Grade 12

COVID-19 and PCR testing

Students will learn how research scientists attempt to understand COVID-19 , how SARS-CoV-2 infects cells, and how PCR testing works.

Activity: Understand COVID-19 research and testing. Participate in a disease transmission game and get to know what PCR testing is. Students will get to test mock patient samples for COVID-19.

Time required
Half-day (2.5h)

Grade 12 students learn the structure and function of DNA and RNA and the steps involved in protein synthesis, these will help students discuss the topic of viral infection and replication in COVID-19. Investigating how viruses replicate is important for basic medical scientists to understand the mechanisms of disease and determine drug targets or treatment options. Students will get hands-on experience in basic techniques by testing mock COVID-19 patient samples.

Specific learning outcomes addressed: B12-2-05; B12-2-06; B12-2-07; B12-2-08; B12-2-09; B12-02-12

Time Required	Student Experience
30 min	Introduction to the Research Centre and research interests, review general understanding of COVID-19
5 min	Break for washrooms
30 min	Participate in a disease transmission game and identify who “patient-zero” is and see how the integration of vaccines can modify disease transmission
15 min	Discuss the anatomy of SARS-CoV-2 and understand how we can amplify certain parts of the virus using PCR (polymerase chain reaction)
45 min	Test mock-patients for COVID-19 and discuss PCR amplification
15min	Questions and wrap-up