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| **Lesson plan 1 – Understanding vehicle idling** |
| Learning objectives | * Pupils will understand the effects of vehicle idling on air quality, the wider environment and human health.
* Pupils will feel empowered through actively listening and sharing opinions to take action to tackle vehicle idling within their school.
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| KS2 curriculum links | * Participate in talking and listening.
* The effect of people on the natural environment.
* Use of ICT.
* How to sustain health, growth and well-being and coping safely and efficiently within their environment.
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| Teachers’ notes | **Starter activity**Everyone should understand why it is important to take action to improve air quality. This includes the effects air pollution has on our health and what we can do about it. A word search is provided within the resource section below to introduce some of the terms discussed throughout the work scheme. **Main lesson****Read - Vehicle idling leaflet**Pupils should read the leaflet provided to help inform the discussion.**Discussion - What is vehicle idling?**Idling is when a vehicle’s engine is left running while it is parked or stationary for a period of 10-20 seconds or longer, contributing to toxic emissions in the air we breathe. This commonly happens when drivers are stopped at traffic lights or waiting while parked outside a house, school or business.Idling vehicles at school can be particularly damaging on young lungs. Vehicle exhaust fumes contain many pollutants that are linked to asthma and other lung diseases, allergies, heart disease, cancer and other health problems. Vehicle idling also increases your carbon footprint, using up natural resources and increasing emissions, which damage the environment.**Discussion - Why should we stop vehicle idling?**Running a car without going anywhere just doesn’t make any sense! Here are four reasons why:* Environment: When an engine is running, it emits carbon dioxide (CO2), the main greenhouse gas responsible for climate change. By switching off your engine when stopped, you stop these emissions too!
* Health: Idling makes for poor air quality, which is bad for human health. Young people are at greater risk of the health impacts of air pollution because their lungs are still developing.
* Money: Idling wastes fuel that you’re paying for - that just burns a hole in your pocket!
* Safety: When cars and buses are idling outside a school, it is harder for students to hear cars that are actually moving, which might be hidden behind the idling cars.

**ICT**Don’t limit your knowledge to the effects of idling vehicles only; the more you know about air quality, the more you can educate others and change behaviour. The link provided within the resource section below provides an interactive tool for learning about air quality including infographics and a short quiz.**Discussion – Future technology and transport**While electric cars don’t idle, and many modern cars have stop-start technology (a feature that switches off the engine when the car isn’t moving), there are still many vehicles that are guilty of needless idling outside our schools! Discuss with pupils other ways technology could help improve air quality i.e. sustainable transport and walking/cycling to school**Survey**You should undertake a survey to determine how successful your project has been. At the start of the project, count the number of idling vehicles at the morning drop off and afternoon pickup. A survey template is included in the resource section below. Measure this figure again after your project has been completed to see if there have been any changes. All surveys should be carried out in a safe and supervised manner.**Plenary*** What is vehicle idling?
* Why should we stop idling?
* What can we do to stop idling?
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| Resources | The resources below will also help reinforce the message and create understanding and support for the project.[Flyer](https://www.lisburncastlereagh.gov.uk/uploads/general/630BTL~C.PDF) [Word search](https://www.lisburncastlereagh.gov.uk/uploads/general/A4_Word_Search.pdf)[Vehicle idling survey](https://www.lisburncastlereagh.gov.uk/uploads/general/A4_Survey.pdf)<http://www.airqualityni.co.uk/pollution-busters/> |
| Success criteria | * Pupils should understand the effects of vehicle idling on air quality, the wider environment and human health.
* Pupils should feel empowered through actively listening and sharing opinions to take action to tackle vehicle idling outside their school.
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