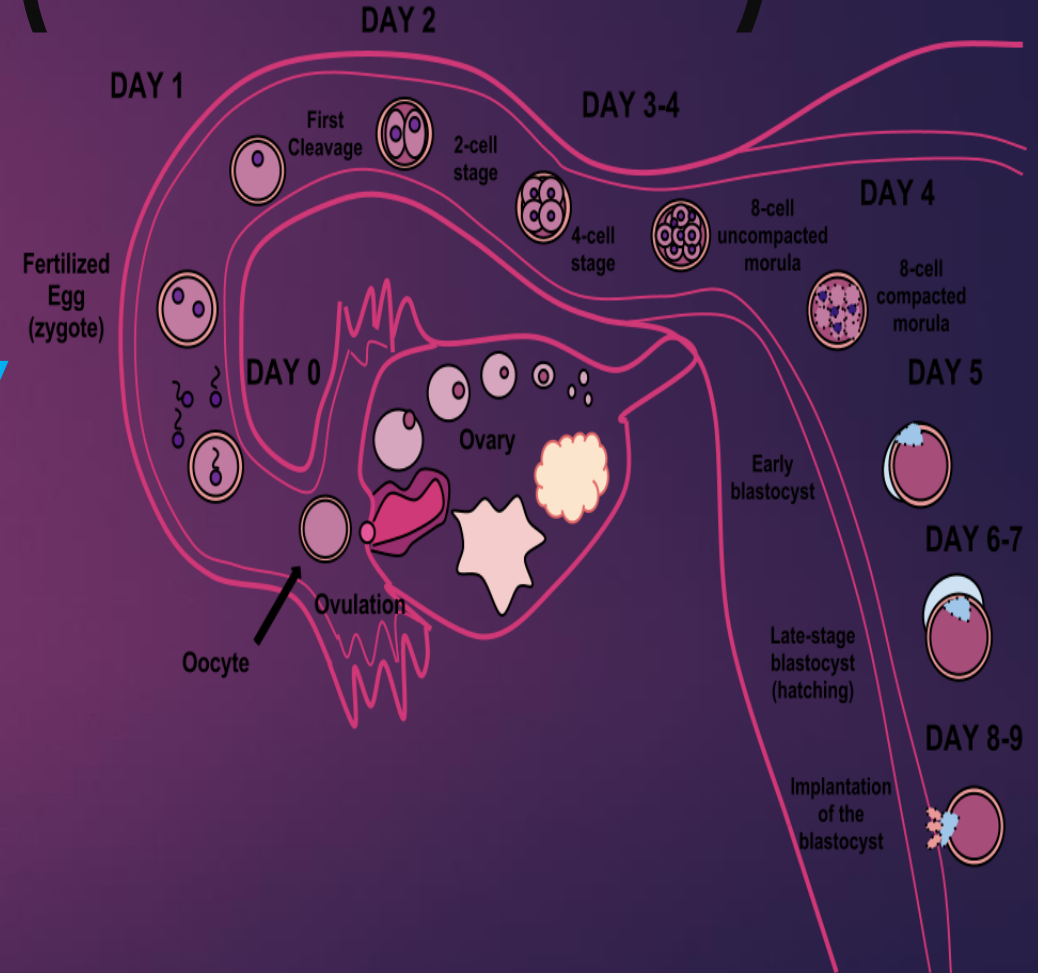


B.Sc. Medical (sem. 5th)

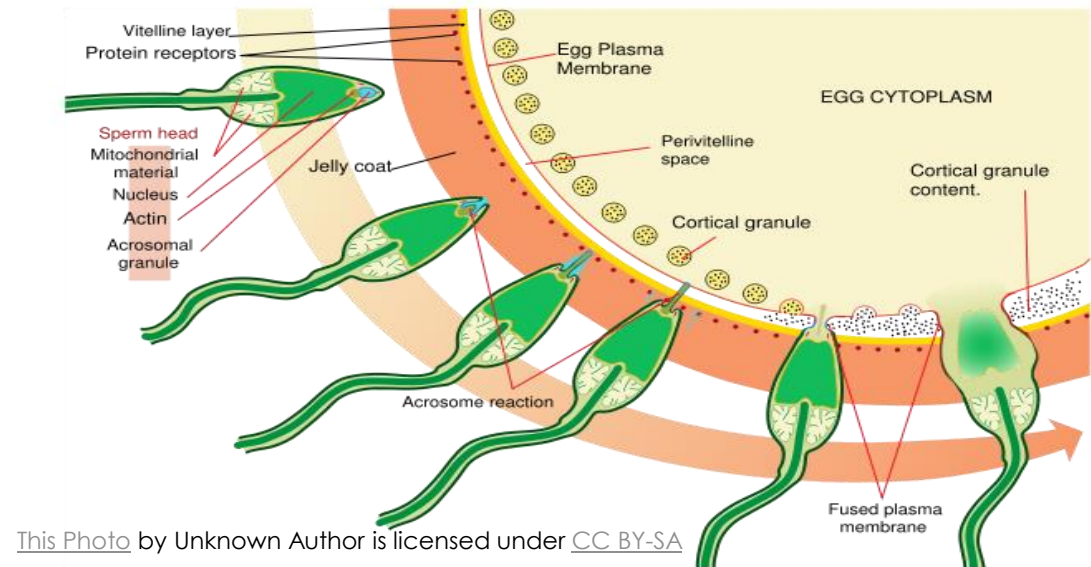
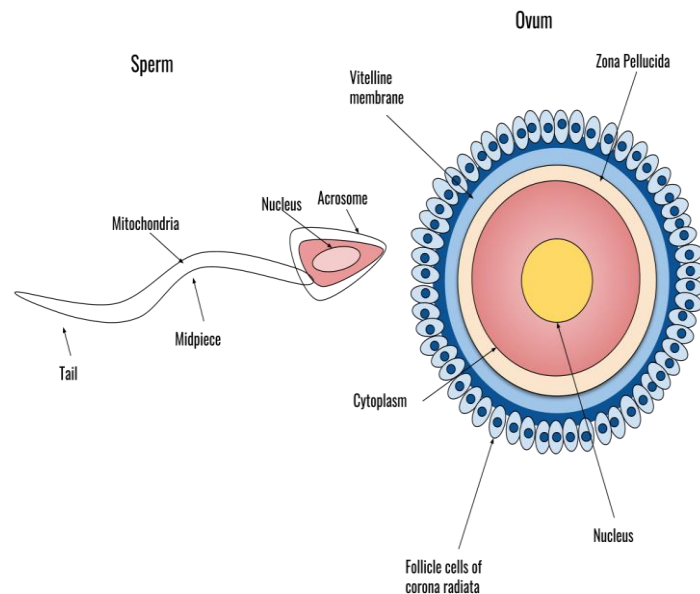
Embryology

FERTILIZATION, CLEAVAGE,
MORULATION, BLASTULATION
& GASTRULATION



Fertilization

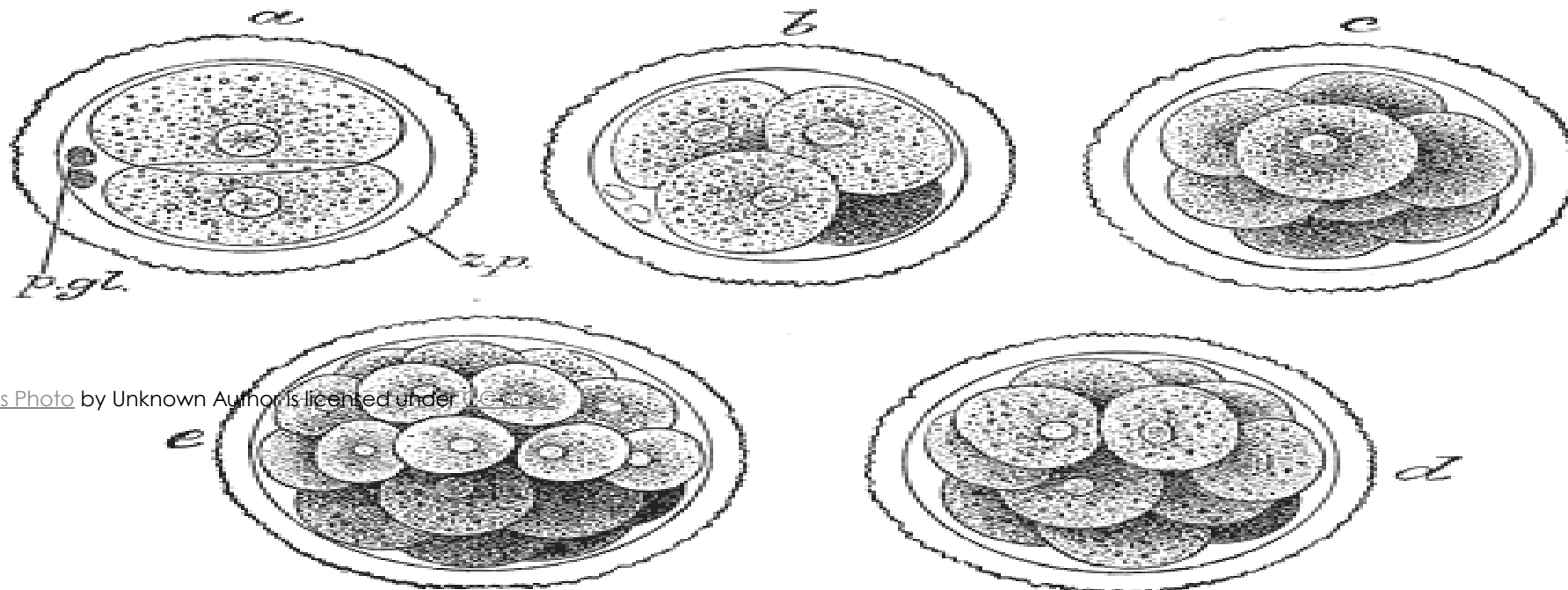
- ▶ Fertilization is a biological process that involves a sperm (male gamete) merging with an egg (female gamete or ovum) and leading to the development of an embryo.



This Photo by Unknown Author is licensed under [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/)

Cleavage

- ▶ After fertilization, the development of multicellular organism proceeds by a process called cleavage, a series of mitotic divisions whereby the enormous volume of egg cytoplasm is divided into numerous smaller,



This Photo by Unknown Author is licensed under CC BY-SA

Morulation

The process in which a morula is formed by the cleavage of an ovum is called morulation.

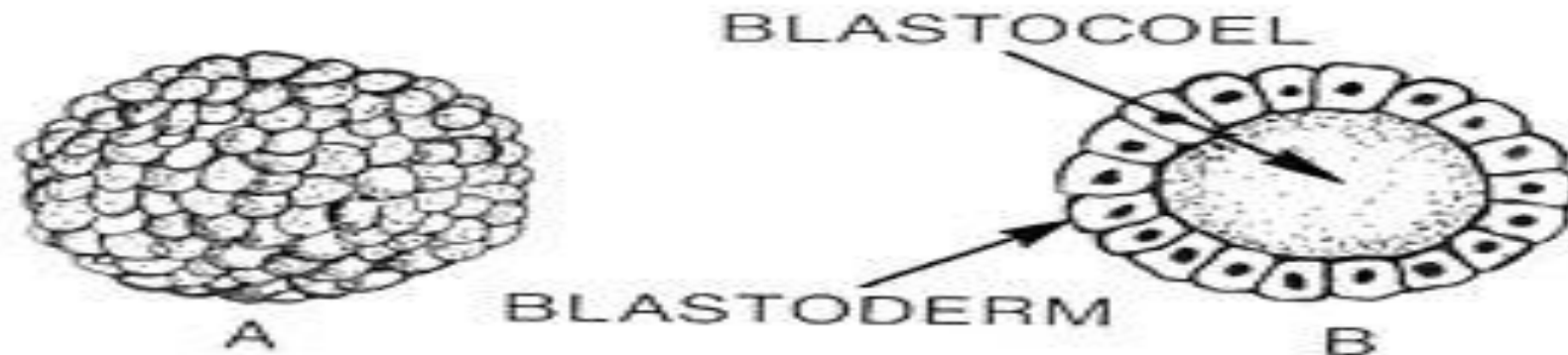
Morula:- solid mass of blastomeres resulting from a number of cleavages of zygote, or fertilized egg



This Photo by Unknown Author is licensed under [CC BY-NC](#)

Blastulation

- ▶ Blastulation is the process by which two layered embryo is formed by dynamic rearrangement of blastomeres.
- ▶ The morula stage is short lived and soon changes into blastula and is characterized by presence of segmentation cavity or blastocoel cavity. The layer of cells above the blastocoel is called blastoderm.



Gastrulation

- ▶ Transformation of the blastula into the gastrula with three primary germ layers and cavity archenteron by the rearrangement of cells is called gastrulation.

