Grade 9

Mitosis in live cells

Explore the use of live cells in basic research, to understand the role of cell division in tissue maintenance, healing and regeneration, and disease.

Online BIOlab option: live virtual field trip via Teams, Meet or Zoom to see how scientists grow cells outside of the body to study how disease affects cells and how they react to experimental medicines.

Time required
1.5h (flexible)

Mitosis is an important process in maintaining healthy tissues and its rate varies by different tissue depending on function, for example skin cells have high turnover while neurons and heart muscle cells are maintained for longevity. We will demonstrate how in vitro cell culture is used in every day lab work and how mitosis varies in different disease conditions such as cancer and fibrosis.

Specific learning outcomes addressed: 9-1-01; 9-1-02; 9-1-13; 9-1-16

Time Required	Student Experience
15 min	Introduction to the Research Centre and research interests, connect Research Centre labs to cells and mitosis in health and disease
15 min	View live cells under phase contrast microscope with attention to scale, size, specialization and cell culture techniques. View 24 hour growth cycle.
30 min	View a live cell passaging activity used to culture cardiac fibroblast cells.
15min	Questions and wrap-up

times are approximate, and can be scaled to whatever time you have available!