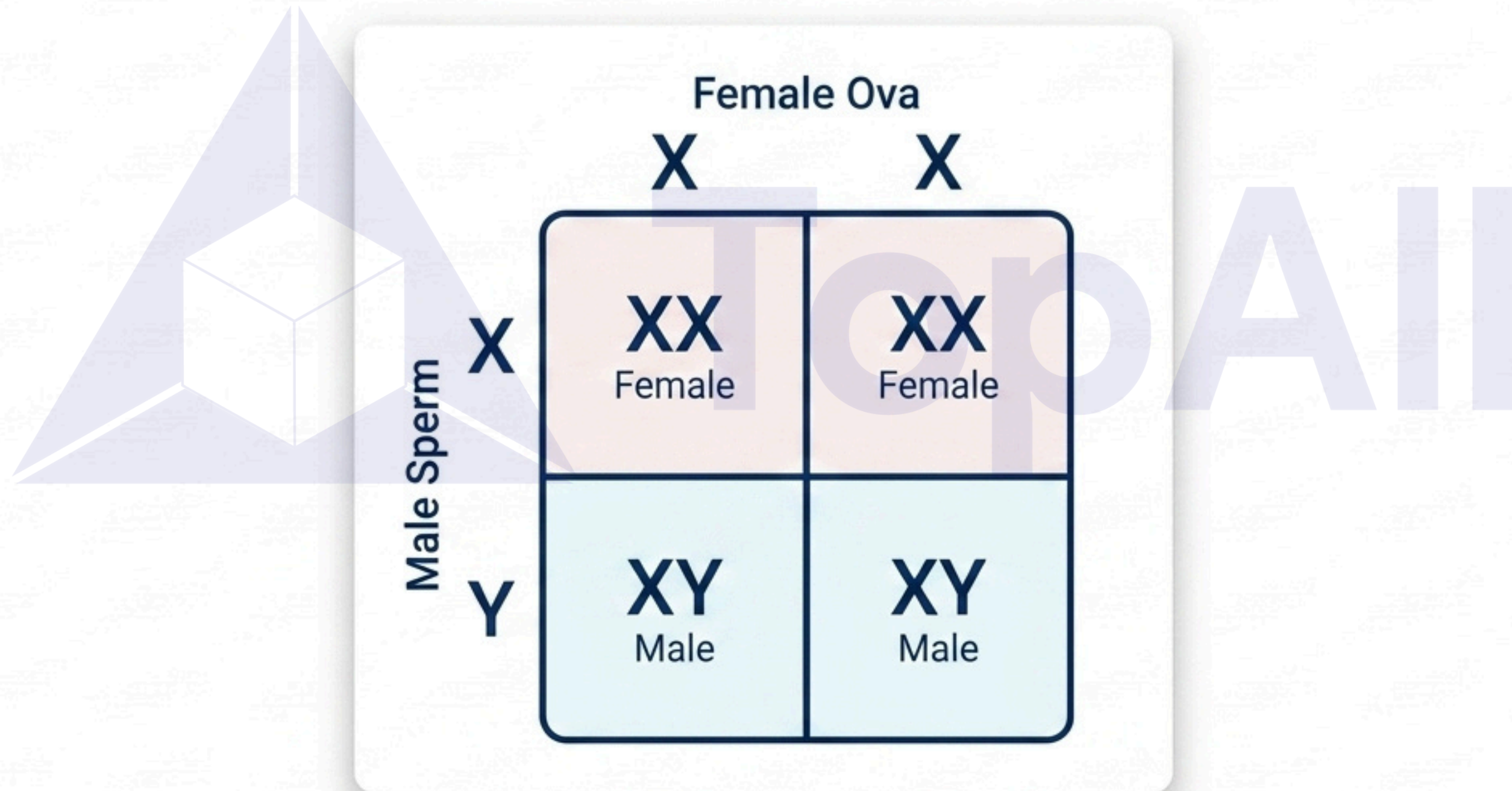
Male Heterogamety: Because human males produce two different types of gametes (X and Y), they are considered heterogametic.

The Fertilization Equation



The 50/50 Probability

Because males produce an equal proportion of X and Y carrying sperm, there is a 50% statistical probability for either sex at conception.



Key Takeaway

**Sperm determines
genetic sex of child.**

— Defaults to X

X or Y

Correcting the Misconception



Myth: The mother determines the biological sex of the child.

Historically, women have been unfairly blamed, ostracized, and ill-treated for giving birth to female children due to this false notion.



Fact: The female ovum defaults to X. It is solely the genetic makeup of the fertilizing sperm that decides the sex.



You've Learned the Theory.

Now Let's Test It.

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Practice the moment you finish studying
Jump in while the concept is still fresh in your head

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