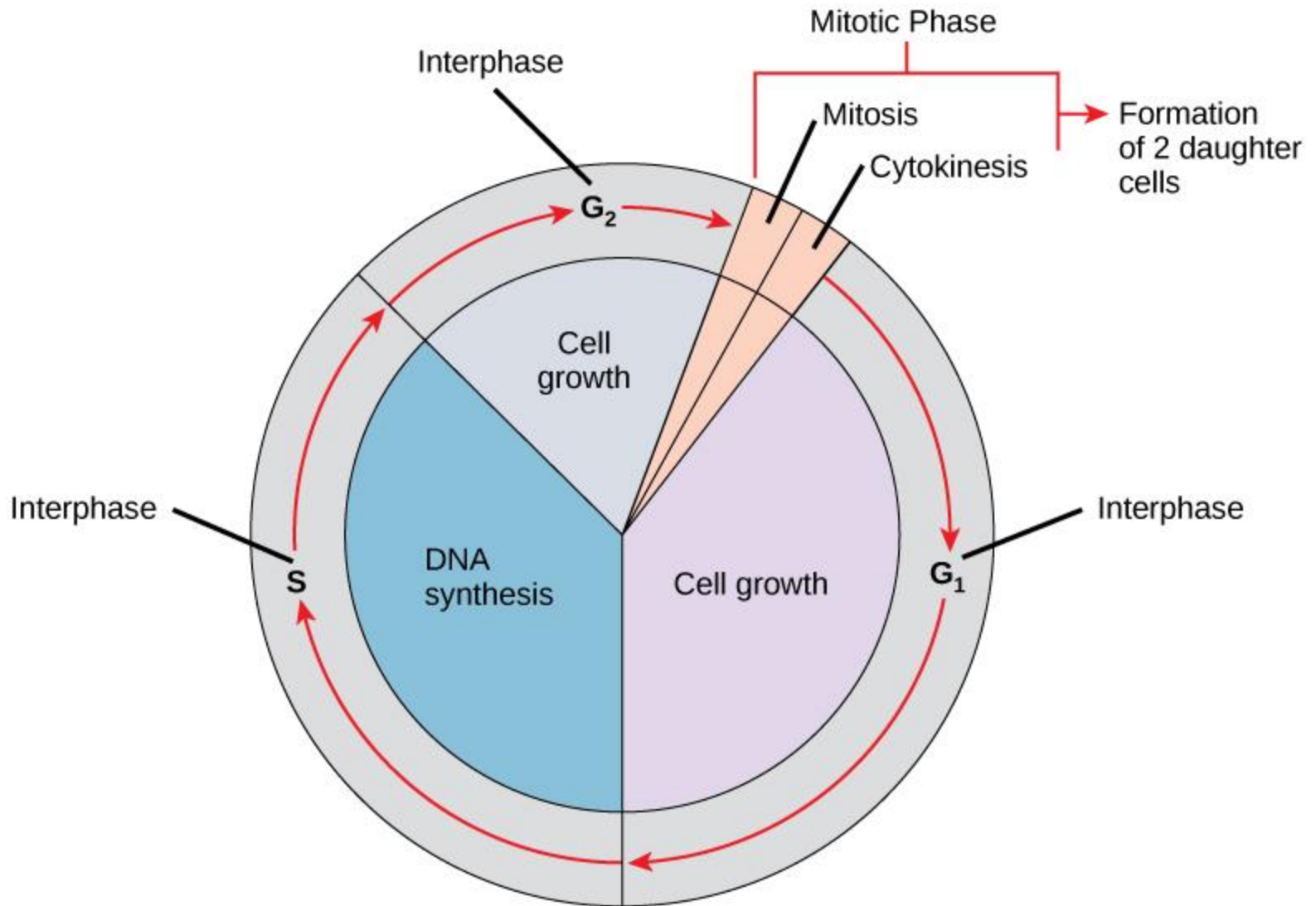
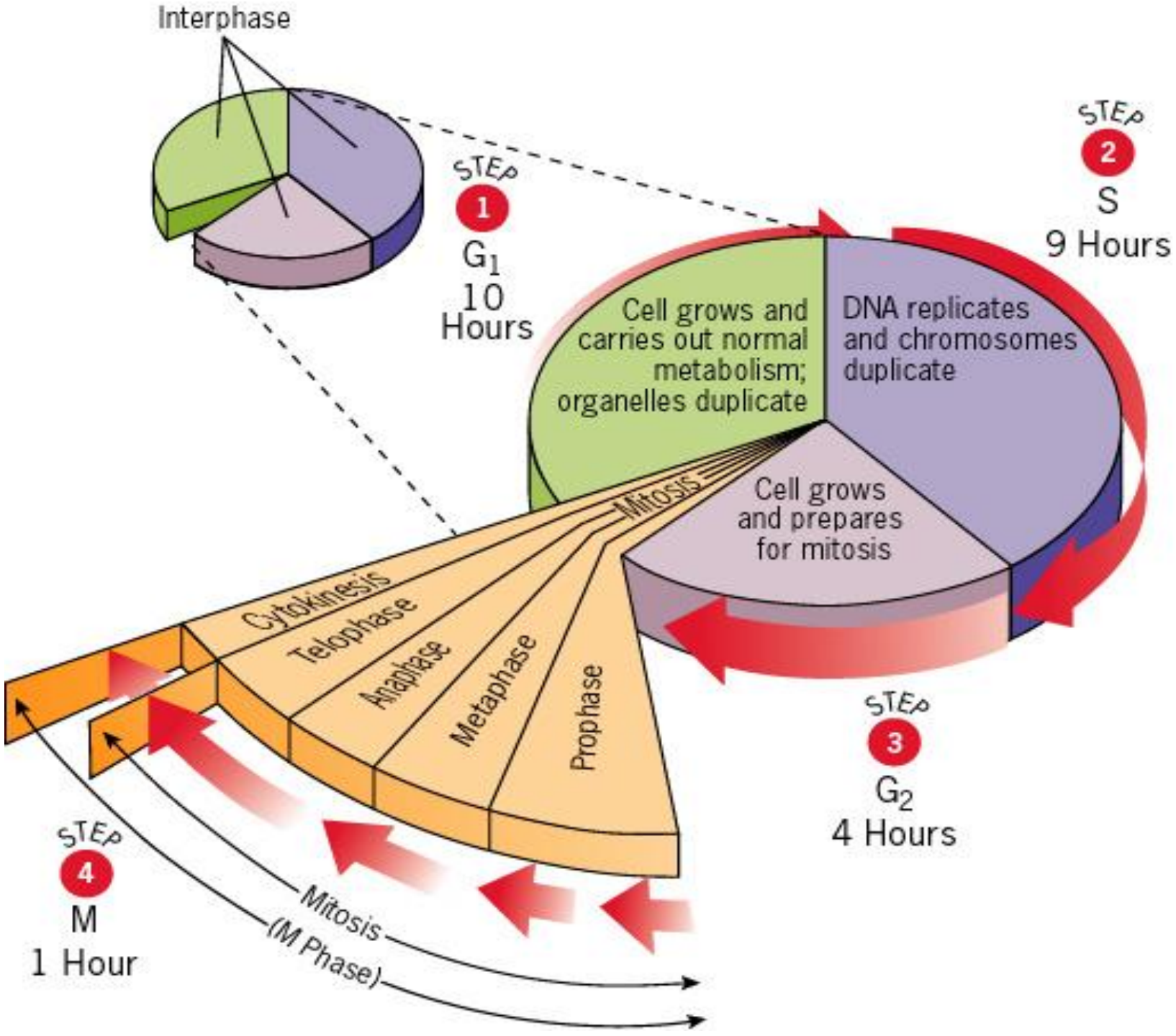


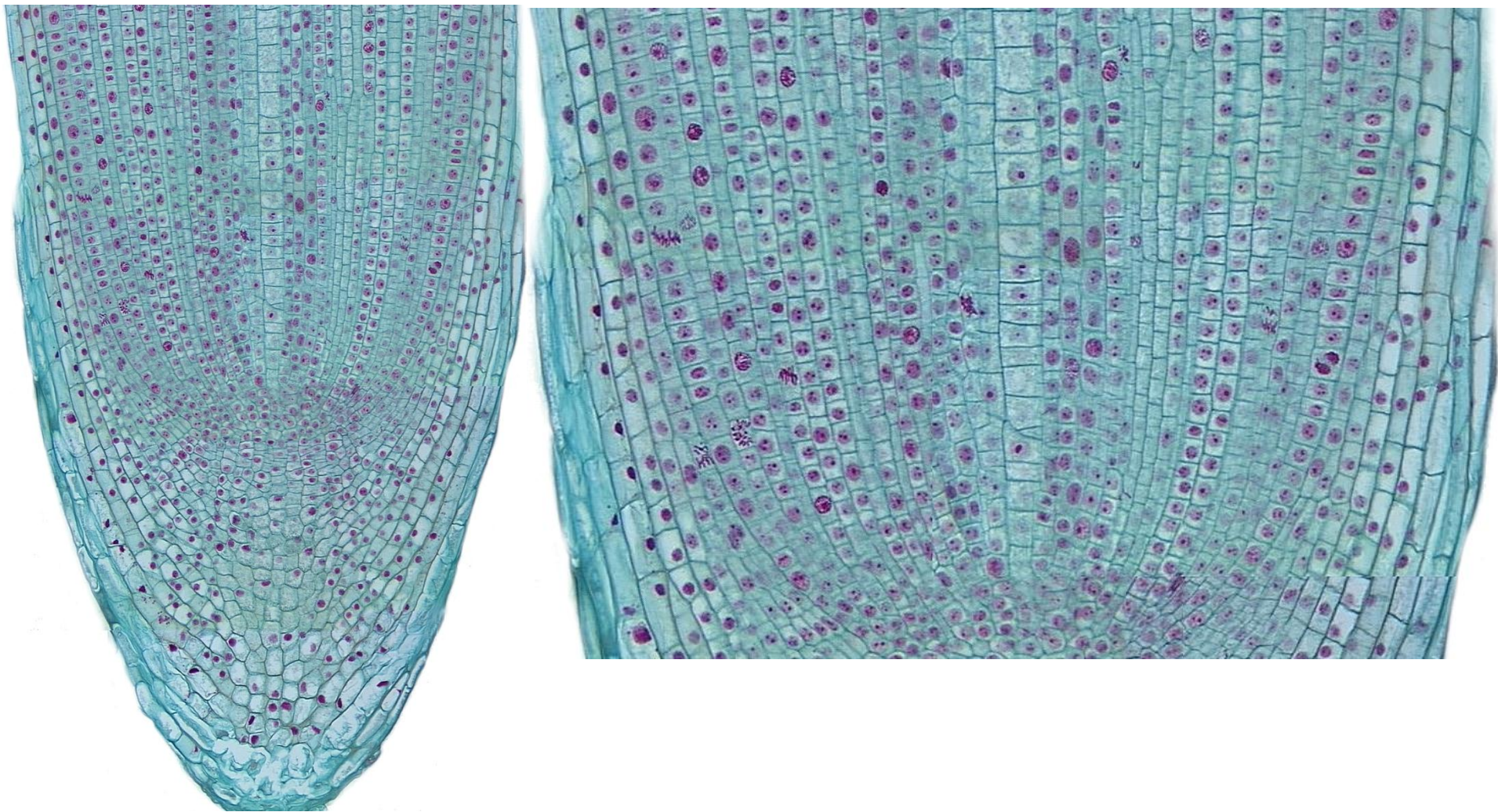
Mitosis (PMAT/IPMAT)

The Cell cycle

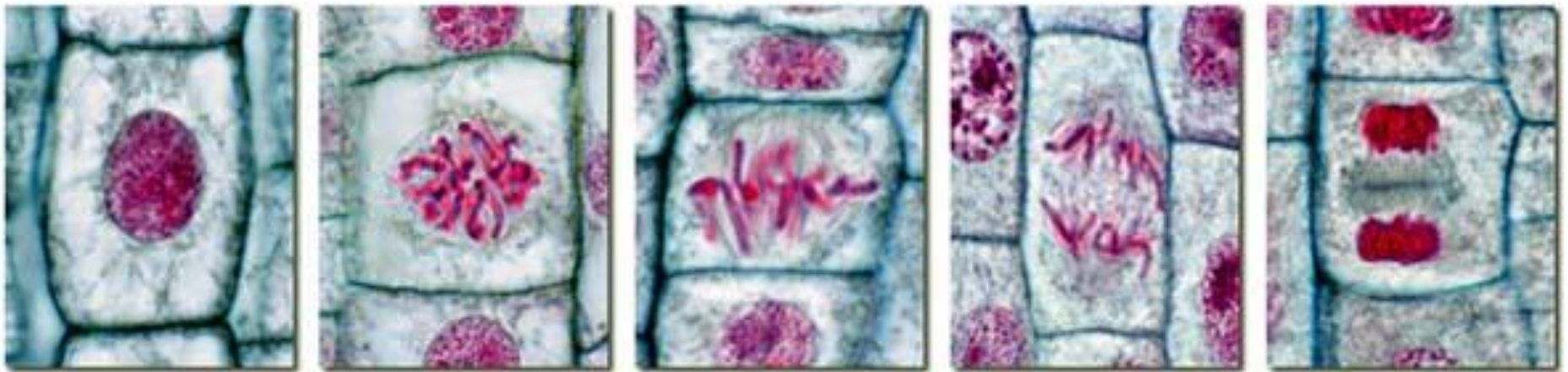
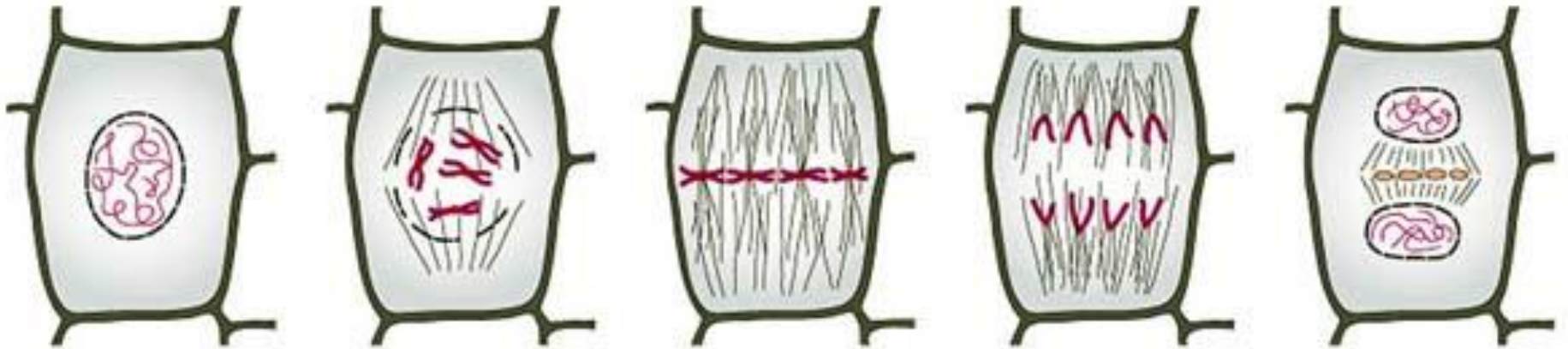




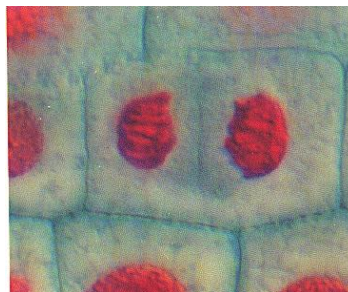
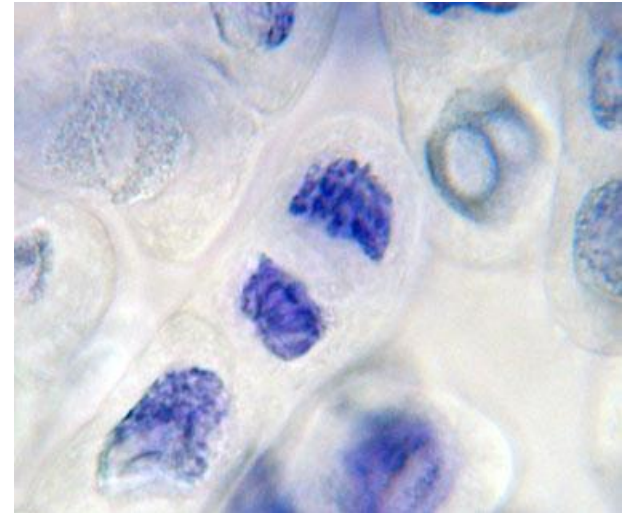
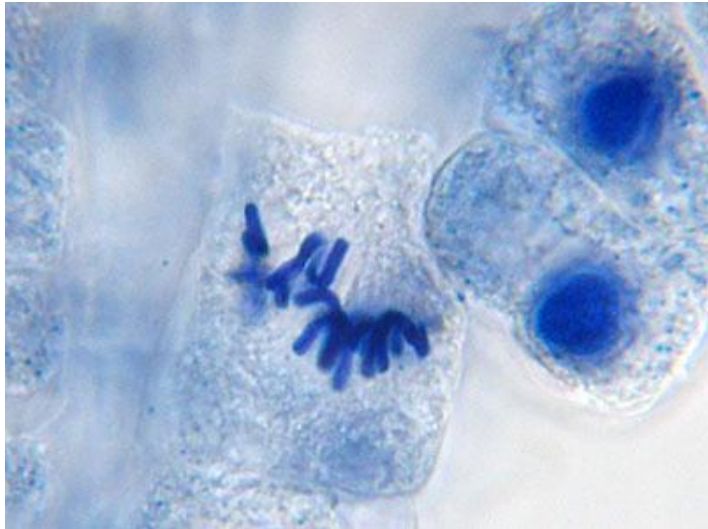
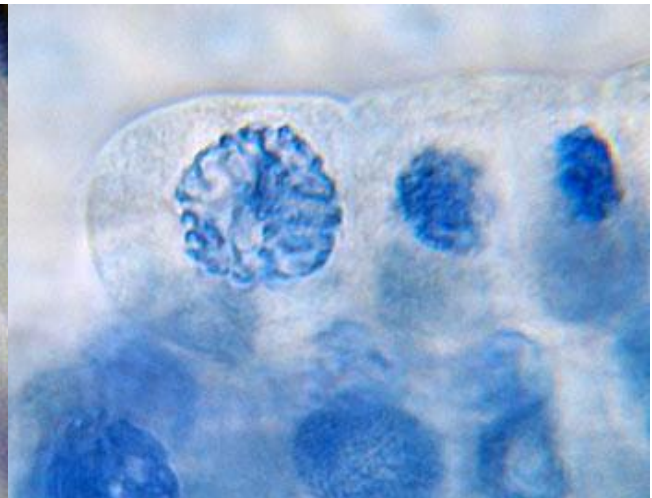
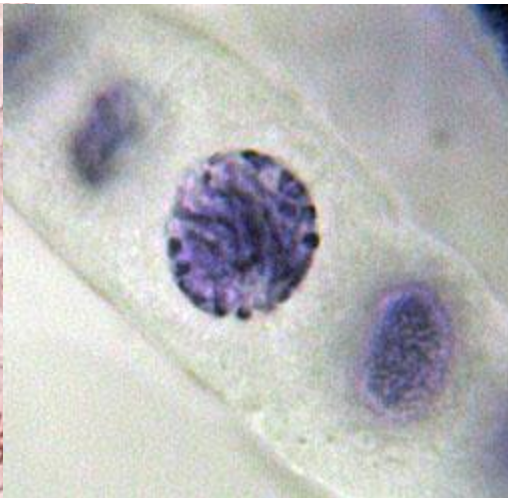
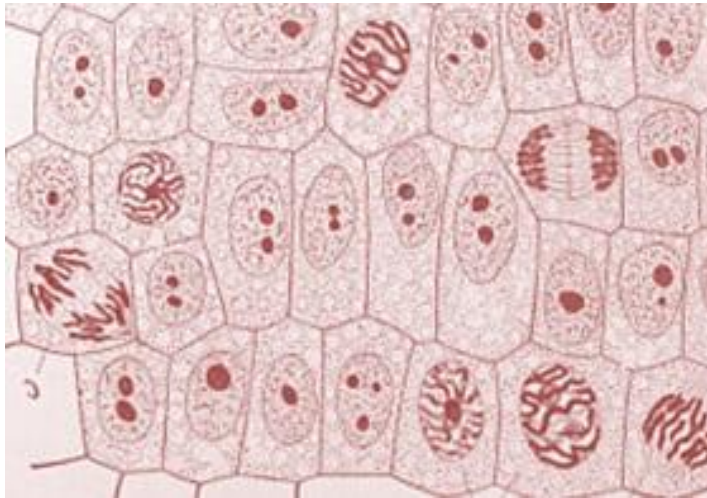
Onion root tip after Aceto-Orcein stain



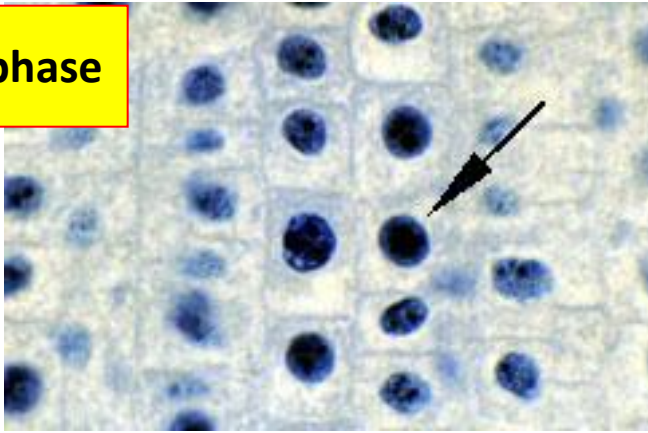
Stages of Mitosis in Onion Root tip cells



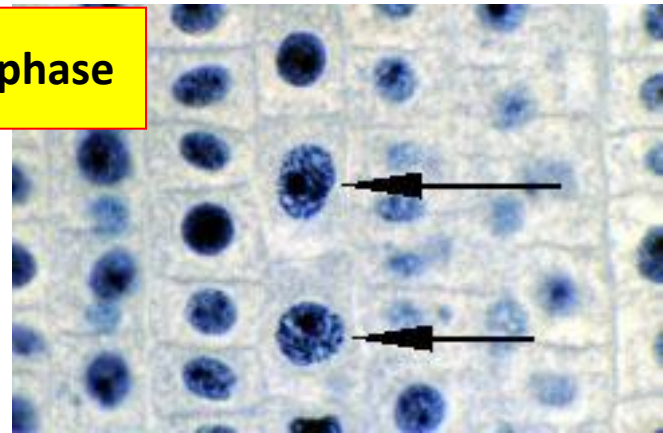
Different stages of Mitosis



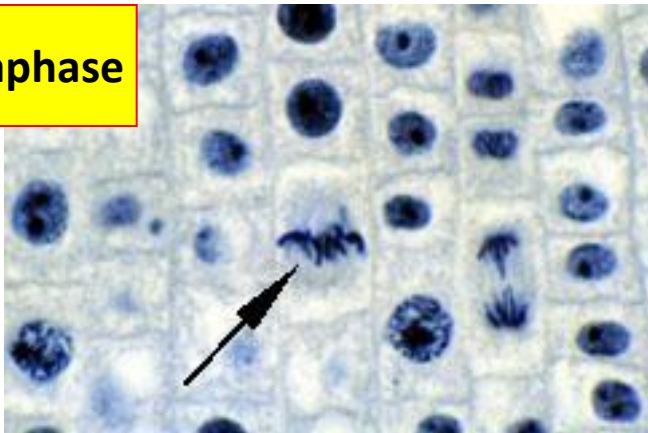
Interphase



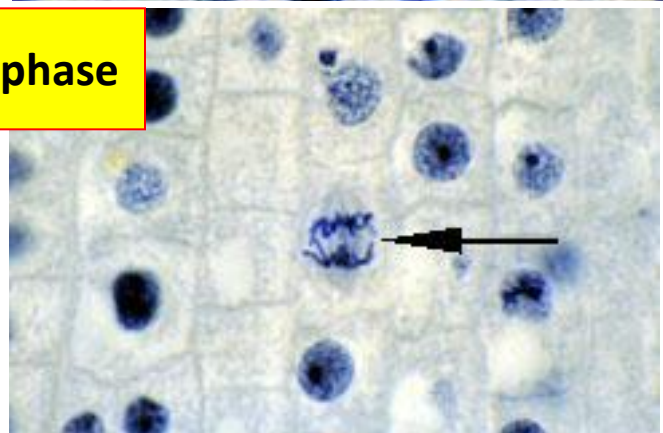
Prophase



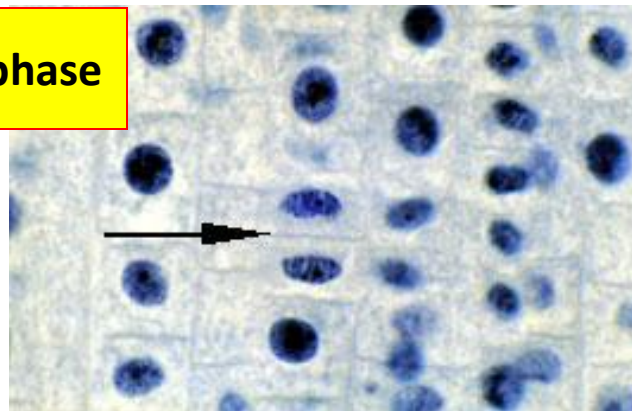
Metaphase



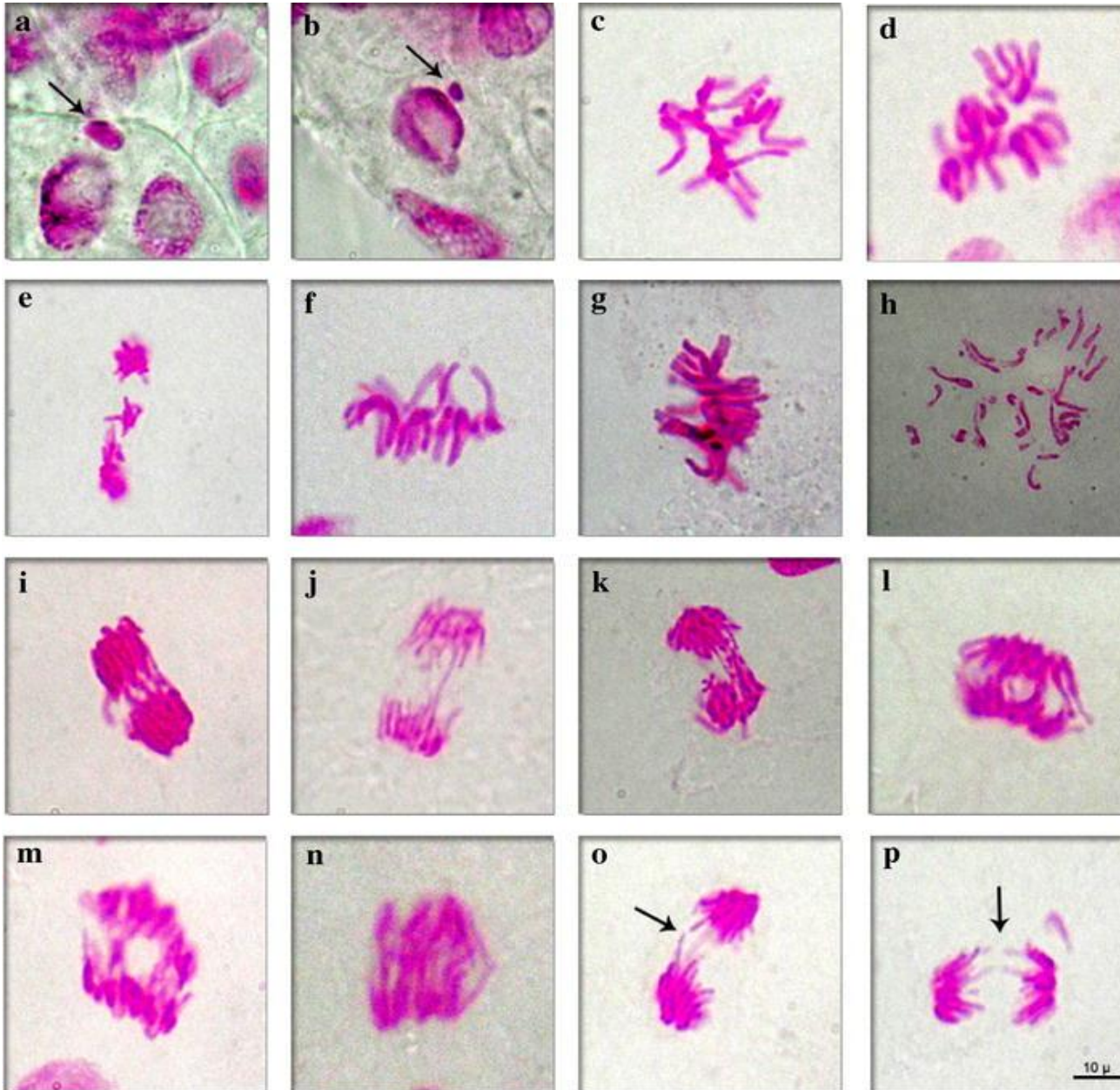
Anaphase



Telophase



Chromosomal aberrations



a, b micronuclei;
c, d disorderly
metaphase;
e–g sticky
chromosomes;
h fragments;
i–k anaphase
bridges;
l–n alignment
anaphase;
o, p laggard
chromosomes

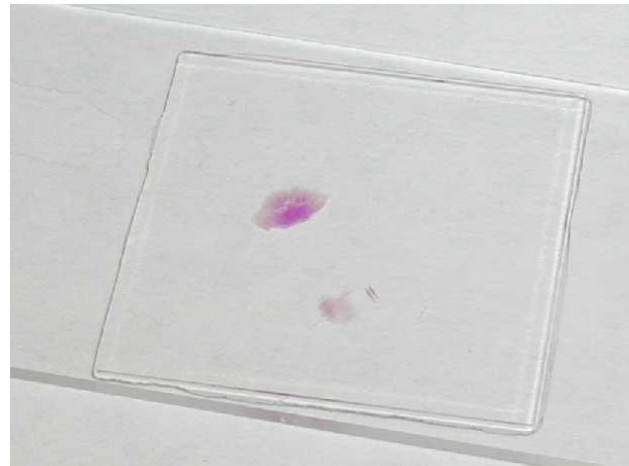
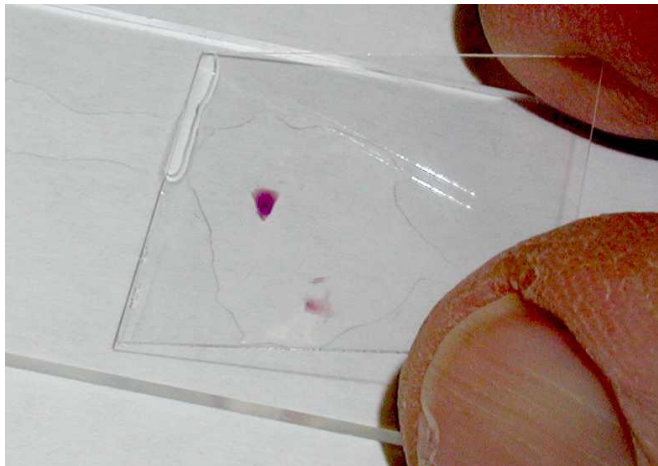
- Determine Mitotic Index

Protocol

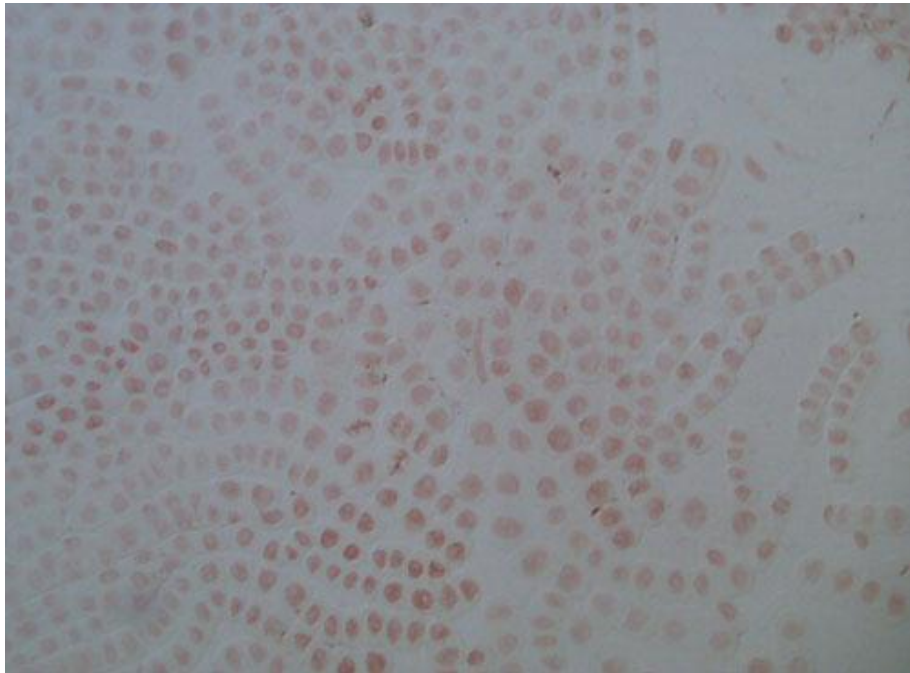
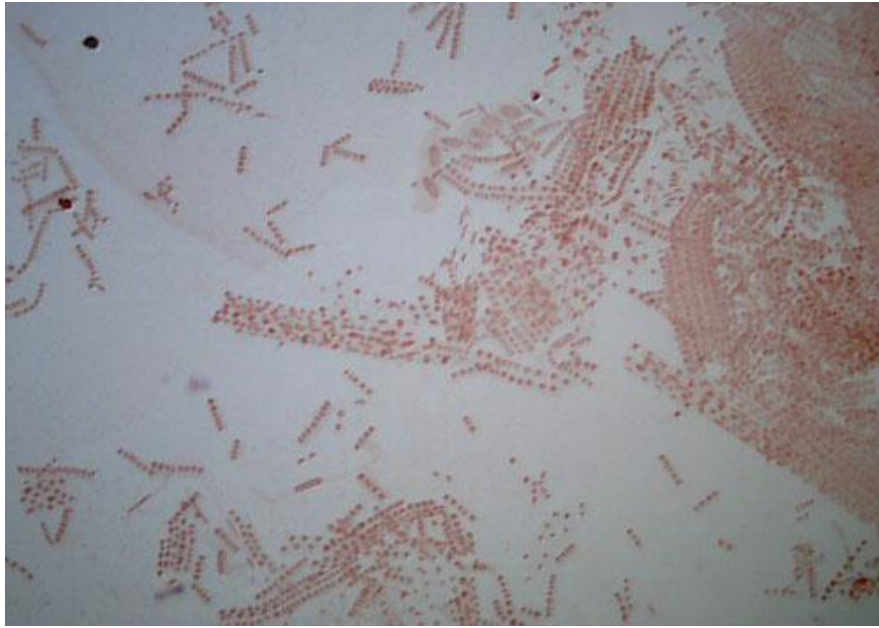
- 1. Cut onion roots 2-3 cm**
- 2. Put it in the fixative (45% Acetic acid: 1N HCL)**
- 3. Wait for 5 minutes**
- 4. Incubate the root tips at 60 degree for 6 minutes**
- 5. Observe root tip color and discard the extra part**
- 6. Add 1 drop of aceto-orcein and wait for 5 minutes**
- 7. Wash gently with 3-4 drops of water**
- 8. Put cover slip and squash the root tips**
- 9. Observe under microscope**
- 10. Determine mitotic index.**



**The procedure
of root tip
squash**



A good spread of cells



A light micrograph of plant cells stained to show chromosomes. Several cells are visible, each containing a nucleus. The chromosomes are dark, condensed structures. In the central cell, the chromosomes are clearly visible as two distinct, X-shaped structures, likely representing sister chromatids. Other cells show more diffuse chromatin or different stages of chromosome condensation.

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By
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