

Section 2. Understanding vape products and cigarettes

Activity



Materials

- activity cards (2 copies per student or group)
- tape
- large sheet of paper with outline of a cigarette labelled with the words "What's in a cigarette or cigarette smoke?"
- large sheet of paper with outline of a cigarette labelled with the words "What's in a cigarette or cigarette smoke?"

What are you exposed to when you smoke or vape?

1. Each student (or pair) will receive two copies of a specific ingredient card. Ask each student to read the information shown on their card and then place one card inside the cigarette outline if they think it is found in a cigarette or cigarette smoke and one card inside the vaping device outline if they think it is found in a vaping device or vaping aerosol.
2. Confirm with the class that all of the ingredients shown on the activity cards are found in a cigarette and cigarette smoke and in vaping devices and vaping aerosols.
3. Ask the class to guess how many chemicals and poisons can be found in cigarettes and cigarette smoke and vaping devices and vaping aerosol. Tell the class that there are over 4,000 chemicals and poisons in cigarettes and cigarette smoke, of which 70 are known to be carcinogenic (a carcinogen is something that causes cancer). Research is still being done on what's in vaping aerosols, but approximately 140 compounds have been identified.
4. Explain that some of the chemicals are used to speed nicotine absorption or to reduce throat irritation when vaping or smoking.
5. Use the following questions to process the activity.
 - Were you surprised by the number of chemicals and poisons found in cigarettes and cigarette smoke and vaping devices and vaping aerosol?
 - Would you want to have any of these ingredients in contact with your body?
 - Would you want to have any of these ingredients inside your body?
 - Why do you think cigarette or vaping companies do not advise consumers about the chemicals and poisons? (Health Canada requires tobacco products to have graphic health warning messages; warning messages and ingredients on cigarette packs, and warning labels on individual cigarettes.
 - Do other products we buy have to have the ingredients they contain listed on the packet or container? (Yes. Health Canada requires products to be clearly labelled to show their contents).

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Activity cards: What are you exposed to when you smoke or vape?



Acetic acid

Found in vinegar and hair dye
Eyes and throat irritation, can cause bronchitis, erode teeth



Acetone

Used in paint stripper and nail polish remover
Damages the nervous system in high doses



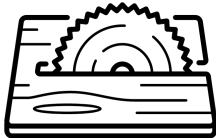
Acrolein

Used in grenades and artillery by France in WWI
Used as a weed killer



Ammonia

Used in disinfectants and household cleaning products such as window cleaner or oven cleaner



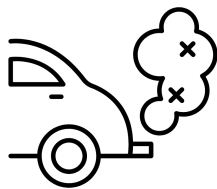
Arsenic

Used in wood preservatives
Can cause death from multi-organ failure in high doses, can cause cancer



Benzene

Found in crude oil and rubber cement
Can cause leukemia and other cancers



Benzo[a]pyrene

Created by incomplete burning of organic matter
Found in coal tar and engine exhaust fumes



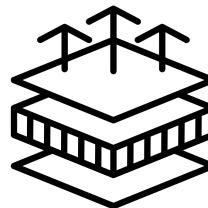
Cadmium

Heavy metal used in batteries
Can build up in the body and cause cancer



Carbon monoxide

A byproduct of burning fuels (wood, propane)
Can cause brain damage, death if inhaled



Fibreglass

Made of glass fibres woven with plastic, used in insulation
Can cause respiratory irritation

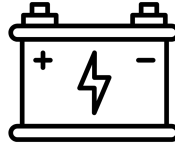
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Activity cards: What are you exposed to when you smoke or vape?



Formaldehyde

Kills most species of bacteria and fungi
Used in embalming fluid
Can cause cancer



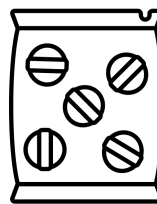
Lead

Found in car batteries
Can damage the nervous system, cause cancer



Methanol

Used as a biofuel, in windshield washer fluid
Can cause blindness if ingested



Naphthalene

A pesticide used in mothballs
Can cause liver and neurological damage



Nickel

Heavy metal, used to make stainless steel, batteries and electronic devices
Fatal at high doses



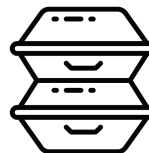
Nicotine

A pesticide that occurs naturally in plants like tobacco
Can be fatal if ingested



Nitrobenzene

Used to mask unpleasant odors in shoe and floor polishes
Can cause skin irritation, dizziness, fatal at high



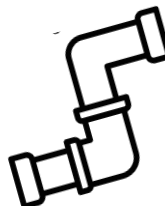
Styrene

Used to make styrofoam takeout containers, cups
Can cause cancer



Turpentine

Used in paint thinner, car wax, shoe polish
Can cause lung damage



Vinyl chloride

Used in polyvinyl chloride to make pipes, packaging
Can cause death if inhaled in high doses, can cause cancer

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Activity: What are you exposed to when you smoke or vape?

Ingredient or by-product	What it is, how it's used	Can cause or may cause...
Acetic acid	<ul style="list-style-type: none"> • Flavouring additive in cigarettes and e-liquid • Found in hair dye, vinegar, photographic film 	Skin damage and/or lung irritation at high doses
Acetone	<ul style="list-style-type: none"> • Found in cleaner, degreaser, nail polish remover 	Irritation of the nose and throat, damage to the nervous system at high doses
Acrolein	<ul style="list-style-type: none"> • Used in grenades and artillery by France in WWI • Used as a weed killer 	Strong irritant of the throat, eyes and skin, can cause blistering, likely causes cancer
Ammonia	<ul style="list-style-type: none"> • Used in cigarettes and e-liquid to speed up nicotine's absorption in the body, • Used as a cleaning solution (Windex) 	Respiratory irritation, asthma attacks, lethal at high doses
Arsenic	<ul style="list-style-type: none"> • Used to preserve wood products 	Cancer
Benzene	<ul style="list-style-type: none"> • Occurs naturally in crude oil 	Leukemia
Benzo[a]pyrene	<ul style="list-style-type: none"> • A polycyclic aromatic hydrocarbon (PAH) resulting from incomplete burning 	Cancer, damage to the immune and nervous systems
Cadmium	<ul style="list-style-type: none"> • Found in batteries 	Lung cancer
Carbon monoxide	<ul style="list-style-type: none"> • A by-product of burning/heating • Found in car exhaust 	Death if inhaled in high concentrations
Fibreglass	<ul style="list-style-type: none"> • Plastic mesh reinforced with glass fibers • Used to make septic tanks • Used in vaping wicks, cigarette filters 	Respiratory irritation

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Ingredient or byproduct	What is it, how it's used	Can cause or may cause...
Formaldehyde	<ul style="list-style-type: none"> • By-product of burning/heating • Used in plywood, embalming fluid 	Cancer
Lead	<ul style="list-style-type: none"> • Used in car batteries 	Cancer, long-term neurological problems
Methanol	<ul style="list-style-type: none"> • Purest form of alcohol • Used to reduce the throat irritation 	
Naphthalene	<ul style="list-style-type: none"> • Used as a pesticide (mothballs, etc.) 	Liver and neurological damage, possibly
Nickel	<ul style="list-style-type: none"> • Heavy metal, used to make stainless steel • Used in batteries and electronic devices 	Nausea, vomiting, headache, fatal at high doses
Nicotine	<ul style="list-style-type: none"> • A pesticide that occurs naturally in plants like tobacco • Highly addictive • Can act as a stimulant and a depressive 	Nausea, vomiting , irregular heartbeat, ingestion can be fatal in children, pets
Nitrobenzene	<ul style="list-style-type: none"> • Used to create rubber, plastics • Used to mask unpleasant odors in shoe and floor polishes 	Skin irritation, dizziness, inability to breathe and death at high doses
Styrene	<ul style="list-style-type: none"> • Used to make disposable cups, take-out containers 	Cancer
Turpentine	<ul style="list-style-type: none"> • Used in car wax, shoe polish 	Lung damage
Vinyl chloride	<ul style="list-style-type: none"> • Used in polyvinyl chloride to make pipes, packaging 	Cancer, death if inhaled at high doses