Grade 8

Optics in research and diabetes

Students will experience the ways in which research labs and hospitals understand diabetes, with a focus on diabetic retinopathy at the cell and tissue level and eye anatomy.

Online BIOlab option: live virtual field trip via Teams, Meet or Zoom to see how scientists use optics. Observe cells under the microscope and watch a dissection of a pig eye with connections to diabetes research.

Time required
1.5h (flexible)

Grade 8 students receive an introduction to cells and disease in the Cells and Systems cluster, and the Optics cluster involves a study of the human eye. The BIOlab can show students the research connections between these concepts through a study of diabetic retinopathy at the cell, tissue and organ level. We will also examine the use of optics in medical research labs.

Specific learning outcomes addressed: 8-1-18; 8-2-01; 8-2-02; 8-2-08; 8-2-12; 8-2-13; 8-2-14

Time Required	Student Experience
15 min	Introduction to the Research Centre and research interests, connect Research Centre labs to cells and systems and optics topics
15 min	Check out different types of microscopes and view live cells under phase contrast microscope with attention to scale, size, specialization and cell culture techniques
45 min	Watch pig eye dissection to observe the cornea, lens, and retina in relation to diabetic retinopathy
15min	Questions and wrap-up

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