

CLEANER AIR 4 Elementary Schools in The Central Okanagan

APPENDIX 2

Air Pollution Facts

This document contains 32 interesting Air Pollution Facts related to idling, health, transportation emissions and actions to improve air quality; this material will cover the school year of constant reminders to be delivered, read, or discussed in class and to be included on the weekly newsletter by the school committee.

The Air Pollution Facts are distributed as follows:

- ✓ 11- Idling
- ✓ 4 - Health
- ✓ 3 – Transportation Emissions
- ✓ 14 – Improve Air Quality

The suggested Cleaner Air 4 School timeline is as follows:

Responsible	Cleaner Air 4 School Program Program Timeline	Oct-Nov or Apr-May							Next semester
		1	2	3	4	5	6	7	
	Week								1-4
Teachers	Air Pollution Lesson - Learn about Air Pollution	1 st week							
	Classroom Activities	Baseline Idling Survey	Surface Wipe Activity	Idle Off	Idling Reduction Pledge	Clean Air Champion Badge	Follow-up Idling Survey		Follow-up Idling Survey
	Send home – Fact Sheet “Let’s talk Air Pollution” Printed or/and through the newsletter		2 nd Week						
	Send home –Fact Sheet “Things you can do to improve air quality” Printed or/and through the newsletter			3 rd Week					
	Air Pollution Facts (Read or discuss with the class- Every Monday (3-5 min))					Fact # 1	Fact # 2	Fact # 3...	
	Evaluation							Evaluate Results	Evaluate Results
Air Quality	Run an Idling Reduction Campaign A school package is available upon request. Anti-Idling Material Request Form.						6 th Week		
	The Air Quality program could provide a prize to the classroom with the most pledges signed.							7 th Week	
PAC/PSG	Include “Air Pollution Facts” on the weekly newsletter or school website. (32 weeks)		Let’s talk about Air Pollution	Things you can do to improve air quality		Fact # 1	Fact # 2	Fact # 3...	
	Share idling survey findings and Follow up Classroom and Family Surveys							Through newsletter	Through newsletter

Instructions to teachers

1. The Air Pollution facts should be read and discussed after the Air pollution lesson and the proposed activities have been facilitated.
2. Set one day a week to read the Facts and discuss them with the class this could take just **3-5 min a week!**
 - **Monday** is highly recommended to increase awareness about air pollution, and transportation choices
 - Encourage students to walk, cycle or skate during the week to go to and from school or while doing extra activities near their homes.
3. Print the facts and select a **different reader** each week to involve the students in the process.
4. The answers to the questions/guesses are upside down
5. Check mark the fact that has been read, so you can easily keep track!

Instructions to the school committee

To add the Air Pollution Fact to the weekly newsletter:

1. Select and Copy the Fact of the week (ctrl C)
2. **If necessary-** Paste as “Paste special” → “Picture (Enhance Metafile) for better quality.

Sending the facts through the newsletter is an essential piece to raise awareness about air pollution and to encourage more staff and parents to take up sustainable travel over time.

Sources

<http://www.hastebc.org/info/facts-about-transportation-emissions> (no longer available).

<http://oee.nrcan.gc.ca/transportation/idling/facts.cfm?attr=8>

Idling Fact #1

Idling gets you nowhere - and it can be costly. Excessive idling wastes a significant amount of fuel and money and generates harmful greenhouse gas (GHG) emissions. If drivers avoided idling by just 3 minutes a day, over a year Canadians would collectively save 630 million litres of fuel.



Guess! How many Olympic sized swimming pools do you think can be filled with that amount of fuel? a) 35

b) 252 c) 450

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(9)



Idling Fact #2

Warming up or cooling down a vehicle is the most common reason given for idling, in the winter and the summer. Other reasons might be: waiting for passengers (like school kids), waiting to park, sitting in drive-through lanes, stopping at railway crossings or running quick errands.



Hands up! Have you noticed if your parents idle their vehicle(s)?

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Idling Fact #3

Any more than 10 seconds of idling uses more fuel than is required to restart the engine. However, the break-even time to make up for any potential maintenance cost to the car starter or battery is under 60 seconds. So, if a vehicle is stopped for more than 60 seconds - except in traffic - turn off the engine!



True or False? Idling is a problem only in winter.

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False - Idling is a year-round problem



Idling Fact #4

For the average vehicle with a 3-litre engine, every 10 minutes of idling costs over one quarter of a litre (over 1 cup) in wasted fuel. Keep in mind that every litre of gasoline you use produces about 2.3 kilograms of carbon dioxide.



Let's do some math: How big is your family vehicle? Take the tank capacity ___ litres x 2.3 kg = _____ Kg of CO₂ produced by your car every tank full of gas.

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Idling Fact #5

Unnecessary idling wastes money and fuel and produces greenhouse gases that contribute to climate change. If you are going to be stopped for more than 60 seconds - except in traffic - turn the engine off.



Hey do your parents use "drive throughs"? Hands up. You can remind them that it's better for the environment to park and walk in!

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Idling Fact #6

Contrary to popular belief, excessive idling is not an effective way to warm up your vehicle, even in cold weather. The best way to warm it up is to drive it. Always follow the owner's manual.



Guess! - On cold winter days, no more than how many minutes of idling is usually enough before starting to drive? a) 30 sec - 1 min. b) 2-3 min. c) 5-7 minutes

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(e)



Idling Fact #7

On cold winter days we can help reduce the impact of starting a vehicle by using a block heater. This warms the coolant, which, in turn, warms the engine block and lubricants allowing the engine to reach proper operating temperature faster.



Guess! - How many hours does the block heater need to be connected? a) 2 hours b) 6 hours c) All night

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(e)



Idling Fact #8

On cold winter days you don't need to leave a block heater plugged in overnight to warm the engine. We learned 2 hours is more than enough. In fact you can use a timer to switch on the block heater 2 hours before you need to leave.



Guess! - It's a good idea to plug in a vehicle when the temperature drops below ___°C? a) 5°C b) -5°C c) -15°C or d) -20°C

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(o)



Idling Fact #9

A poorly tuned engine uses up to 15% more energy when idling than a well-tuned engine. Keeping a vehicle properly maintained according to the manufacturer's suggested maintenance is key to fuel efficiency and reduced greenhouse gas emissions.

Tell your parents to set a monthly reminder in their calendar/agenda or phone to check and inflate tires to recommended levels and a three month reminder for oil changes.



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Idling Fact #10

Calculations from a survey on driving habits suggests that in the peak of winter, Canadians voluntarily idle their vehicles for a combined total of more than 75 million minutes a day!



Guess! That fact is equal to one vehicle idling for how many years? a) 20 years b) 50 years c) 144 years?

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(2)

Idling Fact #11

You can achieve savings and reduce your vehicle's impact on the environment by following these 3 tips...don't overuse the remote starter, do use cruise control and avoid speeding.



Guess! Increasing your highway speed from 100k/h to 120km/h can increase your fuel consumption by up to _____ percent. a) 10% b) 15% c) 20%?

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(2)

Transportation Emissions – Idling Summary

- * Idling wastes fuel
- * Idling reduces engine life
- * Idling generates harmful emissions into the air
- * Idling can be minimized but just turning off the engine!



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Health Fact #1

Participation in regular physical activity improves health. It strengthens our heart's function, reduces the risk of developing diseases like diabetes and positively influences our food choices.



In our school, what percentage of students are walking or biking to and from school?

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You can find the percentage of students walking and biking in your School Plan Travel: Student Classroom Survey findings” [Safe routes 4 schools - Regional District of Central Okanagan \(rdco.com\)](#)

Health Fact #2

People who are physically active live longer, healthier lives. Active people are more productive, and more likely to avoid illness and injury.



Guess! A national survey says that ___ % of parents say that they always walked to school when they were kids, while only ___ % say their kids do so today.

a) 15% & 30% b) 58% & 28% c) 80% & 50%

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(q)

Health Fact #3

Children aged 5-11 should accumulate at least one hour of moderate to vigorous-intensity physical activity each day. But more is even better! If you have a choice, walk or ride a bike instead of driving or being driven to school.



Guess! The number of calories burned weekly through walking to school equals ___ hour-long classes of phys.ed.

a) a half hour b) 2 hours c) 3.5 hours

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(q)

Health Fact #4

Type 2 diabetes is the most common kind and usually occurs in adults although rates among children are rising. Overweight people are at higher risk of developing the disease. Keep yourself active and limit computer and TV time.

Guess! According to the 2014 BC Health Community Profile, in one year (2012-13) ___ people were newly diagnosed with diabetes (Type 1 and 2) in our region.
a) 152 b) 525 c) 784

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(c)



Health Fact #5

What we eat and how physically active we are when we are kids are personal habits that can last a lifetime. Eat healthy and keep yourself active!

Guess! According to the 2014 BC Health Community Profile, in Kelowna ___% of students in grades 3 and 4 are eating 5 or more servings of fruits and vegetables per day. a) 15% b) 30% c) 57%

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(c)



Air Pollution Fact # 1

If Canadian motorists avoided idling for just 3 minutes every day of the year, Carbon Dioxide - CO₂ emissions could be reduced by \$1.4 million tonnes annually.

Guess! This would be equal to taking _____ cars off the road for an entire year. a) 10,000 b) 90,000 c) 320,000

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(c)



Air Pollution Fact #2

Reducing vehicle emissions could be the most important move Canadians make in reducing greenhouse gas (GHG) emissions which contribute to climate change. Break the automobile addiction - consider public transit.



Guess! Only 1 bus can take ____ vehicles off the road?
a) 10 b) 20 c) 40

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(p)

Air Pollution Fact #3

Studies show that transportation accounts for one quarter of the total greenhouse gas (GHG) emissions in Canada, and is the single largest contributor.



Guess! In the Central Okanagan, what percentage of greenhouse gases come from personal and commercial vehicles, and buses? a) 25% b) 69% c) 85%

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(q)

Things you can do to improve air quality #1

- * Use public transportation instead of a vehicle
- * If you have to travel to school by car, get your parents to car-pool with other friends



Hands Up! Have you ever ridden on a bus? If not, ask your parent(s) to take you someday. Try it out.

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Things you can do to improve air quality #2

* Carpooling is an ideal, cost-saving arrangement, particularly for those who commute long distances. October is Carpool Month in the Central Okanagan.

In our school what percentage of kids ride in a carpool to and from school?

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You can find the percentage of kids that carpool in your School Plan Travel: Student Classroom Survey findings" [Safe routes 4 schools - Regional District of Central Okanagan \(rdco.com\)](#)

Things you can do to improve air quality #3

* Keep vehicles in top running condition with regular tune-ups
* find the correct tire pressure for the vehicle on the glove compartment door or driver's side door pillar and use the recommended grade of motor oil

Guess! If you inflate your tires to the manufacturer's recommended guidelines you will save up to ___% on fuel consumption a) 5% b) 10% c) 15%

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Things you can do to improve air quality #4

* Is your family looking for a new vehicle? Consider a small, fuel-efficient one with low emissions. Natural Resources Canada's most fuel-efficient vehicles list can be found online at their website - www.nrcan.gc.ca/

Guess! How many kilometers can a fully charged electric vehicle potentially travel? a)30-50 km b)140-180 km c) 200-400 km

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Things you can do to improve air quality #5



- * Combine errands to save gas and reduce emissions
- * Better still, break your family's automobile addiction. Consider public transit, carpool, ride your bike or use your feet

Guess! Approximately how many kilometers the average Canadian commutes per day? a)15 km b)30 km c)45 km

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Things you can do to improve air quality #6



- * Install a vapour barrier and insulate your home effectively
- * Seal air leaks to prevent heat escaping from your home (and money from your wallet) Weather strip cracks, holes, windows and doors
- * If your family is buying a new house, consider an Energy Star qualified home. **TRUE OR FALSE - An Energy Star® qualified home is on average 20% more energy efficient than a home built to the regular building code?**

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True - it's much more energy efficient



Things you can do to improve air quality #7



- * Have your parents set the thermostat at home to no more than 20°C during the day and turn it down when out or asleep
- * Have your furnace regularly serviced to ensure efficient operation

Guess! At what temperature should a water heater be set at? a) 40°C b) 50°C c) 75°C

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Things you can do to improve air quality #8

- * Install windows that are efficient at preventing heat loss
- * Plastic insulating sheets that can be attached to window frames can also be effective heat savers

Guess! Windows can account for up to what % of the total heat loss in a house? a) 10% b) 25% c) 35%

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(q)



Things you can do to improve air quality #9

- * Consider planting a deciduous tree on the south side of your house to keep out the sun in the summer and let in the warm sunshine in the winter
- * Solar energy is another viable option that is increasingly proving to be cost-effective

Guess! For a family of four, a solar hot water system can supplement up to ___% of water heating energy needs? a) 25% b) 40% c) 60%

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(r)



Things you can do to improve air quality #10

- * Buy products that have less packaging
- * VOC's - Volatile Organic Compounds are generated during the printing process and can increase eye, nose and throat irritation, cause headaches and even nausea.

TRUE OR FALSE: These household products contain VOC's: aerosol sprays, cleaning products, disinfectants, and air fresheners?

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True - always read the labels!



Things you can do to improve air quality #11



- * Turn off the lights, TV or computer when you don't need them. Program the computer to go into sleep mode when not in use
- * Recycle waste and building materials whenever possible. Check out the *Living Green Calendar*.

TRUE OR FALSE: You can add Tetra pack containers, coffee cups or milk cartons to the blue recycle carts?

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True - since May 2014 you can



Things you can do to improve air quality #12



- * Choose EnergyStar when buying lights, or new washers or dryers. Wash clothes in cold water and hang them out to dry when you can, instead of using a dryer
- * FortisBC has free energy saving kits for eligible households

TRUE OR FALSE: EnergyStar qualified household appliances use less energy than conventional appliances and save you money?

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True - they will save you money on Hydro bills!



Things you can do to improve air quality #13



- * Change out your old woodstove by buying an efficient, EPA certified woodstove that's just the right size for your house.
- * Obtain a proper building permit to legally install and operate it correctly. Use dry wood with a moisture content of 20% or less.

TRUE OR FALSE: New technology wood stove burn up to 90% cleaner than old ones?

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True - and they use about one-third less wood!



Things you can do to improve air quality #14

* Residents with properties larger than 1 hectare (2.47 acres) should consider alternatives to **outdoor** burning like wood chipping, dropping off permitted materials at the landfill or using the curb waste collector

* Open burning requires a valid permit from the Fire Dept. from October 1 to April 30. You have to call 1-855-262-2876 to find out if burning is allowed that day. **TRUE OR FALSE: In the Central Okanagan you can burn leaves, grass clippings**

and garbage?

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False - It's illegal to burn those materials



Air Pollution Facts 2023

Questions or concerns should be directed to:

Regional Air Quality Program

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