

Learn. Disrupt. Rebuild @HWDSB: BUILDING A COMMUNITY OF CARE

Module 1: Physical & Mental Health and Safety

Lesson # 3 The WHY of Physical Distancing and Safety

Learning Goal: To inform everyone on the importance of physical distancing to slow the spread of the novel coronavirus.

Key Vocabulary:

- **The Curve** - a visual display of the onset of illness among cases associated with an outbreak.
- **Flattening the Curve** - Spreading out the rate of infection so as to not overwhelm the health care system and infrastructure. Spreading out how many people get sick, over time, patients can get the treatment they need because hospitals and other resources will not be exhausted.
- **Healthcare System Capacity** – refers to the set amount of infrastructure in place to allow people to help individuals requiring healthcare, such as doctors, specialists, nurses, a bed space, ventilators, etc.
- **Pandemic** - is the worldwide spread of a new disease.
- **Virus** - Microscopic parasites that need to be inside living cells to grow and reproduce. Most viruses cannot survive very long if they are not inside a living thing like a plant, animal, or person.
- **Virus Peak** - to reach the peak in a pandemic curve means that the number of new cases has begun to level off rather than continuing on a sharp upward trajectory.

Educator Pre-Reflection:

Before engaging in this lesson, consider/think about...

The COVID-19 has brought many questions to surface, not all with clear answers. It is no surprise that many of us have wondered: “How bad will this really get?”, or “How long am I going to have to live cooped up like this?” Our society continuously seeks answers. Given the volume of research and data being collected about the novel coronavirus, it is reasonable to wonder where these answers are.

Recall from the initial “Physical Distancing” lessons the importance of this concept for the safety and wellbeing of educators and students like. This lesson explores the terminology involved in the “why” of physical distancing, such as flattening the curve and transmission. Social distancing really means being physically distant. Physical distancing happens in many forms, from staying 2m apart to staying home. It is important to remember that at the beginning of the pandemic, information was still being discovered about COVID-19.

Consider the additional layers of impact students encountered during the school closure period. Some families chose to separate indefinitely to protect their family as they worked on the “frontlines”. Some students are immunocompromised or live with immunocompromised individuals. Similarly, a handful of students during the school closure period worked at grocery stores, dollar stores, pet stores, etc. Some families and students lost their financial security. We all experienced extraordinary circumstances during this time, and we can encourage our students to remain informed with empathy.

Student Pre-Reflection:

Before you begin, think about...

Hamilton and the world at large stayed home to flatten the curve and decrease the spread of the novel coronavirus, COVID-19. What is the curve that scientists and public health officials are referring to? And why are we being asked to physically or social distance on top of staying home when possible?

The answer: keeping our distance from others during the COVID-19 pandemic can slow the spread of the virus and save lives.

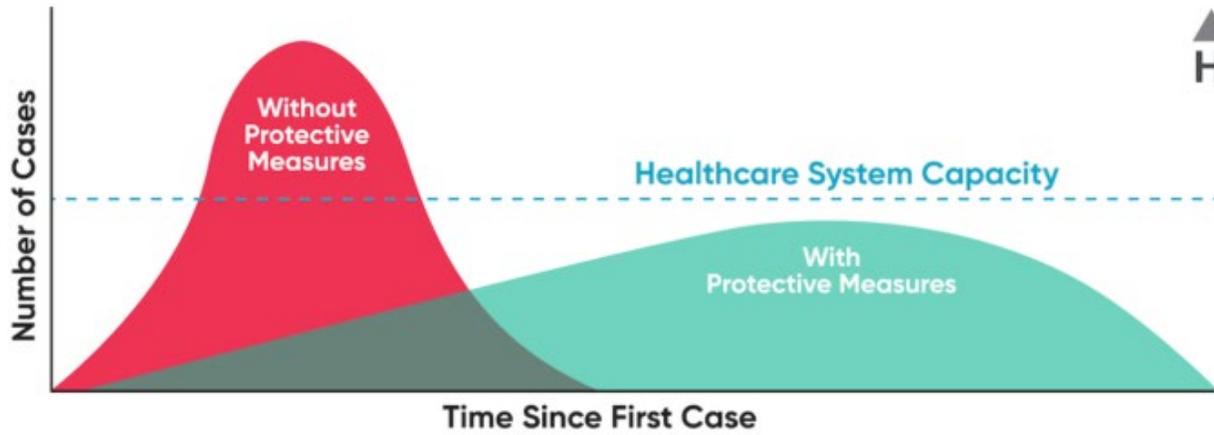
Think about what places and events shut down or closed as soon as public health officials identified a surge in individuals being diagnosed with COVID-19.

This brief timeline demonstrates which organizations considered limiting contact between large numbers of people by shutting down indefinitely:

- **January 7, 2020** - Chinese authorities confirm that they have identified the virus as a novel coronavirus, initially named [2019-nCoV](#) by WHO.
- **March 11, 2020** - WHO declares the novel coronavirus outbreak to be a pandemic. WHO says the outbreak is the first pandemic caused by a coronavirus.
- **March 11, 2020** – The NBA suspends their season after a Utah Jazz player preliminarily tested positive for coronavirus (COVID-19).
- **March 12, 2020** – Premier Doug Ford announces a two-week school closure following March Break amid COVID-19 concerns and to prevent further spread.
- **March 13, 2020** - MLB announces that spring training camps have been suspended.
- **April 29, 2020** – The province of Quebec opened schools.
- **April 30, 2020** – First case of COVID-19 identified in Nunavut.
- **May 2020** – Popular singers like Billie Eilish cancel their world tours for 2020.

Provocation / Minds-on:

Teacher Prompt: Either on the board or projected, display or create two types of curves. Examples of how to draw these curves are below. In a class discussion or paired discussion, compare and contrast these two types of curves.



Adapted from CDC/The Economist

Source: Houghton Mifflin Harcourt

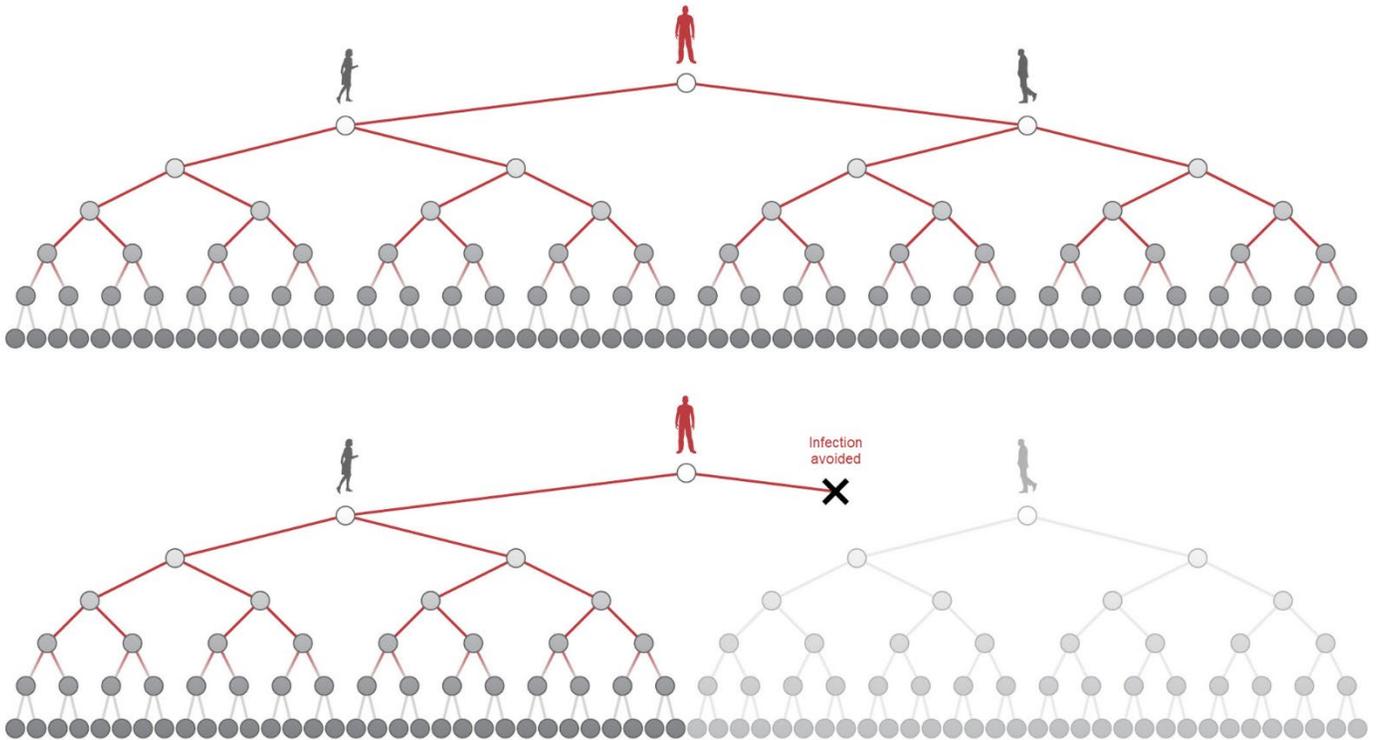
Questions to ask students:

- What are some protective measures in place to slow the spread of the virus currently?
- How has this changed from March to today?
- How can we achieve the flatter curve?
- What does the steepness of the hill refer to?
- What does the healthcare system capacity refer to?
- Is it hard for children and teenagers to flatten the curve? Why or why not?

Learning Task/Activity:

Coronavirus Chain of Transmission

Without and with limiting social contacts



Source: <https://www.nytimes.com/2020/03/26/learning/whats-going-on-in-this-graph-coronavirus-protective-measures.html>

We are keeping a six-foot social distance and staying at home. The reason for these protections is to slow the spread of coronavirus so we do not overwhelm our healthcare system and fewer people die. What could happen if there were no protections as shown in the top graph? One infected person could infect two more people, and each of them could infect two more people each, and on and on.

Teacher Prompts:

- What do you notice? *If you make a claim, tell us what you noticed that supports your claim.*
- What do you wonder? *What are you curious about that comes from what you notice in the graphs?*
- What's going on in this graph? Write a catchy headline that captures the graph's main idea and share the ideas with the class, or an elbow partner.

Further Class Discussion Opportunities:

- How many more people would be theoretically infected if we expanded the transmission chain one more row?
- What happens if in the third row, two of the dots stay home?

Ideas for Follow up / Discussion:

- **What analogies can help explain transmission?** Houghton Mifflin Harcourt describes this analogy: "Let's say you tell your friend something, and that friend tells another, and so on. That is a much slower way of sending a message around. But if you tell a lot of people at once, and they tell a lot of

people at once, then you wind up with a much faster spread of the news. A virus essentially is a piece of information, and the virus wants to spread that information around as quickly as possible so it can make more of itself. It's like when we say a message goes viral on the internet."

- **Are tree graphs the most useful tool in understanding transmission?** The New York Times (NYT) article that provided the tree diagram above encourages readers to challenge this visual. What assumptions does a tree graph make about modes of transmission? Is this model accurately reflect the reality of transmission? The NYT links this Fivethirtyeight article "Why It's So Freaking Hard to Make a Good COVID-19 Model" (<https://tinyurl.com/C19Model>) to critically think about these models.

Educator Post-Reflection:

What are some next steps you may need to take to help students reach a better collective understanding of the virus and necessary safety measures?

Student Post-Reflection:

Is there anything you want to learn more about COVID-19 in Canada or Hamilton?
How do you feel about our ability as a community to help one another avoid this virus?

Further Resources:

- [Brains On Podcast: Staying Home: How Social Distancing Helps Fights Coronavirus](#)
- [10 Tips for Teen Campaigns to Curb the Coronavirus](#)
- [Houghton Mifflin Harcourt: Teach Kids about Flattening the Curve on Coronavirus](#)

Curriculum Connections:

The lessons included in **Learn. Disrupt. Rebuild@HWDSB** align with the [Ontario Curriculum](#) across several subject areas, as articulated within the [Considerations for Program Planning](#) (i.e., front matter) applicable to all curriculum documents, Grades 1 to 12. Educators must consider this information to guide the implementation of curriculum and in creating the environment in which it is taught. These considerations include areas such as Student Well-being and Mental Health; Healthy Relationships; Human Rights, Equity and Inclusive Education. Outlined below is the specific language that has been used to align Learn. Disrupt. Rebuild@HWDSB with the Ontario Curriculum across several secondary subject areas.

<https://www.dcp.edu.gov.on.ca/en/curriculum#secondary>

The Arts (2010)

HEALTHY RELATIONSHIPS AND THE ARTS

Healthy relationships are based on respect, caring, empathy, trust, and dignity, and thrive in an environment in which diversity is honoured and accepted. To experience themselves as valued and connected members of an inclusive social environment, students need to be involved in healthy relationships with their peers, teachers, and other members of the school community (p.36).

Canadian and World Studies - (2018/2015)

HEALTHY RELATIONSHIPS AND CANADIAN AND WORLD STUDIES

Every student is entitled to learn in a safe, caring environment, free from violence and harassment. Research has shown that students learn and achieve better in such environments. A safe and supportive social environment in a school is founded on healthy relationships – the relationships between students, between students and adults, and between adults. Healthy relationships are based on respect, caring, empathy, trust, and dignity, and thrive in an environment in which diversity is honoured and accepted. Healthy relationships do not tolerate abusive, controlling, violent, bullying/harassing, or other inappropriate behaviours. To experience themselves as valued and connected members of an inclusive social environment, students need to be involved in healthy relationships with their peers, teachers, and other members of the school community (p.47/p. 53).

Classical Studies and International Languages (2016)

HEALTHY RELATIONSHIPS AND CLASSICAL STUDIES AND INTERNATIONAL LANGUAGES

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Cooperative Education (2018)

HEALTHY RELATIONSHIPS AND COOPERATIVE EDUCATION

Every student is entitled to learn in a safe, caring environment, free from violence and harassment. Research has shown that students learn and achieve better in such environments. A safe and supportive social environment in a school is founded on healthy relationships - the relationships between students, between students and adults, and between adults. Healthy relationships are based on respect, caring, empathy, trust, and dignity, and thrive in an environment in which diversity is honoured and accepted (p. 60-61)

French as a Second Language (2014)

SUPPORTING STUDENTS' WELL-BEING AND ABILITY TO LEARN

Educators play an important role in promoting children and youth's well-being by creating, fostering, and sustaining a learning environment that is healthy, caring, safe, inclusive, and accepting. (p.3)

Health and Physical Education (2015)

HEALTHY RELATIONSHIPS AND HEALTH AND PHYSICAL EDUCATION

Mental health concepts are included within all content areas of the Healthy Living strand. The focus in this strand is on promoting and maintaining mental health, building an understanding of mental illness, and reducing stigma and stereotypes. (p. 42).

Social Sciences and Humanities (2013)

SUPPORTING STUDENTS' WELL-BEING AND ABILITY TO LEARN

Educators play an important role in promoting children and youth's well-being by creating, fostering, and sustaining a learning environment that is healthy, caring, safe, inclusive, and accepting. A learning environment of this kind will support not only students' cognitive, emotional, social, and physical development but also their mental health, their resilience, and their overall state of well-being. All this will help them achieve their full potential in school and in life.

The Role of Mental Health: Mental health touches all components of development. Mental health is much more than the absence of mental illness. Well-being is influenced not only by the absence of problems and risks but by the presence of factors that contribute to healthy growth and development. By nurturing and supporting students' strengths and assets, educators help promote positive mental health in the classroom (p.6).

Technological Education (2009)

Health and Safety in Technological Education

Teachers are responsible for ensuring the safety of students during technology lab, shop, and classroom activities. Health and safety issues must also be addressed when learning involves cooperative education and other workplace experiences (see p. 39). Teachers need to encourage and motivate students to assume responsibility for their own safety and the safety of others, and they must help students develop the knowledge and skills needed for safe participation in all technology-related activities. For these reasons, teachers must model safe practices at all times and communicate safety expectations to students in accordance with school board policies and procedures, Ministry of Education policies, and Ministry of Labour regulations.