

Responses to commonly asked questions:

Use of wireless technology

Community consultation

Public school trustees are elected by taxpayers during municipal elections to be the link between communities and school boards. As such, trustees often work together to represent the community on a number of school board initiatives. One of their many roles is to help set budgets and govern the provision of curriculum, facilities, human and financial resources. This was and continues to be the role trustees play in relation to the Peel board's 21st Century Teaching & Learning initiative.

Not only did they approve a \$7 million investment in technology for Peel students that will ensure our schools are increasingly connected and relevant in the 21st Century, they also reviewed the installation of wireless technology (Wi-Fi) from a health and safety perspective.

The Peel board understands and is sensitive to the safety concerns some community members have regarding the use of Wi-Fi. As 21st Century Teaching & Learning decisions were made, trustees were apprised of these concerns.

As with all health issues, the Peel board takes advice from public health agencies. We will continue to rely on the expertise and standards of organizations like Health Canada and Peel Public Health to guide our use of technology in schools, as they regularly review the most current scientific literature to inform respective guidelines and policies based on the weight of evidence. We will also continue to comply with all governing legislation to ensure we provide safe and appropriate places to learn and work and as always, our decisions are based on the best interests of students.

Use of Wi-Fi

The Peel board understands and is sensitive to the safety concerns some community members have regarding the use of Wi-Fi. Providing safe and appropriate places to learn and work is a top priority for the Peel board. As with all health issues, we take advice from Peel Public Health. They have provided us with information from Public Health Ontario that says there have been numerous studies on radiofrequency exposure and its impacts on human health, but that there is no evidence of negative health effects of Wi-Fi. Here are some links to external resources about [wireless technology and health](#).

We will continue to rely on the expertise and standards of organizations like Health Canada and Peel Public Health to guide our use of technology in schools, as they regularly review the most current scientific literature to inform respective guidelines and policies based on the weight of evidence. We will also continue to comply with all governing legislation to ensure we provide safe and appropriate places to learn and work and as always, our decisions are based on the best interests of students.

Wi-Fi installations began in July and will continue throughout the school year. This means that schools will be at different stages of implementation of the board's [Vision for Learning & Instructional Plan](#) this school year. We expect that school and board staff will spend much of the upcoming school year preparing to fully leverage the board's investment in technology.

Access points

Access points the Peel board is installing in schools and offices are intelligent and operate at a fraction of the power of home routers—they are not considered industrial-strength. They self-regulate to ensure that they operate at optimal (lower) power so not to interfere with each other, and are designed to work

together in a meshed, networked environment. Home routers are normally built and tuned at full power to provide the most coverage possible.

Disabling access points

In most cases, access points are installed in hallways and not individual classrooms. As such, access to Wi-Fi can and will take place at different points throughout the school day. To ensure students are able to access Wi-Fi for educational purposes while at school, access points will remain on.

Public Health Ontario states that there have been numerous studies on radiofrequency exposure and its impacts on human health, but that there is no evidence of negative health effects of Wi-Fi. The specified limits for public exposure apply to everyone—including the elderly, individuals with health concerns, children and pregnant women—and allow for continuous, 24/7 exposure. As well, the World Health Organization (WHO) indicates that, “Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak radiofrequency signals from base stations and wireless networks cause adverse health effects.”

Health Canada and Peel Public Health have not provided safety guidelines that require school boards to turn Wi-Fi off when it is not in use. As the organizations charged with providing guidelines for the health and safety of Canadians, we will continue to rely on their expertise and standards to guide our use of technology in schools.

Monitoring Wi-Fi levels

The Peel board will conduct random, representative testing of Wi-Fi levels in schools and work sites. Testing will follow industry protocols and will be conducted by an external certified occupational hygienist. Testing, which will take place in the fall, will help us to ensure Wi-Fi levels continue to be well below Health Canada’s guidelines for safe human exposure to radiofrequency energy (Safety Code 6). As tests are completed, results will be posted on www.peelschools.org.

Other countries’ positions on Wi-Fi

Health Canada's guidelines are comparable to most of Europe. Specifically, the limits defined by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) provides guidance to the European Economic Community. The power density limits for Safety Code 6 are the same as those established by ICNIRP.

World Health Organization’s position

WHO has **not concluded** that Wi-Fi is a possible carcinogen—WHO has, in fact, concluded that “the electromagnetic fields produced by **mobile phones** are classified by the International Agency for Research on Cancer as possibly carcinogenic to humans.”

The WHO also states that, “A large number of studies have been performed over the last two decades to assess whether **mobile phones** pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use.” More on the WHO’s position about electromagnetic fields and public health, visit their website at <http://bit.ly/dzXGBu>.

On the issue of **Wi-Fi**, the WHO indicates: “Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects.”

Additional fact sheets and backgrounders can be found on the WHO website at <http://bit.ly/13thI4>.

Peel Public Health’s position on radiofrequencies (RFs) from Wi-Fi

The available scientific evidence indicates that exposure to Wi-Fi in schools is not harmful to the health of students and staff.

In assessing the evidence, Peel Health staff evaluated a number of expert panel reviews and other peer-reviewed literature. The quality of the evidence was assessed so that studies of higher quality were weighted more heavily. As part of this assessment, the study methods and design were considered, including sample size, participation rates, nature of the exposure to Wi-Fi and sources of potential bias.

Peel Public Health continues to monitor and review new evidence regarding the potential health effects associated with Wi-Fi and encourages ongoing provincial and federal research into this issue.

Background

The International Agency for Research on Cancer (IARC) provides government authorities with expert, independent, scientific opinion on environmental exposures that may increase the risk of cancer. In May 2011, IARC classified radio-frequency electromagnetic fields as **possibly** carcinogenic to humans (Group 2B) based on an increased risk for glioma, a type of brain cancer, associated with heavy cellular phone use (when the phone was used in such a way that it was held close to the head).

The IARC 2B classification was based on the following exposures:

- occupational exposures to radar and to microwaves
- environmental exposures associated with transmission of signals for radio, television
- wireless telecommunication
- personal exposures associated with the use of cellular telephones

The other classifications are: Group 1 - Carcinogenic to humans; Group 2A - Probably carcinogenic to humans; Group 3 - Not classifiable as to its carcinogenicity to humans and Group 4 - Probably not carcinogenic to humans.

It is important to note the difference between exposure from a cellular telephone as opposed to low-level exposure to radiofrequency RF energy from Wi-Fi equipment such as access points (routers). Wireless routers and devices accessing only a Wi-Fi signal (e.g. laptop) are generally associated with far lower RF exposure.

Electromagnetic hypersensitivity

According to the WHO, a number of studies have investigated the effects of radiofrequency fields on brain electrical activity, cognitive function, sleep, heart rate and blood pressure in volunteers. They state that, “From all evidence accumulated so far, no adverse short- or long-term health effects have been shown to occur from the radiofrequency signals produced by base stations. Since wireless networks produce generally lower radiofrequency signals than base stations, no adverse health effects are expected from exposure to them...Further, research has not been able to provide support for a causal

relationship between exposure to electromagnetic fields and self-reported symptoms, or *electromagnetic hypersensitivity*.” Learn more here: <http://bit.ly/12gg6oI>.

Hard-wired over Wi-Fi

In hard-wired environments, only a few devices could be used at a time and students wouldn't be able to access information as quickly. As well, tablets and other personal electronic devices cannot connect to a hard-wired network. Installing only hard-wired networks in Peel schools would significantly limit staff and student use of technology. Mobility increases opportunities for collaboration and creativity, thus increasing the ability of students to demonstrate their learning.

Equity of access

In a Bring Your Own Device (BYOD) environment, students are not required to bring their personal electronic devices to school. Instead, the Peel board is inviting parents to send their children/teens to school with personal devices. While at school, their use of the devices will always be directed by a teacher or other staff member, and be for educational purposes only.

If parents choose not to send their children to school with a device, devices and other technology are available for student to use at school.

Securing devices

We know parents are concerned about their children/teens keeping their devices safe. Anecdotally, schools are reporting that when a BYOD model is implemented, the number of thefts and lost devices go down. Smartphones, tablets and netbooks are out in the open and used more often so students are more aware of their devices.

Ultimately, students are responsible for lost, stolen and/or damaged personal electronic devices as they are for any other personal items they bring to school. To help, every school has developed or is developing a plan to secure devices. For example, schools will provide some way to help students secure their devices when students go to gym, recess, etc. Please contact your child's principal to learn about your school's plan.

Also, if you plan to send your child to school with a device, please consider enabling the device's built-in locator, if this feature is available.

Use of devices in the classroom

As teachers become increasingly familiar with technology and its use in the classroom, they will begin to incorporate more digital resources into their lessons. There is no board expectation that technology will be used in every classroom lesson. As such, the use of technology to meet curriculum expectations may vary from teacher to teacher, grade to grade and subject area to subject area.

Students will continue develop critical thinking, presentation and social skills, stay active through Physical Education and other Daily Physical Activities, and learn the Arts. We expect teachers to use good professional judgement to determine when and how technology will be used to enrich learning.

Staff professional development

As with all other Peel board and Ministry of Education initiatives, teachers have been and will continue to be provided with ongoing opportunities to engage in rich discussions and dialogues around the changes in pedagogy that will be facilitated by BYOD.

Staff will be engaged in professional development and the sharing of best practices to help explore the benefits of the implementation of BYOD and to increase in use of technology in the classroom, for educational purposes. In addition, a collection of resources is available online for teachers to assist them in purposefully and effectively integrating digital tools in teaching and learning.

Classroom management

Schools who have fully embraced BYOD have seen a true reduction in the number of times devices are used inappropriately in the classroom. In a BYOD environment, teachers will direct the use of technology in classrooms, and as always, are responsible for leading the class and managing student behaviour.

Because students are going to live and work in a world where people use their devices as a normal, consistent part of their day-to-day lives, they need to learn to use technology safely, effectively, ethically and respectfully. As such, teachers will encourage the appropriate and responsible use of technology. Inappropriate use of board technology and/or PEDs may result in progressive discipline or having the use of these services and/or devices suspended or removed.

Digital Citizenship

Today's students are leaders in the use of technology. They want to take the technology they use in their daily lives and also make it a normal part of their classroom experience. It's important that we play a role in helping them use their devices in ways that are appropriate and responsible. We will guide students to recognize what it looks like to be respectful and ethical citizens when using digital technology and social networks.

The use of devices will be guided by school codes of conduct and the Peel board's Digital Citizenship Policy #78. You can find the policy here: <http://bit.ly/PeelCode>. The Code of Conduct and academic integrity apply to the use of technology whether students are accessing information from school or home.

The Peel board does not condone bullying or harassment of any kind, including cyber-bullying. We have clear expectations around the appropriate, respectful use of technology. Inappropriate use of Board technology and/or PEDs may result in discipline or having the use of these services suspended or removed.

Students with Individualized Education Plans

As always, teachers and support staff are responsible for implementing the programs and services outlined in a student's IEP. Teachers will use a variety of strategies to help your child learn using technology, as appropriate. As well, BYOD allows for even greater personalization for students and can assist all students, including those with IEPs, in achieving their full potential.

Accommodations for students

Wi-Fi will be installed in every Peel school. For the most part, all areas of the school will have Wi-Fi coverage. As such, accommodations cannot be made for students whose parents request they be taught in an area where there is no Wi-Fi.