



Major Pollutants

The following table can be used as an additional learning tool for students and/or teachers.

Prepared for Students
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Pollutant	Source	Human Health Effects
Particulate Matter (PM) PM10 PM2.5	<ul style="list-style-type: none">- Internal Combustion Engines (Cars, trucks)- Industry (Factories)- Burning Wood- Cigarette Smoke- Wildfires- Volcanoes	Long term exposure is linked to: <ul style="list-style-type: none">- Lung Cancer- Heart Disease- Lung Disease (E.g. COPD)- Asthma Attacks- Other health problems
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none">- Motor Vehicles are the biggest contributors- Other combustion processes	Exposure to high levels of NO ₂ may lead to: <ul style="list-style-type: none">- Lung damage- Respiratory Disease- Increased hospital admissions for asthma and respiratory problems.- Increased mortality.

Pollutant	Source	Human Health Effects
Ozone (O ₃)	<p>Formed by various complex chemical reactions involving the exposure of the oxides of nitrogen and some hydro-carbons.</p> <p>Ozone is the main ingredient of photochemical smog in summer and early autumn.</p>	<p>Ozone effects the: Lining of the lungs Lining of the respiratory tract Causes eye irritation</p> <p>Ozone also damages plants, buildings and other materials</p>
Carbon Monoxide (CO)	<p>Motor vehicle exhaust and burning of materials such as coal, oil and wood. It is also released from industrial processes and waste incineration.</p>	<p>When inhaled, CO enters the bloodstream and disrupts the supply of oxygen to the body's tissues.</p> <p>A range of health effects may result depending on the extent of the exposure, but intense exposure can lead to death.</p>
Lead (Pb)	<p>Is largely derived from the combustion of lead additives in motor fuels as well as lead smelting.</p> <p>Lead pollution from vehicle emissions is declining due to the introduction of unleaded fuels and reductions in lead levels in leaded fuels.</p> <p>Other atmospheric sources of lead include waste incineration and renovation of old houses (from leaded paint).</p>	<p>Lead harms learning in children and the development of their nervous system.</p> <p>Lead affects almost every organ in the body, whether it is inhaled or ingested. Young children are particularly susceptible.</p>

Pollutant	Source	Human Health Effects
Hydrocarbons (HCs) - chemical compounds composed of Hydrogen and Carbon atoms	Most fuel combustion processes result in the release of hydrocarbons to the environment. The largest fuel sources are natural gas and petrol. Note that hydrocarbons can enter the environment both as evaporative emissions from vehicle fuel systems, or in exhaust emissions. They are also a component of the smoke from wood fires.	Exposure can cause headaches or nausea, while some compounds may cause cancer. Some may also damage plants.