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# Clean Air for Kids—The Scoop

As part of a *Green Venture* mobile air monitoring initiative called **Clean Air for Kids**, Mr. Ranalli's 5/6 and Ms. Fidanza's 7/8 class have been studying air quality. In partnership with the Ministry of Environment and Corr Research, air quality samples were taken around the neighbourhood to test the levels of vehicular emissions. From January to March, both classes participated in the project. They toured the mobile air monitoring vehicle used to collect samples, recorded data from a portable hand-held air monitoring device, and learned more about what they can do to reduce air pollution in their community.

#### Quick facts:

- Over the years, air quality has been improving with industrial standards and car emissions becoming cleaner. But there is still work to be done!
- Air quality in Hamilton is comparable to other communities our size.

While Hamilton has a number of stationary air monitors, one of the benefits of the vehicle is that it is mobile and can take samples anywhere along roads. With having both stationary monitors and mobile air monitoring vehicles, Hamilton has a good idea of our air quality.

# Air pollutants that were monitored:

- Sulphur Dioxides
- Oxides of Nitrogen
- Particulate Matter 2.5 and 10 microns
- Carbon Monoxide





Grades 5/6 (left) and 7/8 (above) with our science guy, Dr. Denis Corr, recording data on Particulate Matter levels.

Teachers' quote: It's very important that these positive changes and behaviour are extended into other areas, so I think other schools should adopt these campaigns as well. And furthermore the students learn that they can affect positive change in the world through their own actions.



Thanks to Levitt Safety who sponsored a Dust Trak machine, grades 5/6 and 7/8 were able to walk around the neighbourhood and record particulate matter (PM) in the area.



Particulate Matter is similar to dust but much smaller. Above is an example of the size of Particulate Matter.

Imagine how thick one strand of hair is and if you were to cut one strand of hair— compare that to the size of PM 10 and 2.5.

Particulate Matter is everywhere and once in our lungs, it can cause irritation and respiratory issues.



Afterwards, the classes made graphs from the information we collected with the Dust Trak.



Student quote: We have learned that PM10 and PM 2.5 are tiny dust particles.

## Anti-Idling Campaign



During one week in February, Mr. Ranalli organized an Anti-Idling Campaign and the students saw a marked decrease in the number of idlers outside of the school. On the first day, 12 infraction notices were handed out. Then, 6-8 on the second day and by the last day, only 2 notices were handed out. Student quote: *I enjoyed the walk and learning about air quality in our neighbourhood.* 



Both grades participated in a walkability survey, looking at conditions of the sidewalk, potential concerns around safety, noting graffiti. This exercise is meant to demonstrate how walkable the area is. In addition, the students noted the working streetlights, a number of parks, and well maintained sidewalks. In discussion, they also talked about the "good neighbours" and "friendly people". The more welcoming the environment, the more likely people are active in getting from one place to another by walking, cycling, or rolling.

# **Results from Mobile Air Monitoring are IN!**



Air Pollution Measurements, Neighbourhood of St Lawrence School, Hamilton

Our science guy created this map from the results of the air quality testing. The grade 5/6's had to determine the best way for them to walk, bike, or roll to school using the air quality colours as a guide.

# You can do this too! Locate where you live and chose the route that has mostly green dots, that represent low level of pollutants.

**Please note** that the air samples were taken in the winter months, that are generally cleaner days. Air quality testing includes a number of factors such as wind direction, rain, snow, and general traffic conditions. In the winter, the combination of cold temperatures, snow and rain actually cleans the air. This indicates that more air testing over the rest of the seasons would give a more accurate picture of Hamilton's air quality.

## What is Air Quality Health Index?

It is a tool that helps people determine the air quality for the next 2 days.

By knowing the air quality, people can make informed decisions about limiting their exposure to poor air quality.

For more information, visit:

airhealth.ca

After this exercise, the students realized that they could impact the air around them. Many of them noted that they can walk, bike or bus instead of getting a car ride. They also talked about planting more trees and not littering—all of these are great ways to reduce air pollution!



With the help of a local videographer, a short video was created.

#### Did you know?

You can play a part in reducing air pollution. One car out of every five travels less than 1 kilometre per trip: an average person can walk 1 kilometre in 10 minutes.

Children are more vulnerable to air pollution: they spend more active time outdoors, especially in summer when pollution levels are higher.

Source: Environment Canada

## Recommendations for St. Lawrence Catholic School:

- To encourage daily check ins on the *Air Quality Health Index* (AQHI) rating. Found at: **airhealth.ca**
- Especially during poor air quality days, staff and students should consider taking alternative routes to and from school along quieter, less congested areas to avoid pollutants caused by vehicles. Stay inside if the air quality is poor.
- Keep up the good work! St. Lawrence Catholic School have been working hard to increase cycling as a mode of transportation and have won the City of Hamilton's Community in Motion award of "School of the Year"

### **Next Steps**

Green Venture continues to seek funding to continue air monitoring projects. Especially noting the fact that air samples were gathered during the winter months, a time known to be "cleaner" because of the effects of rain, snow and cold temperatures.

Collecting data in other seasons will provide the opportunity to have a fuller picture of what the air quality is like.

### Teachers' quote:

I thought the program was terrific. First of all, it really engages the students. They really enjoyed taking part in it.

# Green Venture

For more information about this project, contact Green Venture staff: Juby Lee

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Find us on:



# Special thanks

Success of projects like this one is due to the hard work of a number of individuals, organizations and funders.

We would like to thank:

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Sponsorship support:

