

UPDAAN



2025

6-7 marks.

✓ How Do organisms Reproduce ?

Biology

Lecture - 01

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Topics to be covered

- 1 Introduction to Reproduction ✓
- 2 Variations ✓
- 3 MCQ practice and Homework ✓





- Lecture 01 : Introduction to reproduction ✓
- Lecture 02 : Asexual reproduceion -1 ✓
- Lecture 03 : Asexual reproduceion -2 ✓
- Lecture 04: Introduction to Sexual Reproduction ✓
- Lecture 05 : Sexual Reproduction in flowering plants ✓ ★★★★★
- Lecture 06 : Sexual Reproduction in human beings ★★★★★
- Lecture 07 : Reproductive health ★★★★★

Reproduction

A meme featuring a close-up of a man's face with a wide-eyed, awkward expression. The background is dark with some blue bokeh lights. The text '*AWKWARD SILENCE*' is overlaid at the bottom in white, bold, sans-serif font. In the bottom left corner, there is a small, faint watermark that reads 'JOHNNY.TONER.COM'.

AWKWARD SILENCE

What is Reproduction

Dubara Se



Reproduction is a process by which living organisms produce new individuals of their own type



Advantages of Reproduction

- Reproduction ensures continuity of a particular species on earth { population maintain }
- It creates variation in DNA which leads to stability of a species
- It helps in evolution of a species



Reproduction is NOT a life process



(A) True ✓

(B) False.

#Ch



M. → Movement

R. → Respiration

S. → Sensitive

G. → Growth

R. → Reproduction

E. → EXcretion

N. → Nutrition

Characteristics of Living organism

Do organisms create exact copy of themselves ?



NO

Genes





Do organisms create exact copy of themselves ?



→ NO → ?

↓
Similar
Copies

→ Why?

→ DNA

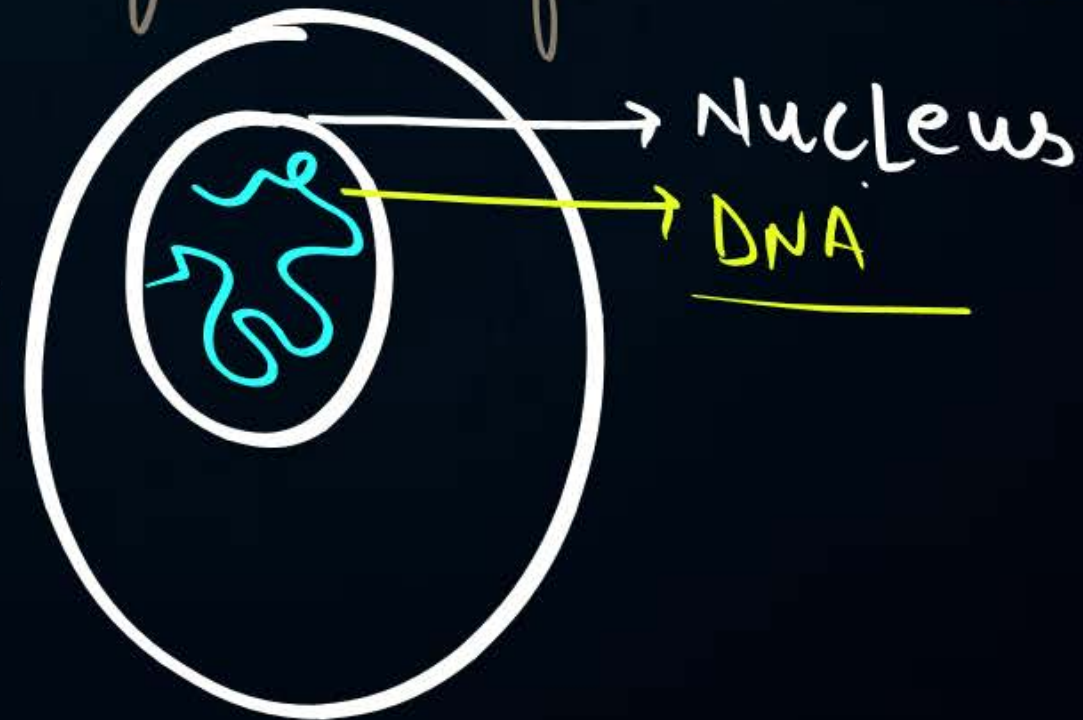
→ Deoxyribo Nucleic Acid

- Information of the structure (body design) and functions of organisms is present in the DNA.



→ DNA [Deoxyribo Nucleic Acid]

- Thread like Structure [Double-Stranded]
- Genetic Material
 - ↳ Carry / contain all the information of our characters.
- Present in Nucleus
- Pass from one generation to another





DNA

Deoxyribose Nucleic Acid

→ Double Stranded



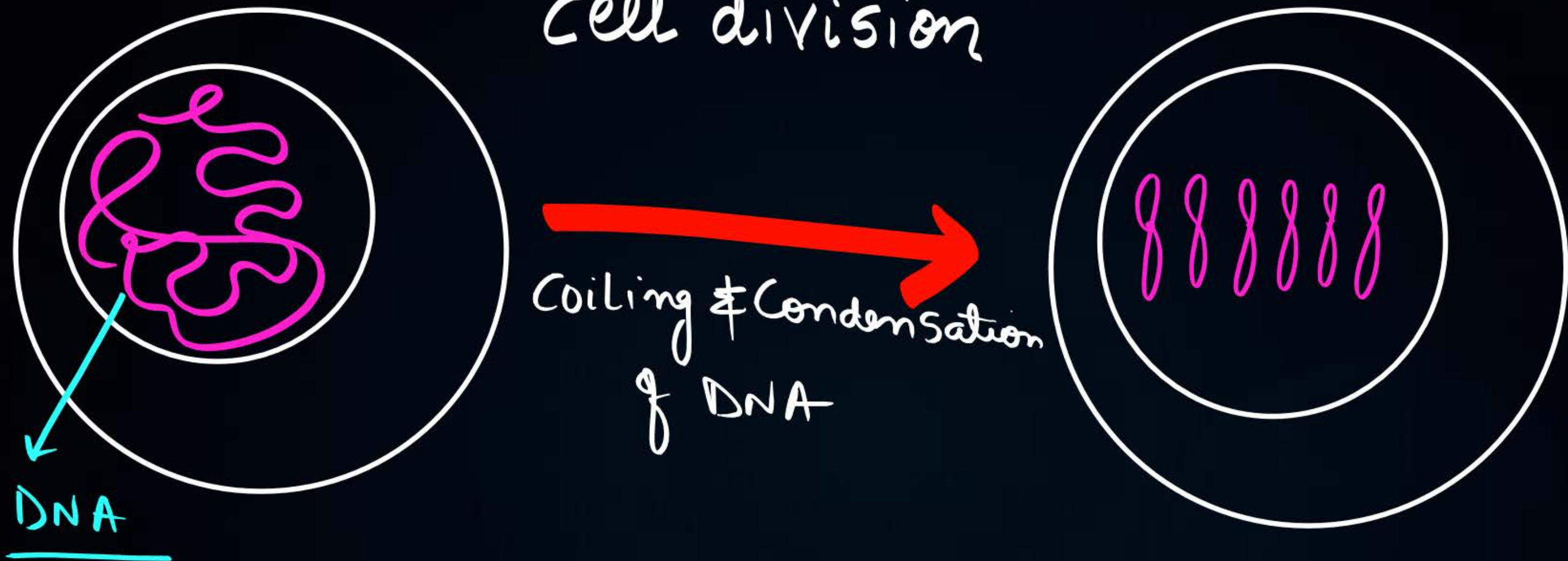
RNA

Ribose Nucleic Acid

Single Stranded

Trying to remember to what is
chromatin / chromosome studied last
year in class 9





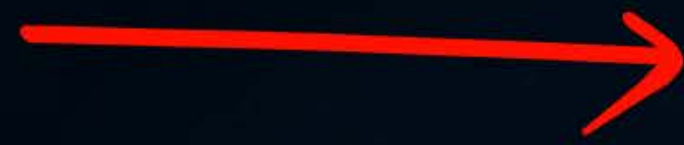
✓ Chromatin- Scattered form of DNA dispersed throughout nucleus

Chromosome- Highly coiled and condensed form of DNA .

[Chromosomes are visible only during cell division.] ✓



Chromatin



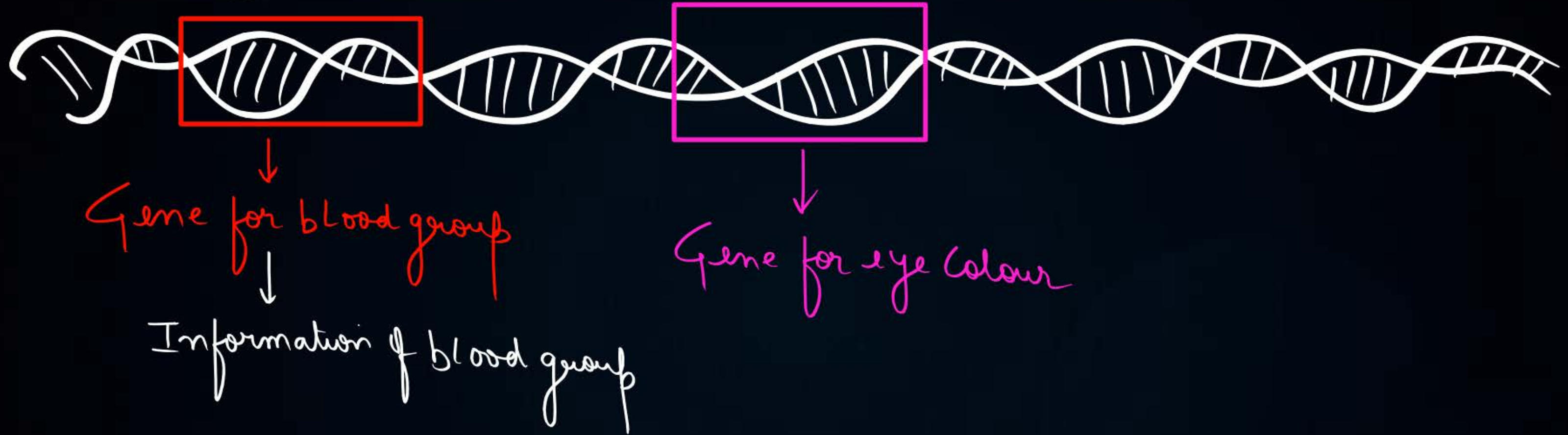
Chromosome



Human Cell \rightarrow Nucleus \rightarrow DNA-2.2m

Human Cell \rightarrow Total \rightarrow 46 Chromosome
(23 pair Chromosome)

Gene - A gene is a specific segment or part of DNA containing information for a particular character.



#

The DNA has the information for making proteins.





Transfer of DNA during Reproduction



Example : Human beings

Male parent



Sperm Cell

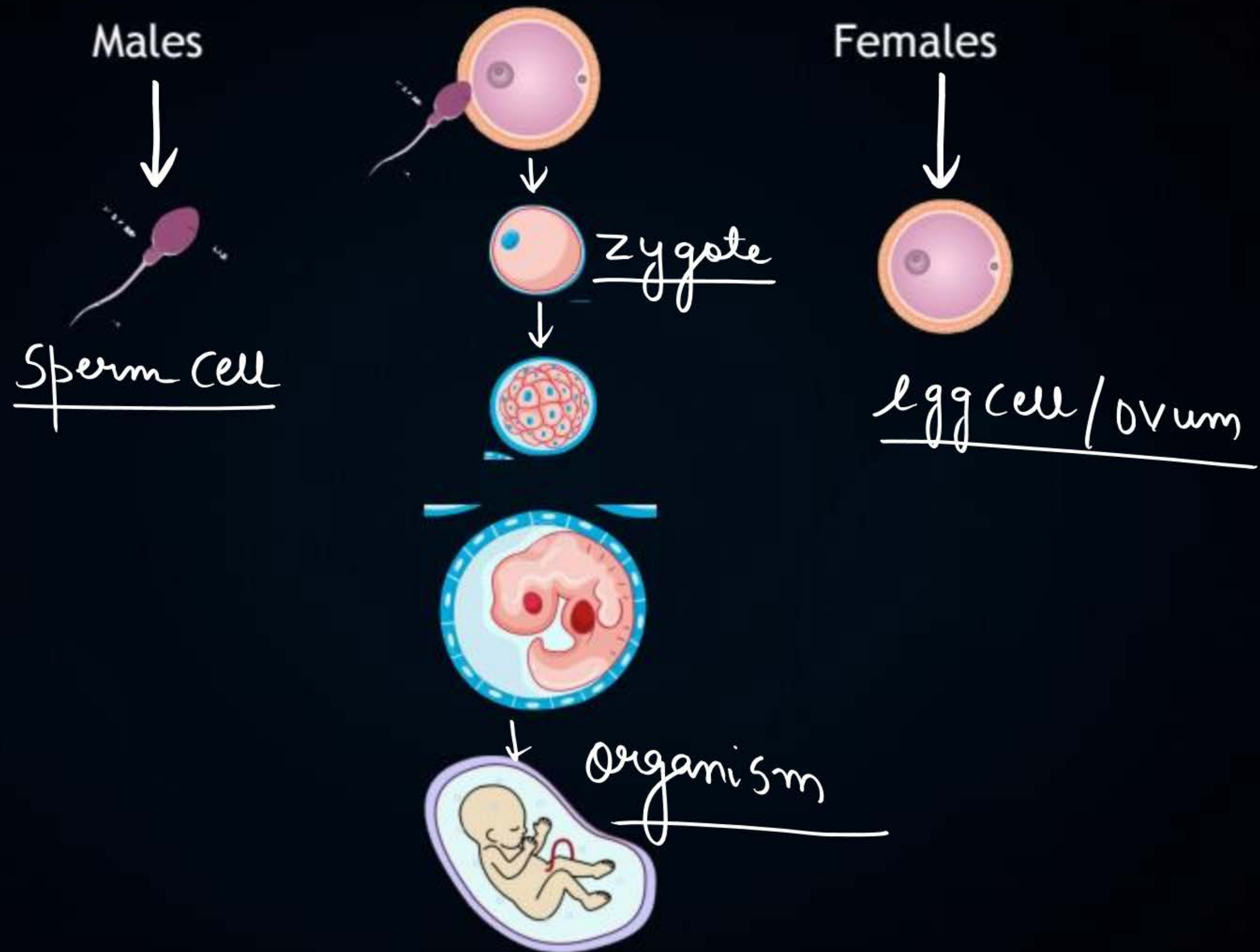


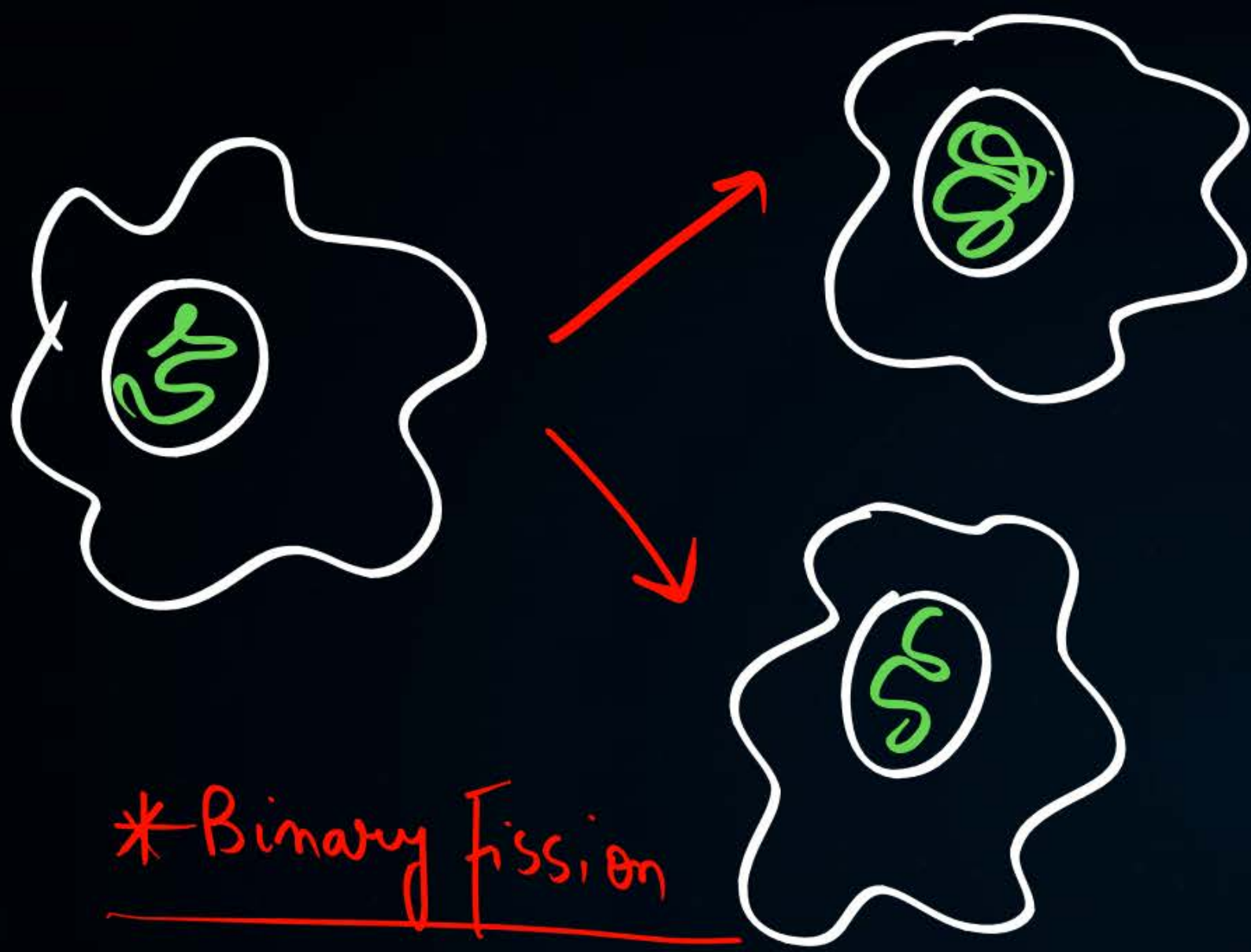
Female parent



Egg cell / Ovum







* Binary Fission

Parent Amoeba



* DNA duplicate
(DNA Copying)

* Cell organelles
duplication



* Binary Fission

A basic event in reproduction is the creation of
a DNA copy and additional cellular organelles

①

②

The process DNA
copying(Replication) will have
some error which will lead variations.
As a result, the DNA copies generated
will be similar, but may not be
identical to the original.

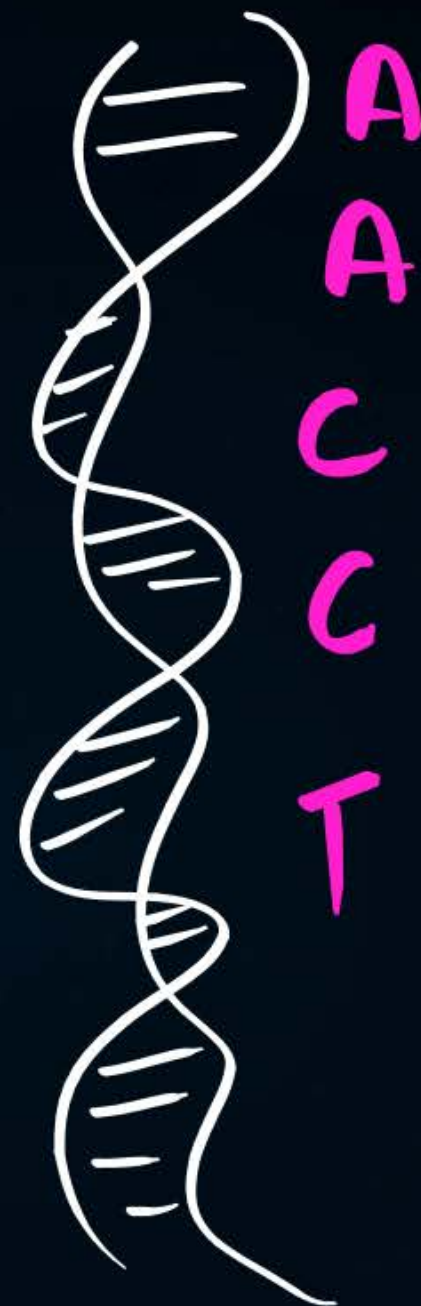
Potato



→ Pookie



DNA Copying
→
(Replication)



error
↓
(DNA)
Change in information
↓
Character Change

Variation

DNA



- ✓ Variations are the differences present between the individuals of the same species



Some variations are **useful**

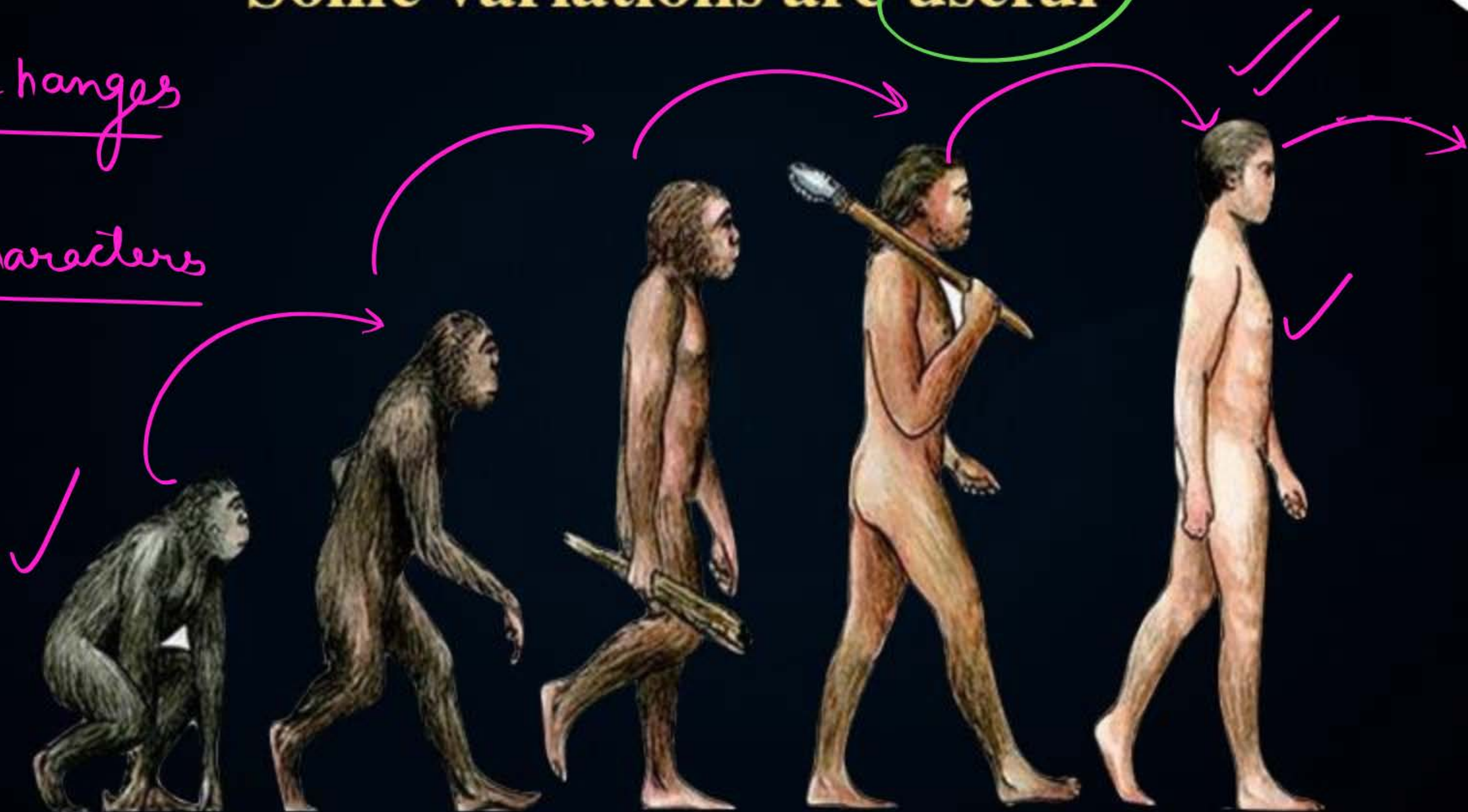
Reproduce



DNA Changes



New Characters



Some variations are non useful

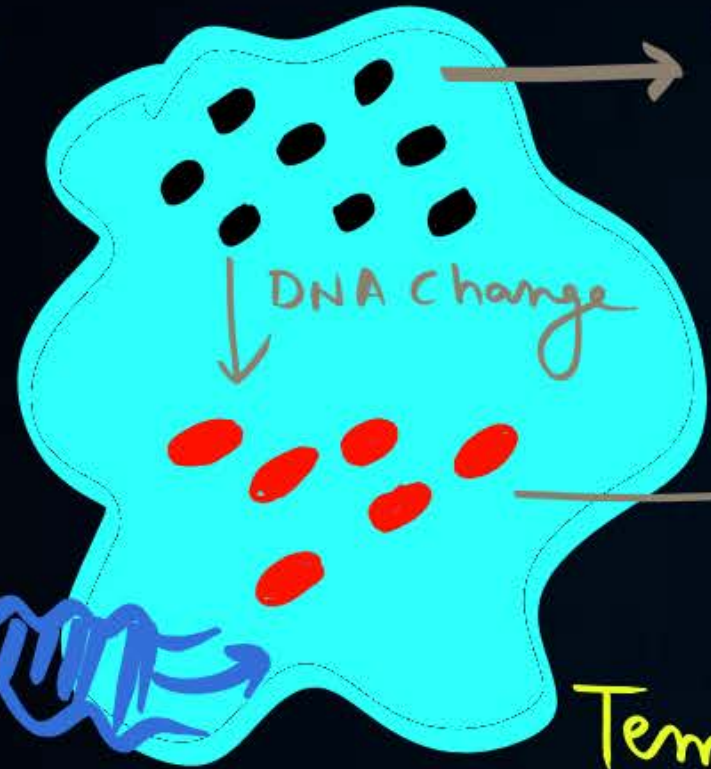
Color

easily spot



Moth

Example



(A)

X

Bacteria Survive $[15-25^{\circ}\text{C}]$

(B)

Bacteria Survive $[15^{\circ}-35^{\circ}\text{C}]$ ✓

Temp $\rightarrow 32^{\circ}\text{C}$

- Variation is thus useful for the survival of species over time.



Importance / Significance of Variation



- Variation help organisms to adapt in the changing environment.
- Variation provides stability to a species and thereby helps in evolution
- Variation in DNA results in varieties of a species and formation of new species.







DNA
Variation

Segment of DNA containing information for a character is

- A Chromosome
- B Gene ✓
- C Chromatin
- D None of these



aaaaaaaaaa .

Highly coiled and condensed form of DNA is called

- ☒ A Chromosome
- ☐ B Gene
- ☐ C Chromatin
- ☐ D None of these



DNA contains information for the formation of

- A Phospholipid
- B Gene
- C Protein ✓
- D None of these





#notes

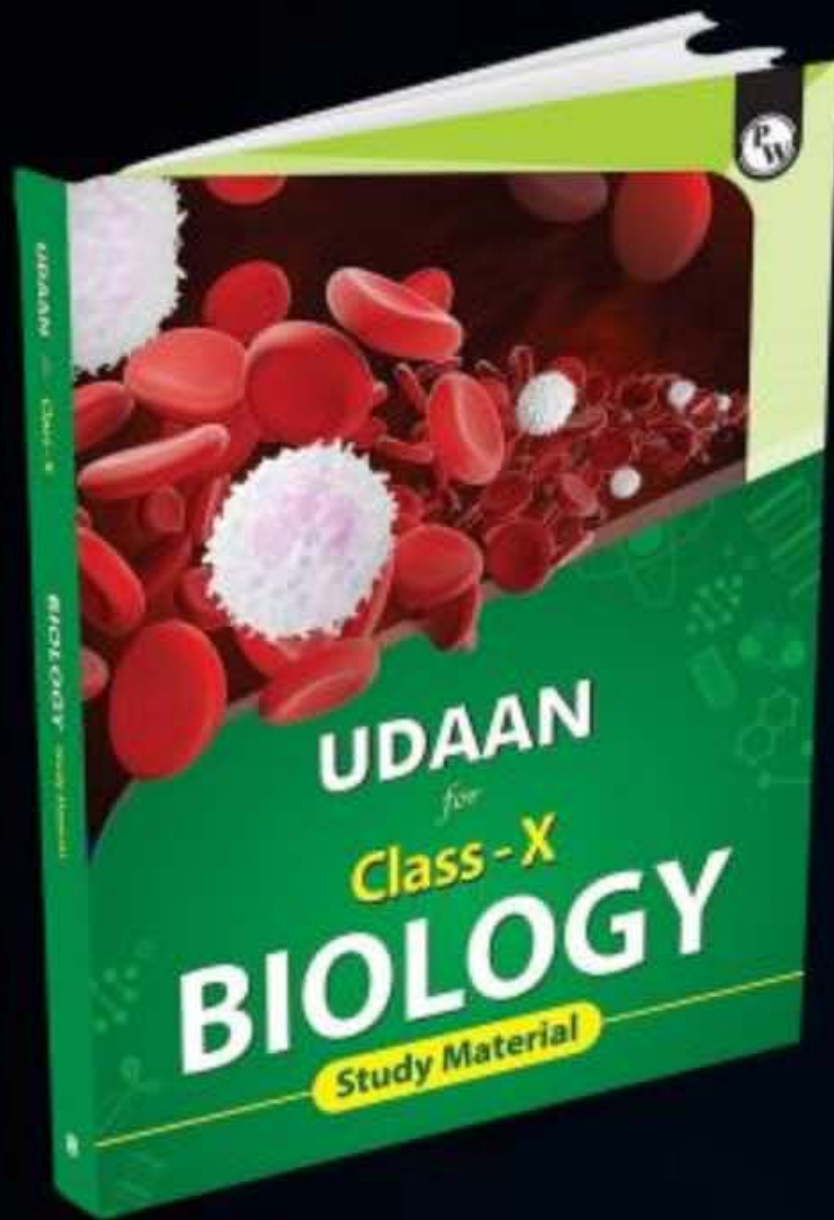
HOW DO ORGANISM REPRODUCE?

ASEXUAL REPRODUCTION

- Single parent is involved
- No Gamete formation
- No Fertilisation
- Offsprings formed are genetically similar

SEXUAL REPRODUCTION IN

- Two parents are involved
- Gamete formation occurs
- Fertilisation occurs
- Offsprings formed are genetically dissimilar



Homework



FROM PW MODULE
(Udaan - CLASS 10)

PAGE : 139 - Q-1 , Q-6



Question of the Day



Human DNA \rightarrow Total genes?



Joke/Meme of the Day



No **DNA** test
needed!



#DHA
#NCERT

THANK
YOU

