

## CC3: Periodic table worksheet



When a cigarette burns, it releases a dangerous cocktail of over 5000 chemicals including:

- more than 250 toxic chemicals of which 70 are known to cause cancer.
- hundreds of other poisons
- nicotine, a highly addictive drug, and many additives designed to make cigarettes taste nicer and keep smokers hooked.

1) These are just some of the harmful chemicals are found in cigarettes. Find the chemical on the periodic table and complete the end column

Chemical	Description	Periodic Table Element (s)
<b>Arsenic</b>	<p>Arsenic is one of the most dangerous chemicals in cigarettes. It can cause cancer as well as damaging the heart and its blood vessels.</p> <p>As well as any direct effects, it can worsen the effect of other chemicals by interfering with our ability to repair our DNA.</p>	
<b>Cadmium</b>	<p>Cadmium is a metal used mostly to make batteries. The majority of cadmium in our bodies comes from exposure to tobacco smoke. Smokers can have twice as much cadmium in their blood as non-smokers.</p> <p>It is a known cause of cancer, and can also damage the kidneys and the linings of the arteries.</p>	
<b>Polonium</b>	<p>Polonium is a rare, radioactive element and polonium-210 is its most common form. Polonium strongly emits a very damaging type of radiation called alpha-radiation that can usually be blocked by thin layers of skin.</p> <p>Tobacco smoke contains traces of polonium, which become deposited inside their airways and deliver radiation directly to surrounding cells.</p>	

2) Here are some other chemicals found in cigarettes, can you identify the elements in the periodic table and add them in the last column?

Chemical	Description	Elements found in this substance	Periodic Table Symbol
<b>Ammonia</b>	Ammonia is a gas with a strong, irritating smell, and is used in some toilet cleaners. Some studies have found that ammonia enhances the addictive power of nicotine. It changes nicotine into a gas that is more readily absorbed into the lungs, airways and bloodstream.	<ul style="list-style-type: none"> <li>• Nitrogen</li> <li>• Hydrogen</li> </ul>	
<b>Benzene</b>	Benzene is a solvent used to manufacture other chemicals, including petrol. It is well-established that benzene can cause cancer, particularly leukaemia. It could account for between a tenth and a half of the deaths from leukaemia caused by smoking.	<ul style="list-style-type: none"> <li>• Carbon</li> <li>• Hydrogen</li> </ul>	
<b>Carbon Monoxide</b>	<p>Carbon monoxide sticks to our red blood cells in place of oxygen. This lowers our blood's ability to transport oxygen and deprives our tissues and organs of this vital gas.</p> <p>Like hydrogen cyanide, it kills cilia and reduces our lungs' ability to clear away toxins. This means that while carbon monoxide does not cause cancer directly, it makes it easier for other chemicals to do so.</p>	<ul style="list-style-type: none"> <li>• Carbon</li> <li>• Oxygen</li> </ul>	