



Air pollution fact sheet

How to use this section of the toolkit

Please find below a series of facts about air pollution including how it affects us here in Colchester. You can use this fact sheet as a discussion guide to help introduce the subject to the class and talk about what we can all do to help improve the quality of the air we breathe.

When you have finished your discussions on air pollution, please use the accompanying quiz on pages 27/28 to test your pupils' knowledge. There are also additional activities in this toolkit to help you delve further into the subject matter depending on your time and interest.

What is air pollution?

Air pollution is the presence of toxic substances in the air which can be harmful to the health of humans and other living beings, and cause damage to our environment. There are different types of air pollutants such as gases and particulates (microscopic matter suspended in the air) which can come from many different sources. Air pollution isn't always visible and can be odourless too.

What are the main sources of air pollution?

In towns and cities, the main source of air pollution is road transport. Diesel and petrol vehicles create pollutants, including nitrogen dioxide and particulate matter, and the friction of brakes and tyres on the road also contributes to poor quality air. Other sources of air pollution include burning fuel in houses for heating or cooking, emissions from power stations, industry and farming.

What is the main source of air pollution in Colchester?

The main source of Colchester's air pollution is exhaust fumes from cars, lorries and other vehicles travelling in and around the city. Air pollution can be 30% higher outside schools because of idling cars (a car is stationary with the engine running).

Why is air pollution a problem in Colchester?

As the oldest Roman city in Britain, the centre of Colchester has many narrow roads with the buildings close to each other. Unfortunately, this traps the pollutants so that the bad air can't escape.

It means that in some parts of Colchester the air pollution levels are higher than the national limit for nitrogen dioxide, including on Brook Street, Osborne Street, St Johns Street, and Mersea Road.

Which toxic gases are found in exhaust fumes?

Exhaust fumes from vehicles such as cars, vans, lorries and buses contain toxic gases including nitrogen oxide, carbon monoxide, carbon dioxide and sulphur dioxide.

What does it mean when a car engine is 'idling' and why is it a problem?

Idling refers to a car that is stationary but has the engine running, for example waiting at a level crossing or outside a school. Idling engines are a significant contributor to air pollution because they produce higher concentrations of air pollution than a car in motion. This pollution can accumulate inside the car by natural circulation of air or suction through the ventilation system and is breathed in by everyone inside the car.



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Am I protected from air pollution when I travel to school in a car?

No you are not protected from air pollution inside a car. Researchers found that pollution inside a stationary car with the engine running (for example waiting at traffic lights or outside school) can be up to seven times higher compared to air outside the car and in some cases this could be much higher.

How does switching off a car engine when stationary help improve air quality?

Switching off your engine when you are waiting at traffic lights, level crossings or outside schools is a really easy way to help cut air pollution in Colchester by up to 30%. It means that anyone who is near a road with idling cars, or sitting inside an idling car, doesn't have to breathe in harmful emissions. That includes people who live in streets with lots of traffic, children on their way to school, people on their way to work, the person in the car behind you and you sitting behind another car.

How does poor quality air affect our health?

Air pollution reduces life expectancy and is linked to 1 in 20 deaths in Colchester. It is recognised as a contributing factor in the development of lung conditions, heart disease and cancer. There is also evidence highlighting possible links between air pollution and diabetes, dementia and underweight births.

Which groups of people are particularly vulnerable to poor quality air?

Breathing in poor quality air is bad for everyone but there are certain groups of people who are particularly vulnerable including pregnant women, babies, children, people with existing respiratory problems as well as elderly people.

How do I protect myself from air pollution when I cycle/walk?

Where possible, choosing to walk or cycle on off-road paths or back roads will reduce your exposure to air pollution – use **walking** and **cycling** maps of Colchester to help you plan the best routes (see page 33 for details). If you have to travel along busy main roads, try to plan your journey during quieter times of the day and avoid rush hour. Encourage all of your family and friends to choose sustainable transport where possible and to always turn off the car engine when stationary if they do have to drive.

What is Colchester City Council doing to help?

CAREless Pollution is a Colchester-wide campaign that is urging people to adopt better travel habits to improve their own health and help reduce air pollution in the city by switching off the car engine when stationary. To support this campaign, the Council is providing services and resources to encourage people to walk and cycle more frequently instead of driving. These include the **Bikewise Campaign**, **Secure Bike Park**, the **eCargo bike hire schemes** and **walking** and **cycling** maps of Colchester. The Council also work with partners to offer alternative transport opportunities, such as the pay-as-you-go Tier eScooters, the Enterprise car club and the Loveurcar scheme to encourage car sharing where possible.

Further details available on page 33.