Facilitator Guide for Teachers and Educators

Substance Use Health, Addictions and Related Behaviours: Tobacco and Vaping (Grade 4)

Introduction
This module provides educators who teach students in grade 4 with a lesson on tobacco and vaping. The module supports the learning objectives of The Health & Physical Education Ontario Curriculum for the 2023-2024 school year.

Learning objectives
By the end of this presentation students will be able to better understand:

- Lungs and the respiratory system
- Traditional tobacco and commercial tobacco
- Commercial tobacco chemical ingredients
- Waterpipes/Hookah
- Nicotine
- Tar buildup in lungs
- Carbon monoxide
- Addiction
- Health effects: short-term and long-term effects from smoking
- What vaping is and how it affects youth
- Smoking laws
- Stigma
- Reducing harm
- Recovery
Facilitator Guide for Teacher and Educators – Tobacco and Vaping (Grade 4)

Purpose
Improving and protecting the health and well-being of school-aged children and youth is a priority for Ontario’s public health sector. Childhood is a time when health practices and behaviours are learned, and adolescence is a period when both positive health behaviours and risk behaviours can be adopted. Because curriculum for the school year may be delivered at various times by different educators, this guide allows the educator to deliver self-paced content related to tobacco and vaping in the classroom at their convenience. Depending on the level of discussion, student engagement, and the preferences of the educator, the length of this presentation can vary from approximately 60 to 90 minutes. Please ensure familiarization of the content prior to teaching to ensure there is sufficient time within classroom hours.

About this guide
This guide is intended as a supplemental resource for educators who choose to deliver the health modules developed by Ottawa Public Health (OPH). As content is updated annually and/or when new evidence emerges, we encourage educators to frequently check back on the School Health Online webpage to access the most up-to-date content.

Additional resources
For more information on substance use health, addictions and related behaviours, available services, and resources please visit the following:

- School Health Online
- Tobacco — The Link
- Ottawa Public Health – Vaping
- Substance Use Health Services and Resources
- Tips for Talking About Substance Use
- People-First Language: Substance Use Disorder and Stigma
Facilitator Guide for Teachers and Educators – Tobacco and Vaping (Grade 4)

Disclaimer

The information provided is not a substitute for professional medical advice. Educators should encourage students to consult their parents or guardians, and/or qualified healthcare professionals for personal guidance related to tobacco and vaping. Educators should approach questions about tobacco with sensitivity, respect, and an understanding of the diverse backgrounds and perspectives of their students. When responding to a student question, the response should be adapted to reflect the age and maturity of the student as well as the classroom environment and individual school policies.

Considerations

Becoming informed about a topic prior to discussing it in a classroom setting, will help create a productive and comfortable conversation with youth. This module includes topics that some students may find uncomfortable and/or difficult to understand. Here are some considerations to support the students’ learning experience:

- Be sensitive to different backgrounds and experiences.
  - As much as possible, be aware of experiences in your students’ lives that may make certain discussions uncomfortable for them. Consider letting students know ahead of time that the topic will be discussed in class and use proper judgment if accommodations are needed.

- Watch for signs of discomfort.
  - Monitor students’ faces and body language.

- Allow ample time for discussion.
  - Allow enough time to introduce the topic, discuss as a group, summarize, and answer questions.
  - Using an anonymous “question box” may encourage students to ask questions they otherwise would not feel comfortable asking in front of the class.
Continued collaboration

Our commitment to improving health outcomes is an ongoing journey*. We encourage you to share feedback and suggestions for improvement on this module, using our feedback form found on our School Health Online webpage. Together, we can continuously refine our resources to better the evolving needs of our school communities.

*Last updated: September 2023
Module

Before we start...

It is always important to create a safe learning environment when addressing health topics that may be sensitive to some students. Establishing some ground rules or going over classroom etiquette can be helpful.

Here are some examples:

- Some students might want to share personal stories. Ask that students do not share names or situations that might give away who they are talking about to respect people’s privacy.
- Ensure that all classroom discussions will remain confidential unless a student shares something that may lead to believe that they are in danger, or that they are putting themselves or others at risk.

*Please take the time to also review the considerations on page 3 of this guide.*
Slide 3

Where are our lungs located? Lungs are in our chest; protected by our rib cage; the very top of our lungs is located underneath our collarbones and rests on top of our diaphragm.

Place your hands on your ribs and take a deep breath in; your rib cage expands while your lungs fill up with oxygen; breathe out the air and you will feel your rib cage return to its regular size.

Thinking of our lungs, what is something that we do all day, every day? Breathe; inhale and exhale; about 12-20 breaths per minute; we breathe in oxygen (air) and breathe out carbon dioxide either through our nose or mouth.

Why do we need air? We could not survive without oxygen in the air that we breathe and we could not take in the oxygen if we didn’t have lungs; lungs provide oxygen to the blood which the heart then pumps to the rest of the body.

What are lungs? We have two lungs which make up one of the largest organs in our body and allow us to talk, sing and laugh; the lung on the left side of the body is a bit smaller than the one on the right; this extra space on the left is for our heart, which works with the lungs to deliver oxygen throughout our body.

Slide 4

Respiratory System:

- **Nose & Mouth; Larynx** – voice box
- **Trachea (windpipe)** – rings of cartilage are “bouncy” and slightly firm; protect the trachea and keep it from collapsing; trachea divides into two tubes (bronchi)
- **Cilia** - small hair-like structures along the inside of the nose and trachea; help keep out dirt particles you breathe in; when you breathe in chemicals from cigarette smoke they become damaged making it much harder to get rid of unwanted chemicals and “dirt” from the lungs
- **Bronchi** – one tube (bronchus) heads into the left lung, while the other into the right lung; each bronchus then branches off into smaller tubes (bronchioles);
- **Bronchioles** – there are about 30,000 of these tiny tubes in each lung and each bronchiole is about the same thickness as a hair;
• **Alveoli** – located at the end of each bronchiole; clumps of tiny air sacs where Oxygen is exchanged for CO2; about 600 million in your lungs and if stretched out, they would cover an entire tennis court

• **Capillaries** – very small blood vessels that cover the alveoli; oxygen and chemicals from cigarette smoke get transported all over the body by the circulatory system

• **Diaphragm** – beneath the lungs; dome shaped muscle; flattens out and moves down when lungs fill with oxygen; relaxes and moves up to help force air out of our lungs.

Which is healthier, breathing through our nose or our mouth?
Answer: NOSE because the cilia help to filter out dust and other particles from the air and prevents it from entering our lungs

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**Slide 5**

**What is commercial tobacco?**

**Tobacco** is a plant grown for its leaves, the leaves are then used to make commercial tobacco product

**Commercial Tobacco:**
- Can be smoked: cigarettes, cigars, cigarillos (mini cigar), and water pipes (hookah)
- Can be chewed: chewing tobacco, or wet snuff which is held inside the lip or cheek
- Sold for profit by companies

**The Cigarette:**
- Most common commercial tobacco product; use finely cut tobacco leaves that are rolled in thin paper

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Commercial tobacco smoke contains between 4000 and 7000 chemicals and 70 of those chemicals are known to cause cancer (carcinogens).

The chemicals come from three places:

- In the tobacco plant and soil
- From the process of burning known as combustion (what the person smoking inhales as well as the smoke from the end of a burning cigarette)
- Added by the Tobacco Industry to make the taste better and increase the risk of nicotine addiction; tobacco companies promote it to people of all ages despite the high risk of nicotine addiction; sold for profit.

Some of the chemicals in cigarettes include:

- Cadmium – battery acid
- Ammonia – glass cleaner
- Ethanol - windshield washer fluid
- Butane - lighter fluid
- Carbon Monoxide - car exhaust
- Methanol - rocket fuel
- Arsenic - rat poison
- Nicotine - is in the tobacco leaf and highly addictive;
- Tar – sticky brown substance created from burning commercial tobacco that is inhaled into the lungs.
### Slide 8

#### Tar:
- When a cigarette burns, the chemicals in the cigarette mix together and form a sticky tar that is inhaled into the lungs; *it's not the same as tar used on the roads*. Tar is responsible for the biggest health risks, including many types of cancer and lung diseases such as emphysema – when chemicals from cigarette smoke reach the alveoli (air sacs) in the lungs, they irritate and cause swelling in the walls of the alveoli and finally cause them to break down. This damage can not be fixed, the lungs are forced to work harder, and it is harder for the person to breathe.
- Tar forms a brown or yellow residue/sticky layer on the inside of the lungs, can stain the fingers and teeth of a person who smokes, and can settle on surfaces and materials - such as walls, couches, and curtains causing yellowish stains over time and putting people at risk of third hand smoke exposure.
- Tar in cigarette smoke builds up inside the lungs as it is inhaled; over time, the lungs turn grey and eventually black; people who smoke for a long-time will often develop a cough which is the body trying to clear the tar from their airways and lungs.
- Tar paralyzes and can eventually kill cilia in the lungs, which allows the tar to travel deeper into the lungs.

### Slide 9

#### Carbon monoxide:
- Is a gas that has no colour or odor
- It is given off by burning fuel (as in exhaust from cars) and is also found in cigarette smoke.
- Prevents enough oxygen from getting to important organs like your heart and lungs.
- Can cause dizziness, shortness of breath, and loss of energy. Too much exposure can make a person sick or even lead to death.
Found in the tobacco leaf
Nicotine is a stimulant which increases heart rate and blood pressure; it can affect brain development - affect memory and concentration (potentially harm a developing brain).
Can take as little as 10 seconds to reach the brain after being inhaled and releases chemicals in the brain that can make someone feel more alert and calm.
As a person introduces nicotine into their body, they will begin to crave more, which increases their risk of nicotine addiction and using tobacco products for a long time.

Additional information ↓
- Can cause nicotine dependence. There is a physical (body) response to nicotine, as the body gets used to regular amounts of nicotine.
- When a person who smokes daily goes without nicotine for more than a few hours, they may experience withdrawal symptoms - caused by the nicotine levels in their body dropping. Nicotine withdrawal symptoms can include: anxiety, irritability, restlessness, difficulty sleeping, difficulty concentrating, fatigue (CAMH).
- **Addiction:** refers to a complex medical condition that changes how the brain works [affecting a person’s reward, motivation (when we want to do something), stress, and executive function systems (allow us to plan, pay attention, remember instructions, and keep track of what we are doing)].
  - Addictions are defined by the 4 “C”s:
    - use becomes **Compulsive** (uncontrollable urge)
    - continues even with harmful **Consequences**
    - have **Cravings** (strong need for substance)
    - Feeling a loss of **Control**
  - Important message to relay to students as some may know someone who is living with an addiction: **Addiction is not a choice and does not mean someone is bad or weak!**
| Slide 11 | **Short-term health effects from smoking:**  
• Hair and clothing that smell of smoke  
• Bad taste in mouth and bad breath  
• Yellow teeth & fingers  
• Coughing, trouble breathing, dry irritated throat, dizziness  
• Increase heart rate and blood pressure  
• Frequent colds, flu, ear infections  
• Less energy and strength  
• Nicotine dependence  

**Long-term health effects from smoking:**  
• Is the main cause of lung cancer and increases the risk of other cancers of the mouth, throat, colon, bladder, pancreas  
• Causes most cases of lung diseases such as emphysema  
• Is a major cause of heart disease and stroke  
• Affects the immune system (the system in the body that protects us from getting sick) making people who smoke more prone to colds, flu and pneumonia |

| Slide 12 | **Is traditional tobacco the same as commercial tobacco?**  
• Traditional tobacco is different from commercial tobacco.  
• Indigenous (First Nations) Peoples have used traditional tobacco for thousands of years.  
• Used in ceremonial or sacred rituals for healing, purifying, and giving thanks. |
Facilitator Guide for Teacher and Educators – Tobacco and Vaping (Grade 4)

Key Messages:
- Similar risk as smoking cigarettes
- Infectious illnesses from sharing mouthpiece
- Produces second-hand smoke
- Hookah bars/cafés are illegal

What is it?
- A water pipe also known as hookah is a device used to smoke tobacco and/or herbal products (shisha). Shisha is made up of molasses, honey or fruit, and flavourings, but the majority of shisha products are mixed with tobacco (contains nicotine).

What is the concern?
- Many think it is a “healthier” alternative to other forms of smoking, but it has many of the same health risks.
- Misconception that it is less harmful than cigarettes because the smoke is filtered through the water removing the harmful toxins. The water does not filter the chemicals; it moistens the smoke making it less irritating, but not less harmful. The body still absorbs the chemicals.
- People who use water pipes often use them as a group and share the mouthpiece. This could potentially lead to the spread of illnesses (e.g. TB, hepatitis A, COVID-19).

What are vapes?
- Vapes (or electronic cigarettes) use a battery, a heating element and a liquid (E-Liquid or E-juice) containing cartridge to create an aerosol or vapour that is inhaled from the part the person puts their mouth.

What is vaping?
- Vaping is the act of inhaling vapours (looks like a cloud) created by a vaping device.
- The vapour occurs when the E-liquid is heated and turns into an aerosol (fine spray). The heating of the liquid causes reactions and creates new chemicals - some of which may have health risks.
Did you know that almost half (50%) of youth think vaping has little or no health risks? (2019)

- Since vapes don't have tobacco in them, they aren't burnt like cigarettes. This means that they can be less harmful than a cigarette, but that does not mean they are safe.
- The E-liquid may contain different levels of nicotine. This means that vaping can still increase the risk of nicotine addiction and can harm the brain's development until the age of 25.
- The E-liquid also contains a flavouring agent that has harmful chemicals that can cause permanent lung damage.
- Ottawa Public Health recommends vaping products not be used in indoor spaces due to possible health risks associated with second-hand vapours.

Many laws have been put into place over the last 20 years to protect us from the harm of smoking. These laws include:

- Age restrictions on buying tobacco and vaping products
- Prohibiting the smoking and vaping of tobacco, cannabis, and any other substance in public places (parks, buses, patios, etc.), workplaces, school property
- Prohibiting smoking or vaping of anything in cars when there are children under the age of 16 present (even with windows or doors open)
- Rules on how companies develop and sell their vaping products so that they are not attractive to youth
Why do some youth start vaping?

- Curiosity
- Peer Pressure
- Normalized – see family members, and friends vaping
- Marketing the industry uses to target youth – flavored vaping products, vaping in video games, movies, and shows.
- Don't think they will get addicted

Peer pressure is pressure from your peers, influencing you to do something or strongly convincing you to do something you would not normally do yourself.

Some ways that people may try to influence you are by telling you it’s “cool” and that you’ll fit in better if you do it. True friends would never pressure you into doing something that you don’t want to do.

It is important to know how to respond to peer pressure, and there are ways that you can say no to peer pressure.

Some of these refusal techniques include:
- Saying "No thanks" plainly and confidently – simple but effective, the “no thanks” technique without a lot of arguing and explaining is often the best and easiest response
- Reflect on your values and know what is important to you
- Surround yourself with good friends
- Walk away - if all else fails (and you can do so safely), remove yourself from the situation that is making you uncomfortable
- Suggest an alternative activity (examples to be discussed in the upcoming slides)
Using positive coping strategies during stressful or difficult times:
- Helps to restore emotional balance and/or feel better about yourself
- Respectful of you, others, and property
- Helps you to solve the problem
- Examples:
  - Talk to a friend or a parent
  - Keep a journal
  - Text a friend (helps you connect with someone, but to be used in moderation)
  - Label your feelings and identify what is causing stress. (Example: “I am feeling sad/mad/nervous because…”)
  - Positive self-talk. (Example “I can do it”)
  - Break down a large task into smaller manageable pieces

Smoking, vaping, or using drugs to cope with stress or hard times is considered a negative coping strategy because it:
- Does not restore emotional balance, and may make strong emotions (like anger) even worse
- May be harmful to you, others or property
- Does not solve the problem
- May create more problems (e.g., physical or mental health problems, relationship problems, etc.)
| Slide 20 | Stigma is to have negative feelings (prejudice) and negative behaviours (discrimination) toward people, includes having fixed ideas and judgements about people or groups of people.  
People can experience stigma for a variety of reasons: race, sexuality, gender identity, age, illness.  
An example of Stigma: we may think that people with mental health or substance use health challenges are different or not like us; or that they caused their own problems; or that they can simply get over their problems if they want to.  
Stigma can make people feel alone, and lead those living with an addiction to hide their symptoms and stop them from getting help. |
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| Slide 21 | Reducing harm means keeping people as safe as possible when risks are involved. Many things involve risks, but we take measures that help keep us safer. Some examples from our everyday lives are the use of seatbelts in the car or wearing a helmet when riding a bike.  
We just learned about the harms of smoking. What are some ways to reduce harms from smoking and vaping?  
- Getting help  
- Cutting back on the number of cigarettes smoked or the amount vaped  
- Switch to a safer form of nicotine – Nicotine Replacement Therapy (NRT) – explain what NRT is to students and give examples: the gum or the patch |
We can’t make someone stop using tobacco products. Remember we discussed how the nicotine found in cigarettes/tobacco can cause a person to become addicted and addiction is a medical condition that changes how the brain works. Just like other medical conditions, a person may need help with their recovery.

Ex: A person cannot heal a broken leg without the help of a doctor. A person living with an addiction may also need the help of a professional during their recovery journey. Recovery looks different for everyone. For someone who smokes, it can involve stopping the use of the substance completely or it can also be using less than they did before.

“Recovery” does not mean that someone is “cured” (which makes it sound like they are no longer living with the condition). Being in recovery is a lifelong journey/daily decision.

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| Slide 23 | **Where to find help**

- **An adult you trust from your school, family, or community.**

- **Youth Services Bureau (24/7)**
  YSB assists with service areas such as youth engagement, mental health services, community and housing services, employment services and youth justice services
  - Age 12+
  - Crisis Line: 613-260-2360
  - Crisis Chat: [https://www.ysb.ca/](https://www.ysb.ca/)

- **Kids Help Phone**
  This resource provides confidential mental health services to youth in Canada.
  - Age Prioritization 5-25
  - Phone (24/7): 1-800-668-6868
  - Text (24/7): Text CONNECT to 686868
  - Live Chat (open 7 pm – midnight ET) [https://kidshelpphone.ca/live-chat-counselling/](https://kidshelpphone.ca/live-chat-counselling/)
Slide 24

**Continued Support**

- **Hope for Wellness Helpline (First Nations, Métis and Inuit) (24/7)**
  A resource available to all Indigenous people across Canada, to assist when there are challenges, or to help connect with other wellness supports.
  - Telephone: 1-855-242-3310
  - Online Chat: [https://www.hopeforwellness.ca/](https://www.hopeforwellness.ca/)

- **Rural Ottawa Youth (Rural schools only)**
  An organization that works together to address the gaps in mental health services for youth in rural Ottawa.
  - Age 12-24
  - [www.ruralottawayouth.ca](http://www.ruralottawayouth.ca)
  - Instagram @RuralOttawaYouth

Slide 25

**References**

- Centre for Addiction and Mental Health
- Canadian Centre on Substance Abuse
- Health Canada
- Canadian Lung Association
- Ottawa Public Health
- CAPSA