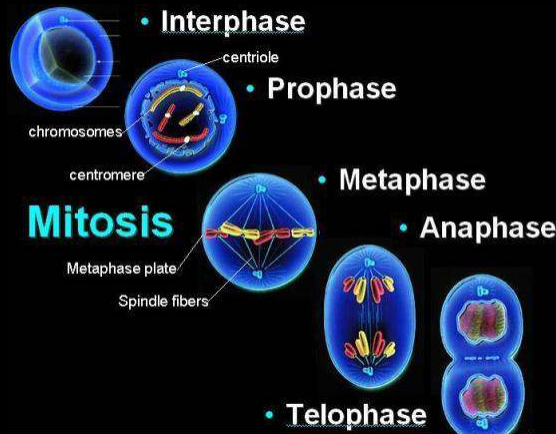


These Slides Accompany the YouTube Video Tutorial:
https://www.youtube.com/watch?v=GD_cFaPIJ3U&index=4

Mitosis & Amitosis



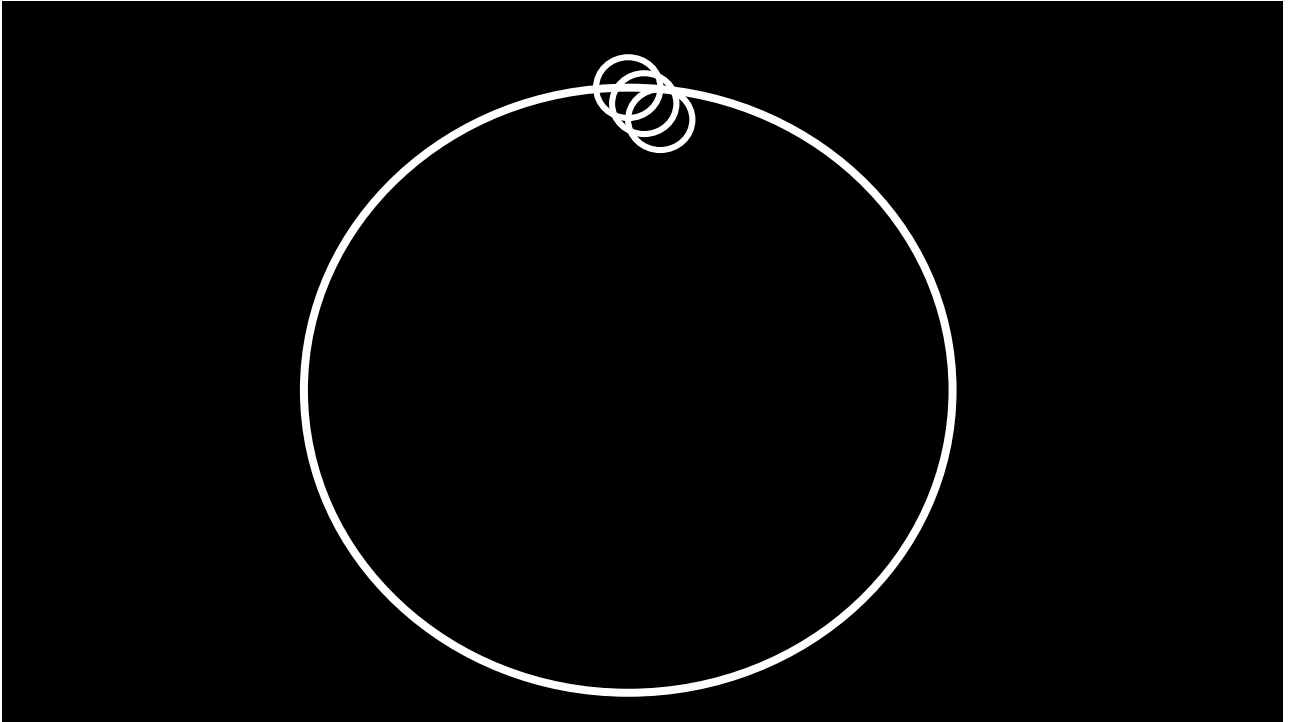
- Dr. Manishika Jain, NTSE Scholar, UGC NET JRF, CSIR NET JRF
Gold Medalist, Jawaharlal Nehru University, Delhi

Amitosis

- Direct cell division
- By Remak & explained by Flemming
- No chr. differentiation & spindle
- Nuclei elongate, constrict & forms two daughter cells
- Common in diseased cells
- E.g., Monera
- Others are indirect cell division

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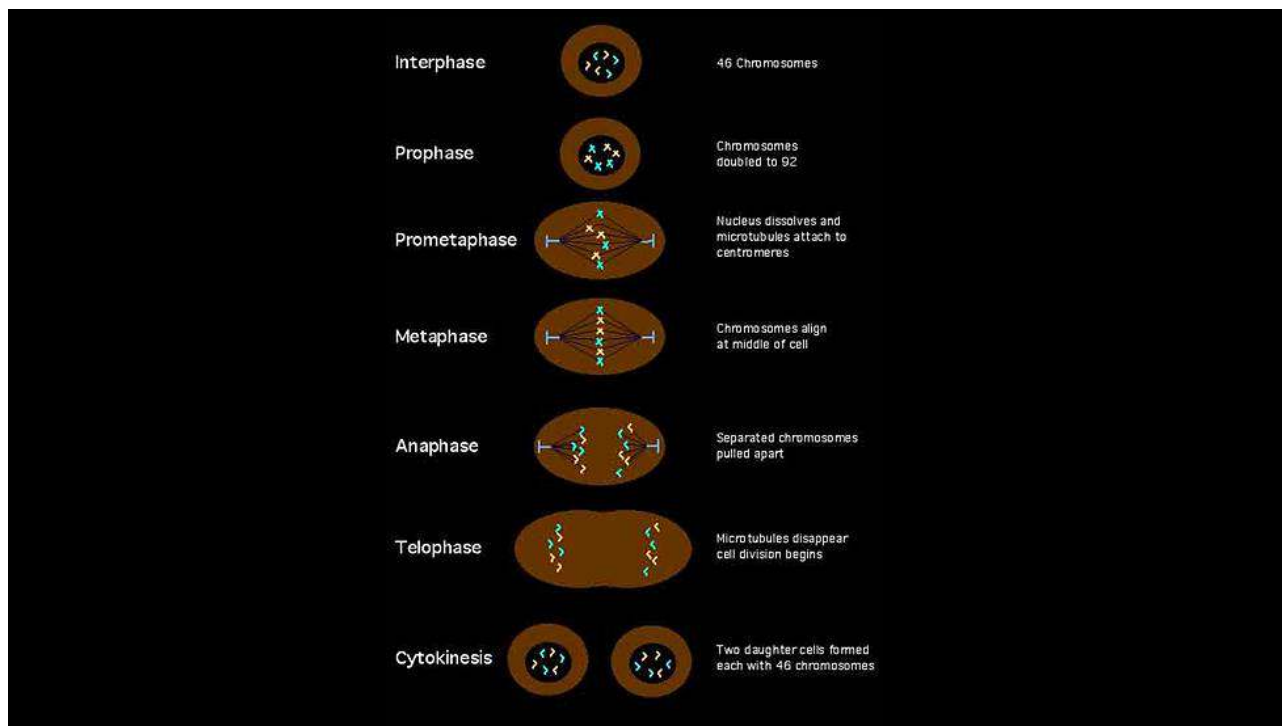


Mitosis

- Replicate in 2 with same no. & type
- Equational division
- Coined by Flemming
- Somatic cell division – plants (meristematic region like root tip, stem tip) & animals (embryo devt, skin & bone marrow)- spheroid & viscous
- 30 min to 3 hr

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Plant Mitosis	Animal Mitosis
In meristem	In many places
By cytokinin	By lymphokines, epidermal growth factors
No change in shape	Becomes spherical
Spindle – Anastral	Spindle - Amphiastral
Centriole is absent	Spindle pole possess centriole
Equatorial region forms phragmoplast	Equatorial region forms midbody
Cytokinesis by cell plate	By cleavage
Cell plate grow centrifugally	Grows centripetally
Microfilament not important	Important role
Cell plate cements daughter cells	Cleavage creates intracellular space between daughter cells

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Significance of Mitosis

- Growth
- Maintenance of surface-volume ratio
- Maintenance of chromosome number
- Regeneration
- Reproduction and repair
- Differentiation
- Cancer – uncontrolled mitotic division