CELL DIVISION
(Mitosis)

Objective: to study stages of cell division

What is mitosis?
Mitosis is a type of nuclear division, followed by a cytoplasmic division (cytokinesis), that produces daughter cells that are genetically identical to each other and to the parent cell.

Cross section of an animal cell

Mitosis is under genetic control:

During somatic growth, cells multiply by means of mitosis.

The Cell Cycle

- G1: 25%
- S: 10%
- G2: 25%
- Mitosis: 10%
- Interphase: 50%
Procedure

1. Cut the root tip about 2 mm above the root cap.
2. Hydrolyze in 1N HCl for 5 min.
3. Stain in 1% methylene blue for 10 min.
4. Place the cover slip on the specimen and tap on the cover slip several times with the handle side of a dissecting needle.
5. Cover the slide with 2-3 pieces of paper towel, then with your thumb firmly press on the cover slip.
6. Study mitotic stages under microscope: use 4x, 10x, and 40x objectives.

Follow Protocol 1-2: How to Make Preparations Permanent

Evaluation of Your Performance

Stages of mitosis clearly visible under microscope........5