

Materials Required

- Permanent slides of meiosis
- Compound microscope

Procedure

Real Lab Procedure

- Place the slide on the stage of the microscope and search for the dividing cells using lower magnification.
- When dividing cells are located observe them under higher magnification.

Simulator Procedure

- Display the theory section of the meiosis containing the points of Interphase.
- Click on the next button.
- Display the image of whole meiosis cycle.
- Click on the next button.
- Click on Prophase I and click on the sub-phases of Prophase I.
- Click on homologous chromosome.
- On each clicking the sub-phases of Prophase I will be shown.
- Click on the next button for Metaphase I.
- Drag and drop the homologous chromosome to the center of the metaphase plate.
- Click on the centriole to form spindle fibers.
- Click on the next button for Anaphase I.
- Click on the chromosome for the movement of sister chromatids move towards the opposite sides.
- Click on the next button for Telophase I.
- Click on the chromosomes to display the nuclear membrane.
- Click on the next button for Cytokinesis I.
- Click on the middle, the cytoplasm of the parent cell is divided into two, yielding two haploid daughter cells.
- Click on the nuclear membrane and nucleolus re-appears and the chromosomes are uncoiled.
- Click on the next button for Interphase II.
- Display the small theory portion of Interphase II.

- Click on the next button for Prophase II.
- Click on each chromosome, so the nuclear membrane vanishes, and spindle fibers will appear on the poles.
- Click on the next button for metaphase II.
- Drag and drop the chromosomes to the metaphase plate in both daughter cells.
- Click on the centriole to form spindle fibers.
- Click on the next button for Anaphase II.
- Click on the chromosome in both daughter cells for the movement of sister chromatids move towards the opposite sides.
- Click on the next button for Telophase II.
- Click on the chromosomes in both daughter cells to display the nuclear membrane.
- Click on the next button for Cytokinesis II.
- Click on the middle, and the cytoplasm of the parent cell is divided into four, yielding four haploid daughter cells.
- Click on the nuclear membrane and nucleolus re-appears.

Observation

We observe different stages of meiosis 1 and meiosis 2 . The meiosis 1 is subdivided into 4 phases -

- Prophase 1
- Metaphase 1
- Anaphase 1
- Telophase 1 and Cytokinesis

In meiosis 2 it involves 4 phases they are -

- Prophase 2
- Metaphase 2
- Anaphase 2
- Telophase 2 and Cytokinesis