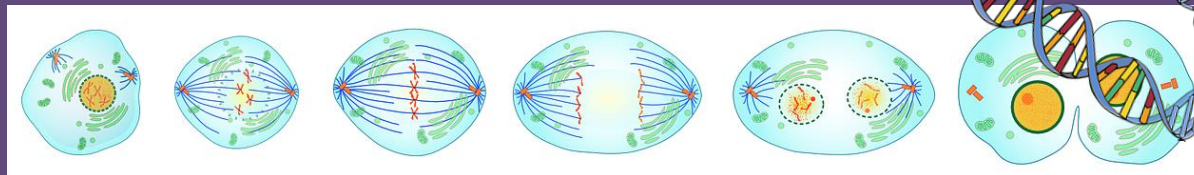
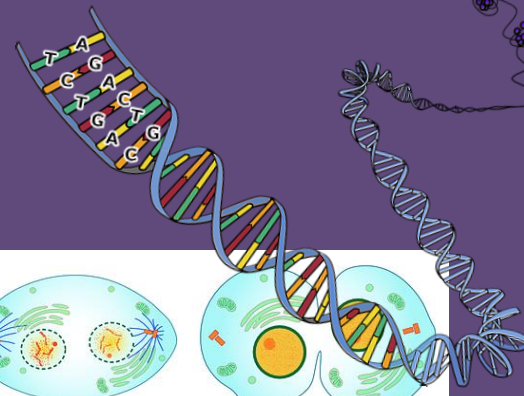
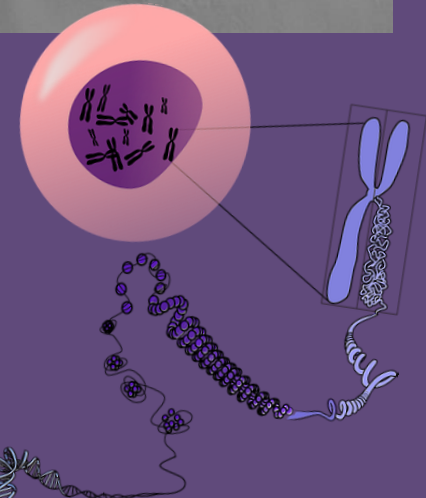
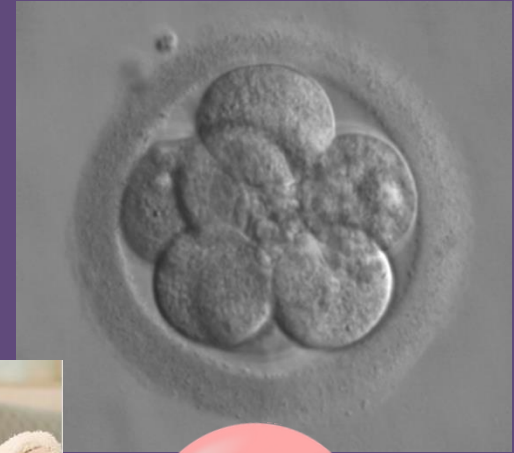


Cell Division Lesson

- Fertilization and the start of life
- Twins
- Cell division
- Cell cycle
- Cell division and DNA
- Genetic material
- Genes
- Genetic features
- Human-animal gene similarities



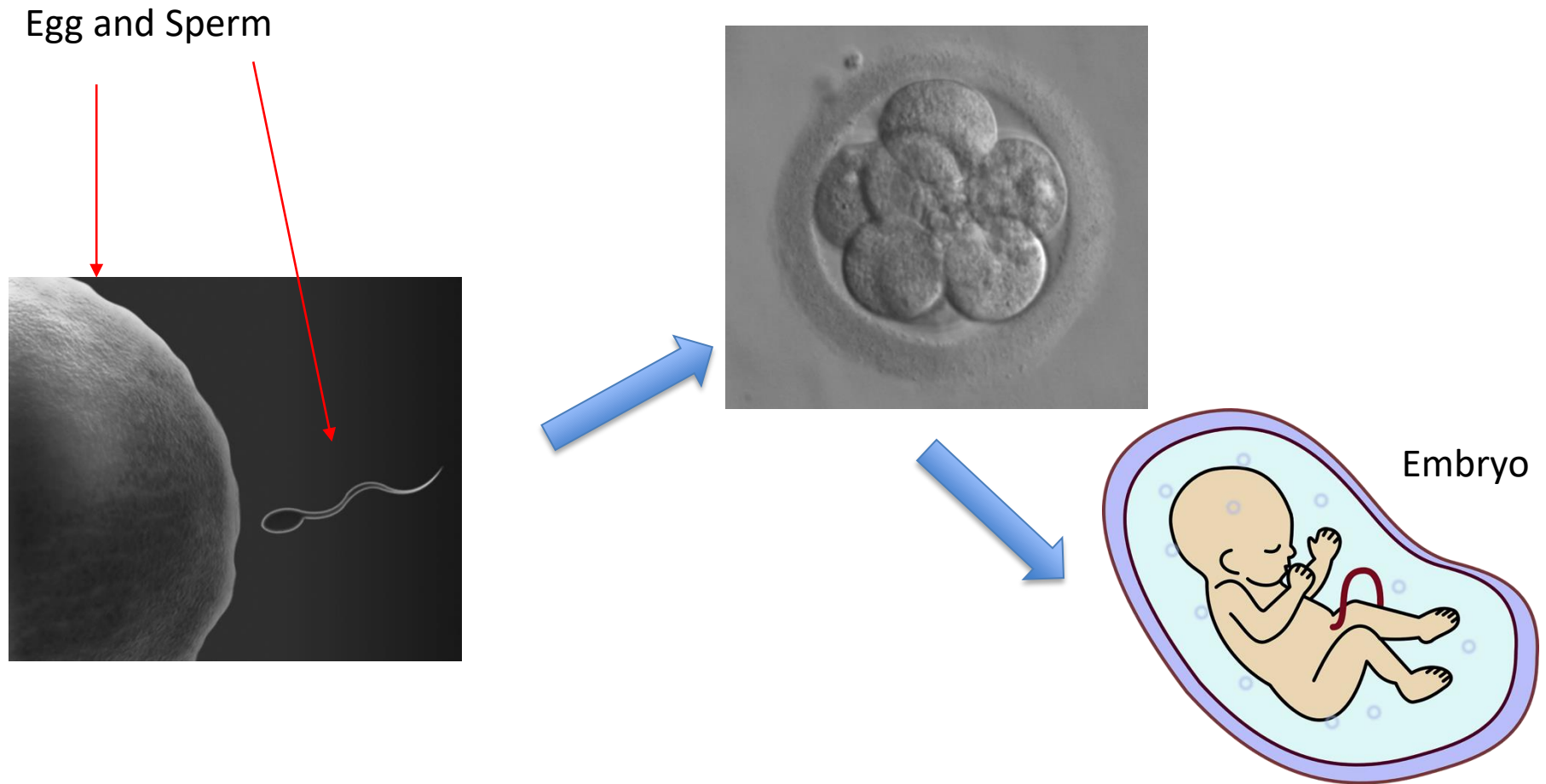
TeachWithFergy

Preview File

Please enjoy this preview of your Student Version of the lesson. I've created this PDF for ease of viewing and to decrease the file size but of course, your lesson will be in PowerPoint format.

- Some slides appear blank because they have been removed.
- Student versions have portions of the text removed which is given in the teacher version and appear as _____
- Other slides may have on them, this represents writing that has been removed.

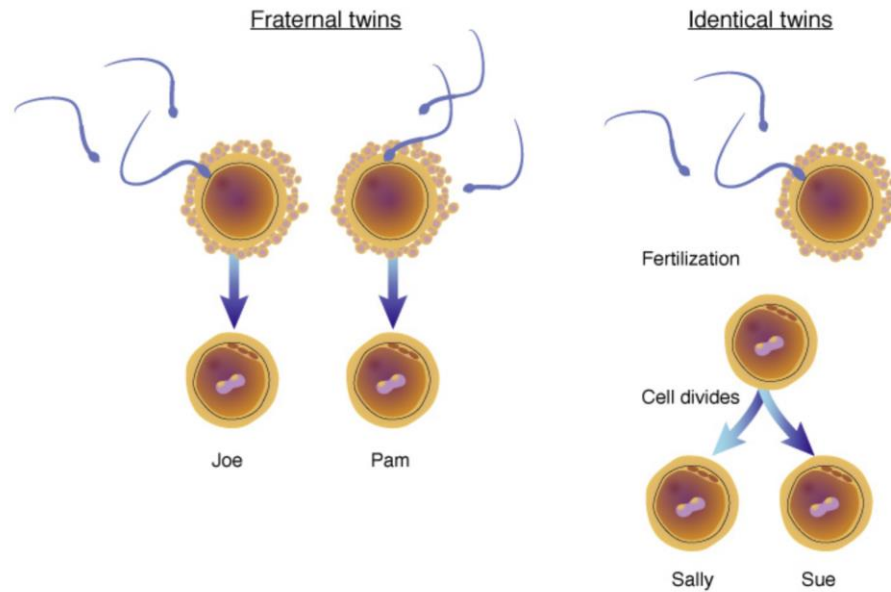
Fertilization and the start of life



A sperm cell and an egg cell come together to form a single cell called a Zygote. _____

Twins

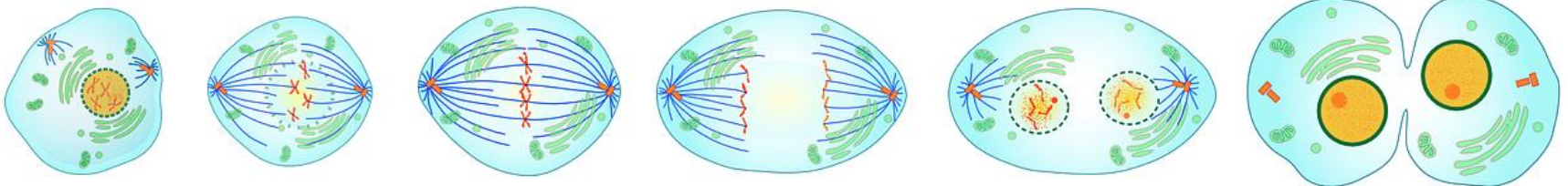
-
- _____



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Cell Cycle

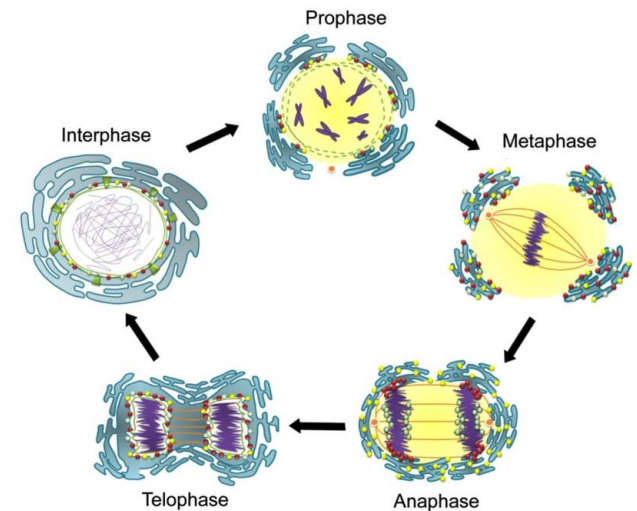
-
- The new (daughter) cells are exact copies of the old (parent) cells.
 - New body cells are produced for:
 - _____
 - _____



The Cell Cycle

- Before it divides, the cell gets bigger – this is called interphase

- _____



The Cell Cycle

- Mitosis is comprised of 4 steps

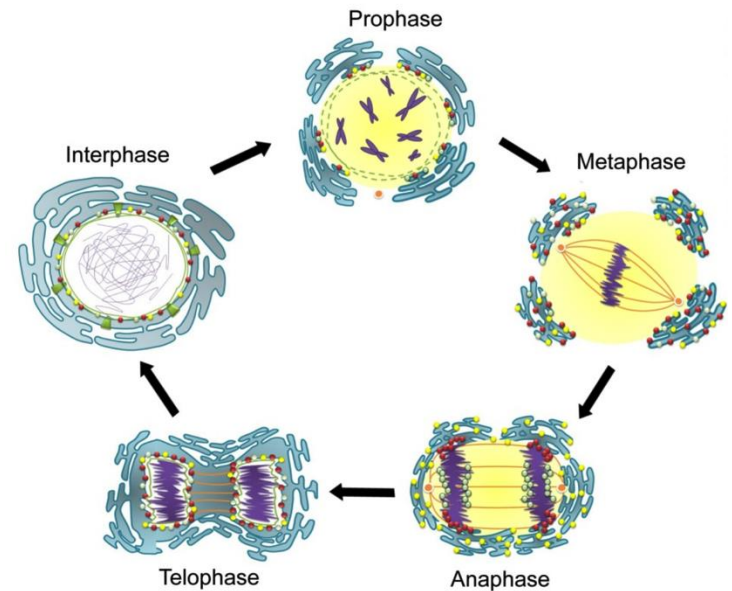
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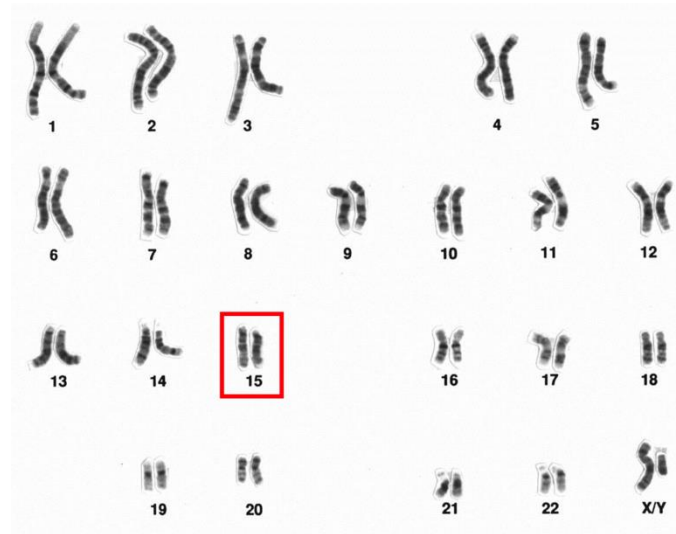
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Genetic Material



- All of your genetic material (DNA) is packaged into 46 chromosomes
- _____
-

Genes

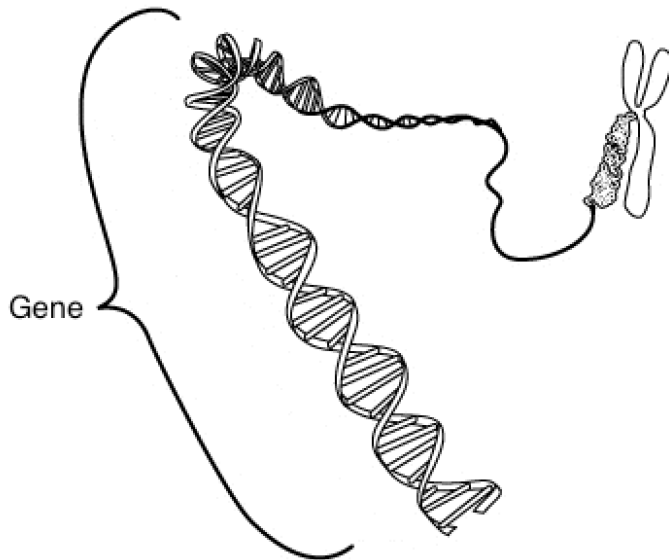
Chromosomes are made up of proteins and _____



Genes

- _____

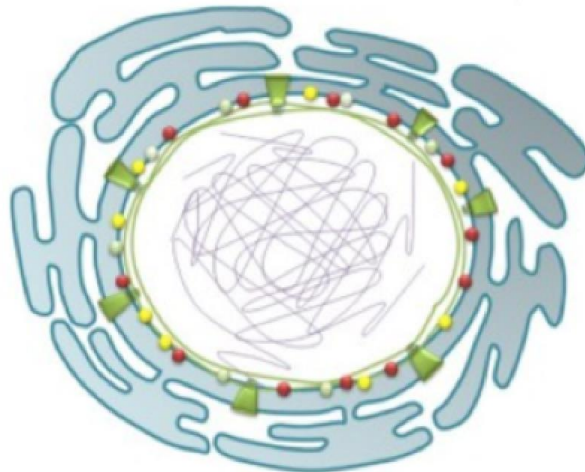
- Each person's genes are different (except??)



Interphase

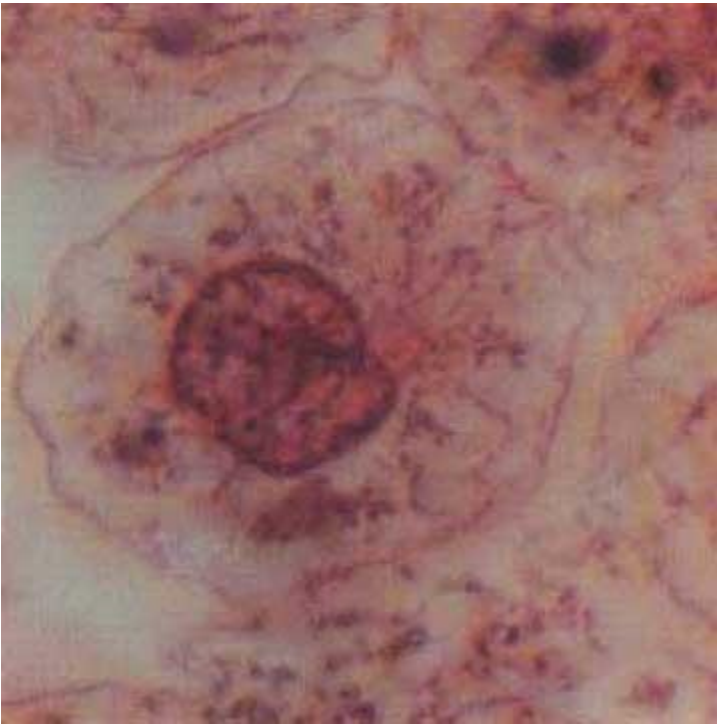
- _____
-
- The cell spends most of its time in Interphase

Interphase

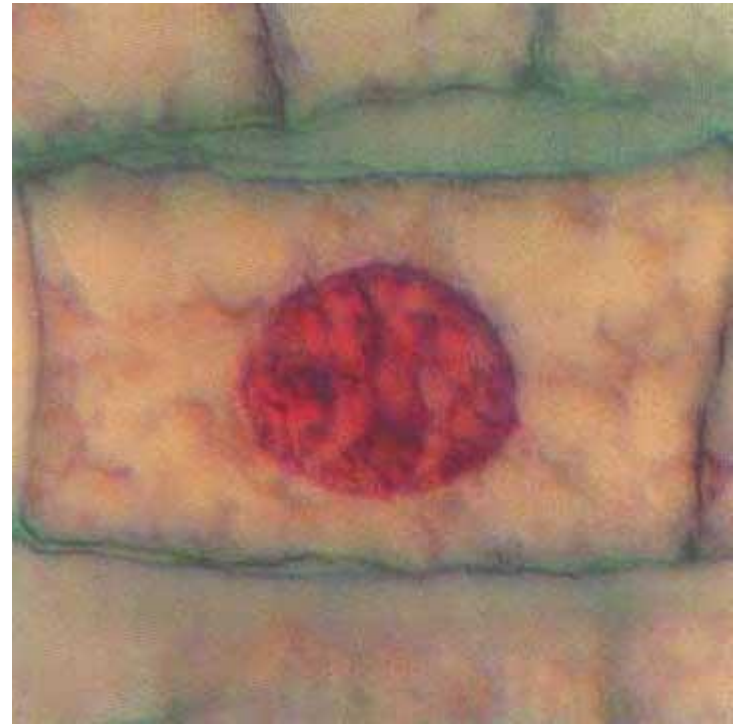


Interphase

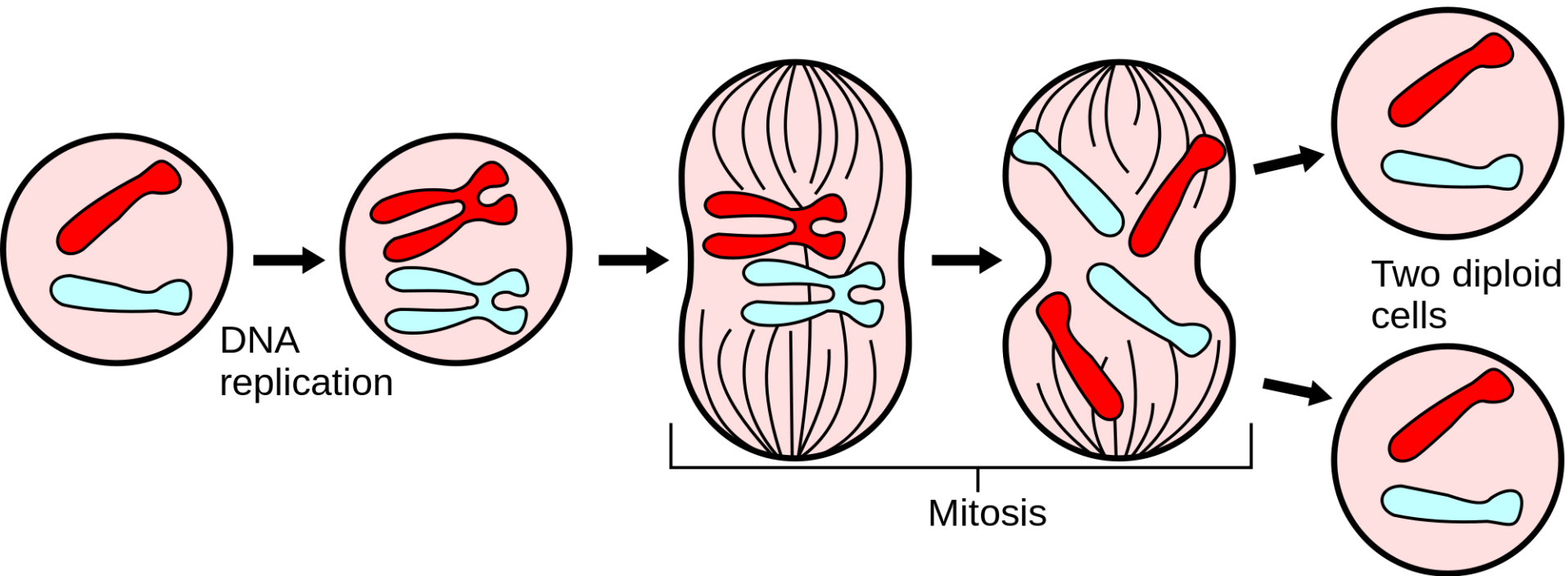
Animal Cell



Plant Cell



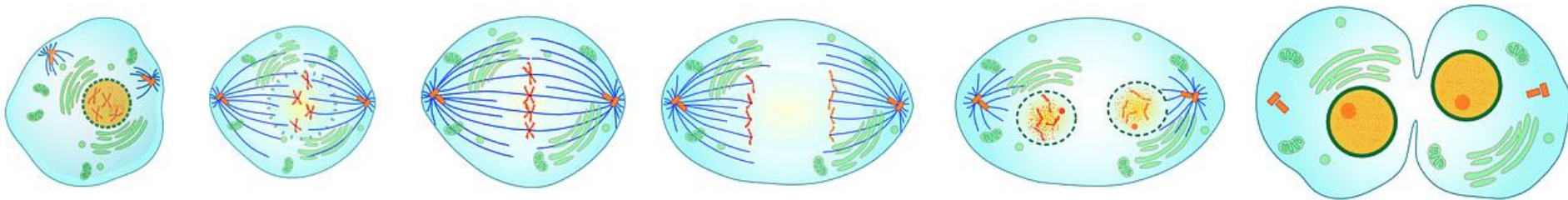
Cell Division Phase (Mitosis)



Mitosis

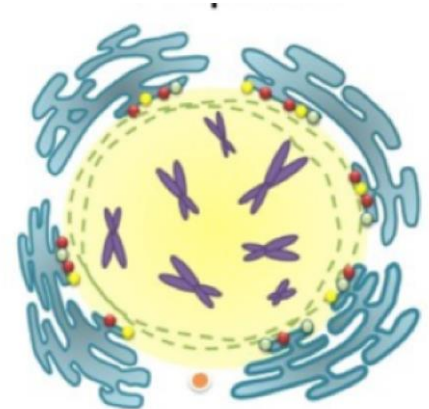
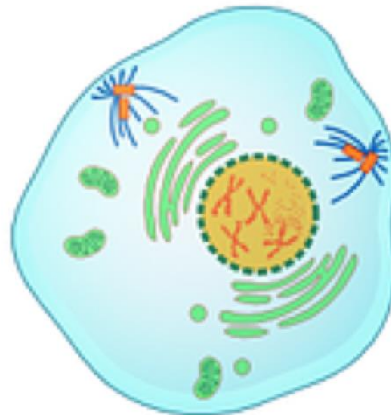
-
- Allows organisms to grow and replace old, damaged or dead cells

- _____



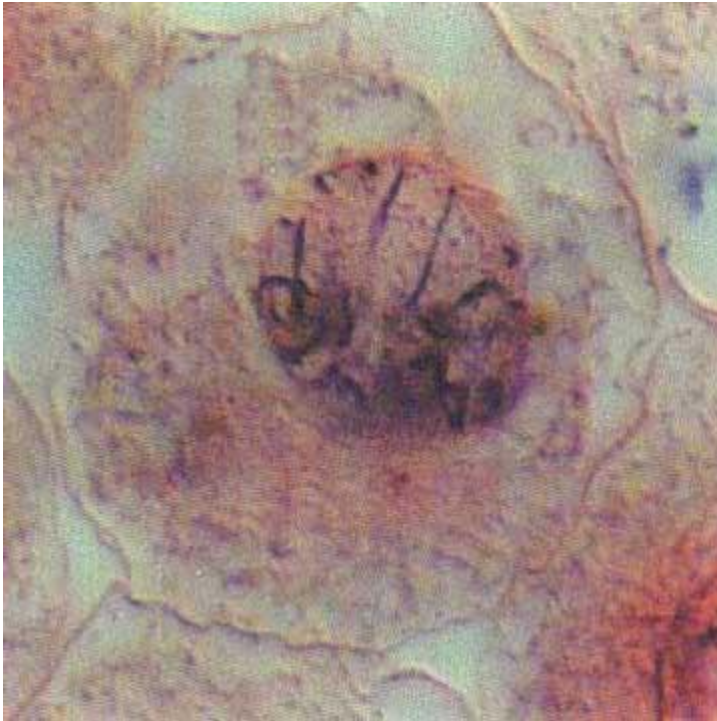
Prophase

- _____
- Strands of DNA thicken to form visible duplicated chromosomes (sister chromatids)

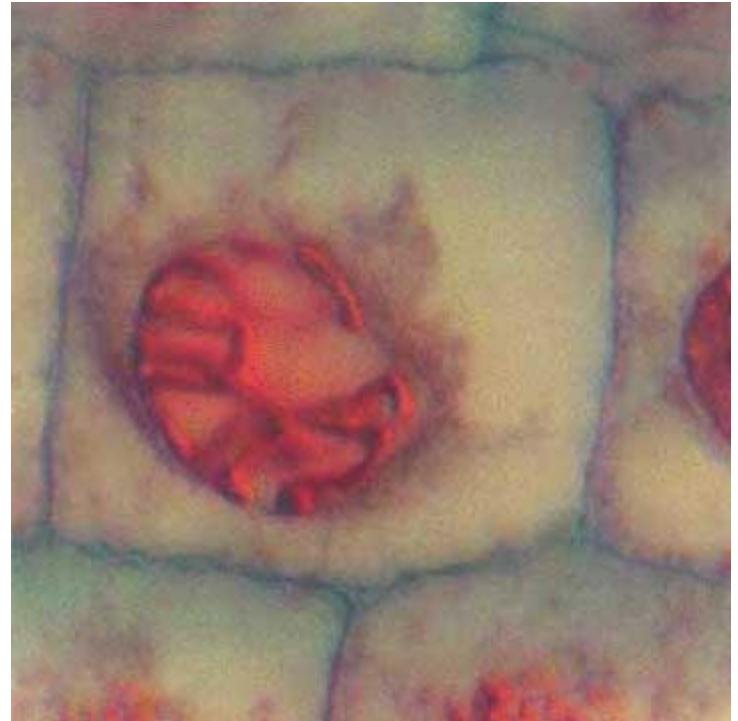


Prophase

Animal Cell



Plant Cell

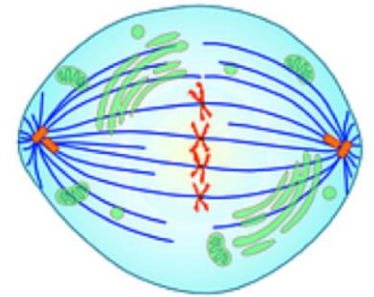
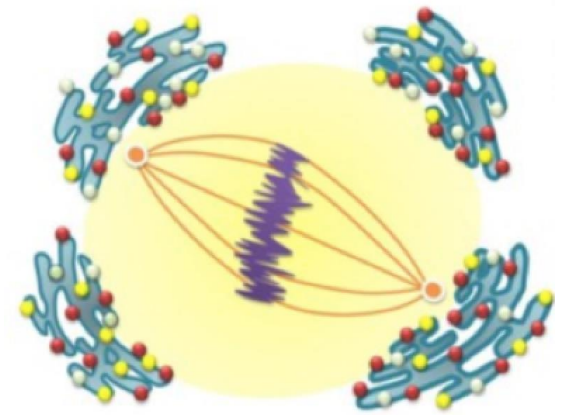


Metaphase

- The second phase of mitosis

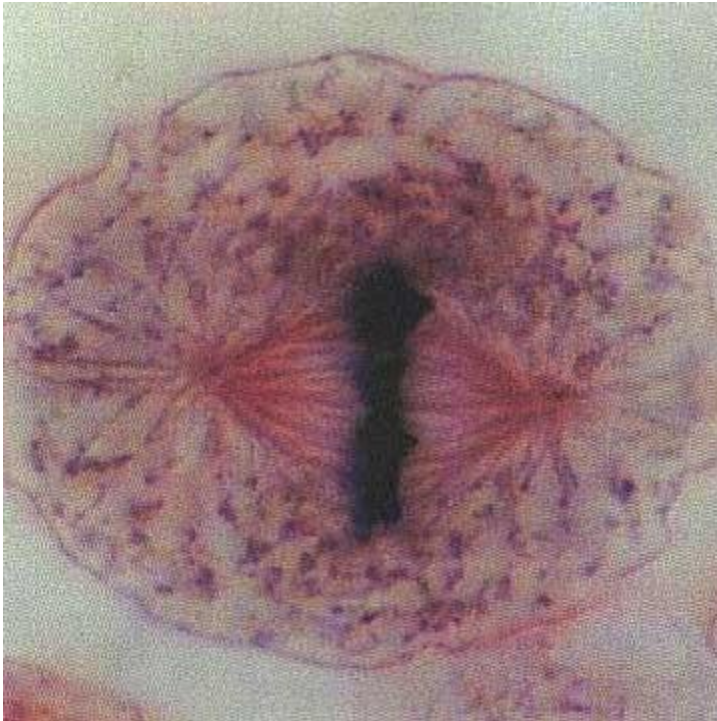
-

- _____

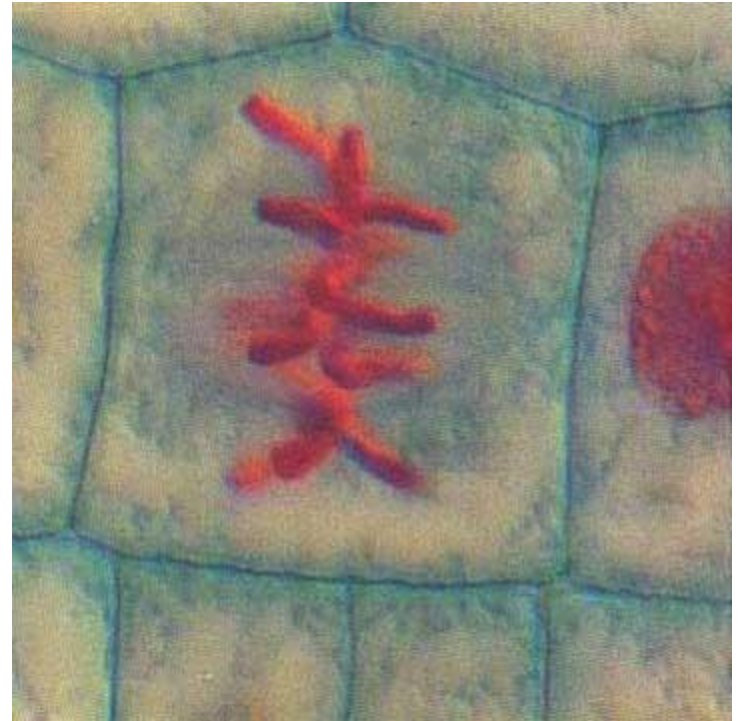


Metaphase

Animal Cell



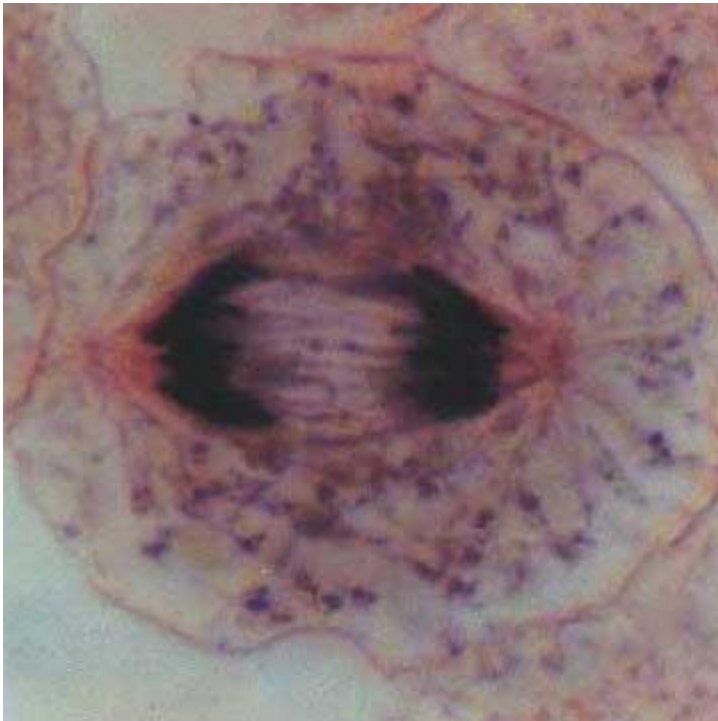
Plant Cell



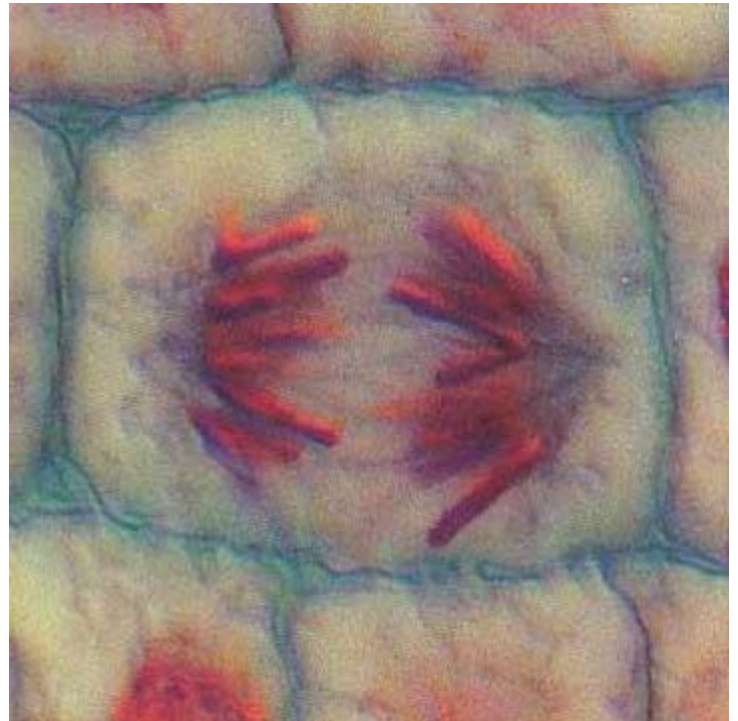
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Anaphase

Animal Cell



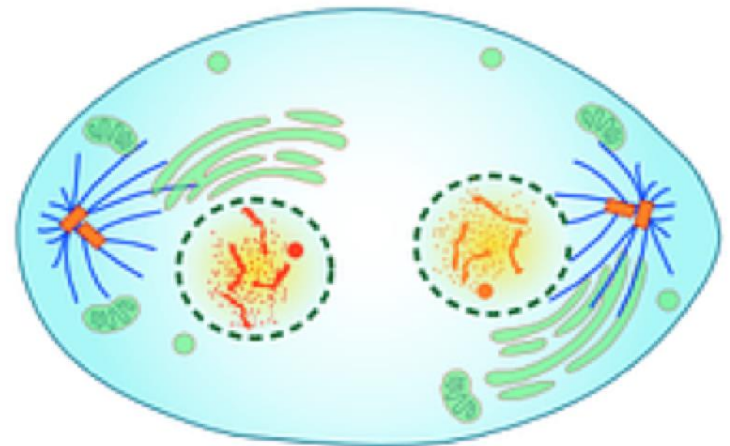
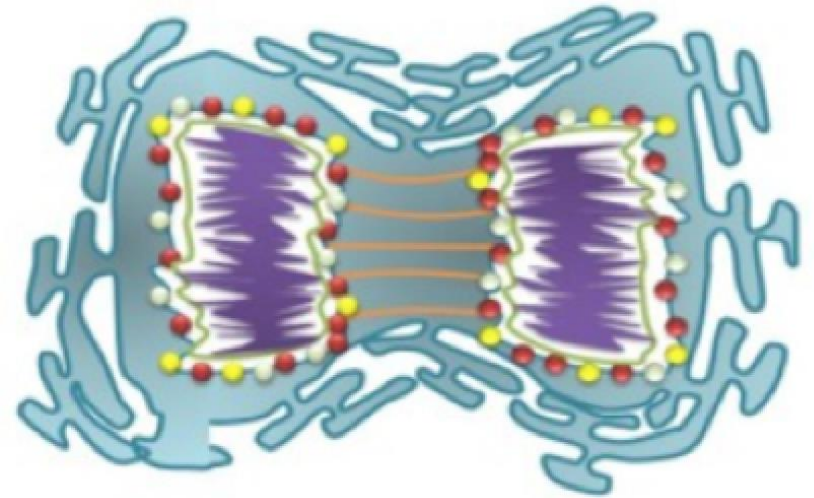
Plant Cell



Telophase

- The fourth and final phase of mitosis

- _____

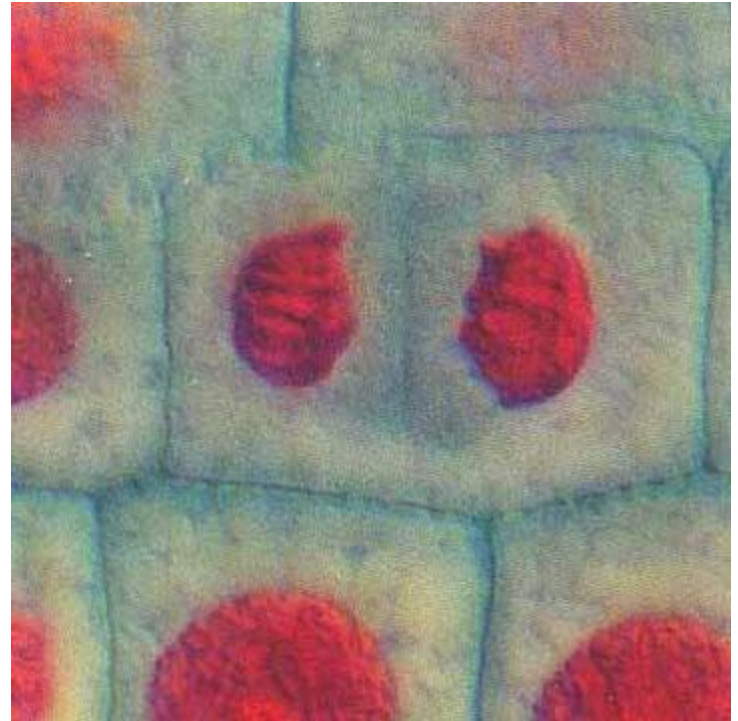


Telophase

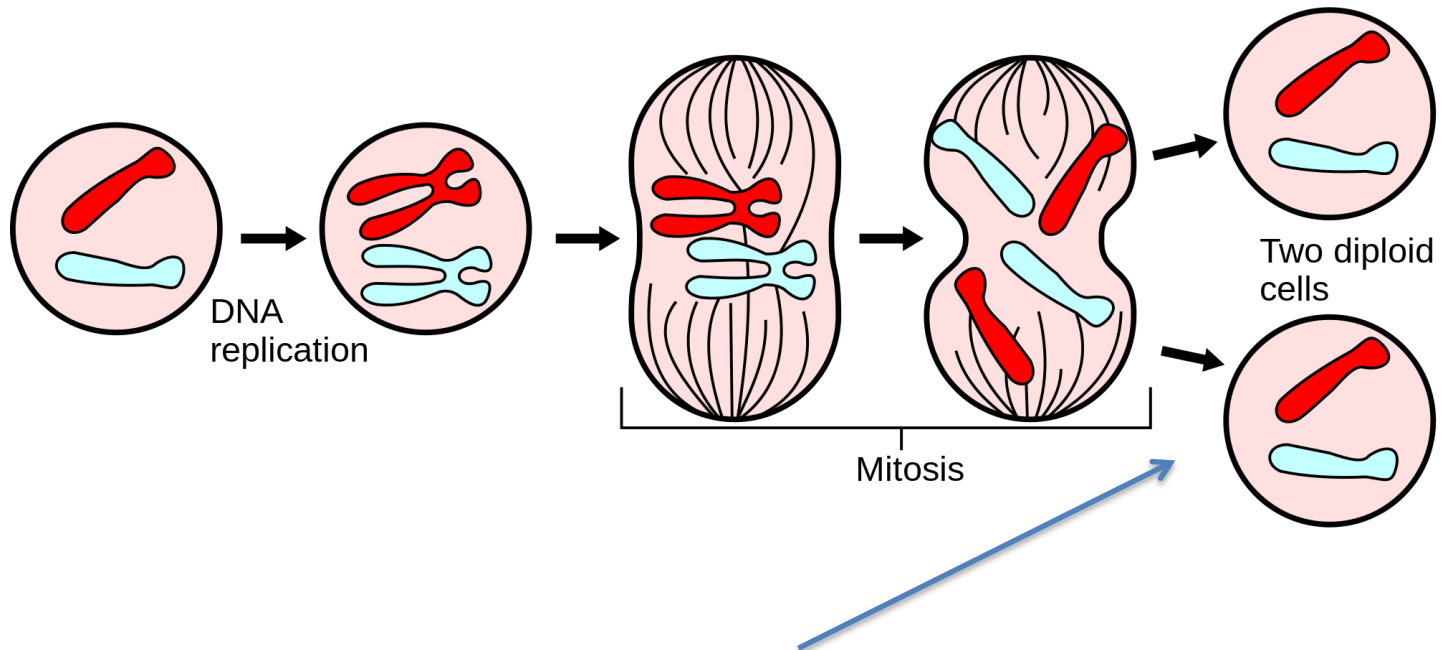
Animal Cell



Plant Cell



Cytokinesis in Animals

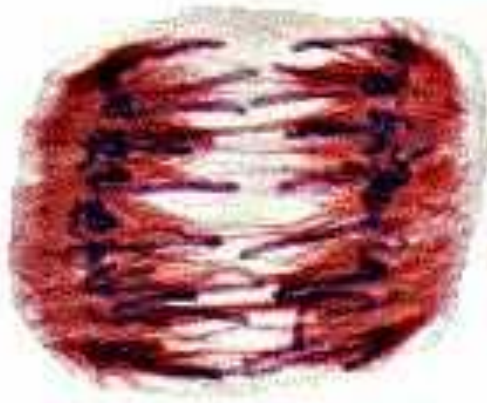
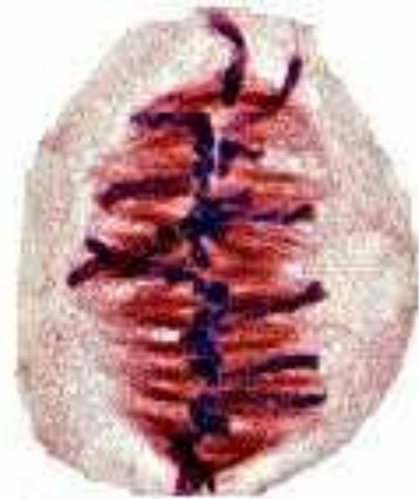
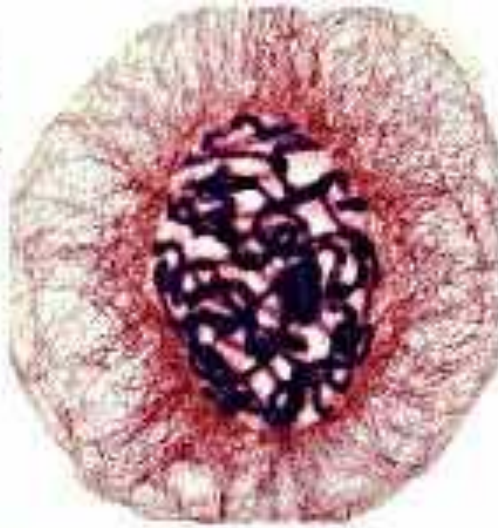


Rat Cells

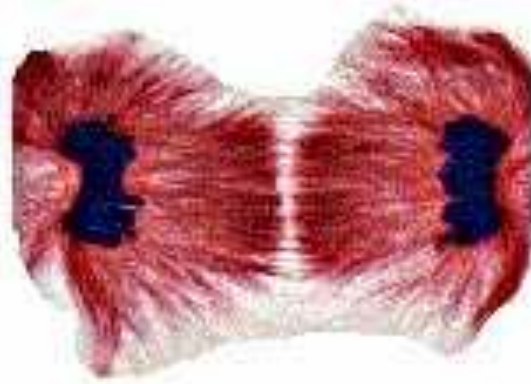
Prophase



Metaphase



Anaphase



Telophase

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Errors in Mitosis

- Substances such as toxic chemicals, radiation and viruses and cause mutations
- _____



Errors in Mitosis

- _____
- Eg.
 - This can lead to Lung Cancer

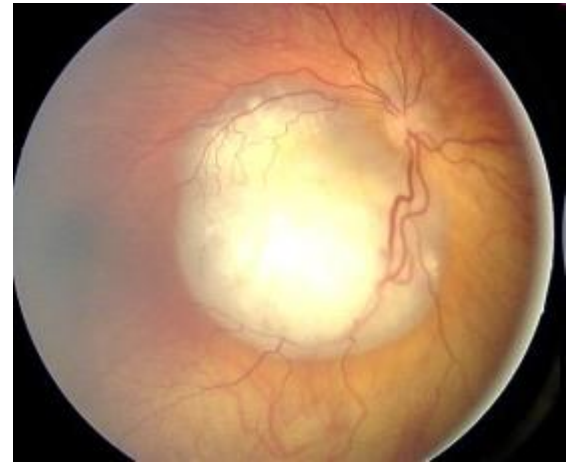


Healthy Lung

Cancerous Lung



Retinoblastoma – Cancer of the Retina (back of the eye)



Retinoblastoma is caused by a mutation to certain genes in the eye which are carried on by mitosis.