

Learning for sustainability: Third Level

Lesson Length: 1h 40m

Interdisciplinary learning objective: To encourage us to understand the key sources of air pollution at school, what we can do to protect people from it and how we can keep our air clean. I am developing informed social, moral and ethical views of scientific, economic and environmental issues (*CfE Science Principles and Practice*)

Curriculum for Excellence Links:

- **Social Studies:** I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact (*SOC 3-08a*)
- **Numeracy and Maths:** I can work collaboratively, making appropriate use of technology, to source information presented in a range of ways, interpret what it conveys and discuss whether I believe the information to be robust, vague or misleading (*MNU 3-20a*). When analysing information or collecting data of my own, I can use my understanding of how bias may arise and how sample size can affect precision, to ensure that the data allows for fair conclusions to be drawn. (*MTH 3-20b*). I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs making effective use of technology (*MTH 2-21a / MTH 3-21a*)
- **Literacy and English:** I enjoy creating texts of my choice and I regularly select subject, purpose, format and resources to suit the needs of my audience (*LIT 3-20a*). I can persuade, argue, evaluate, explore issues or express an opinion using a clear line of thought, relevant supporting detail and/or evidence (*LT 2-29a*)

Time	Activity	Notes & Resources
10 mins	<p>Using the discussion questions slideshow (slides 1 – 5) introduce students to the subject of clean air. Discussion questions:</p> <p style="text-align: center;">Why is clean air important? What stops our air being clean?</p> <p>Explain that during this lesson, we will look at what can stop the air at school from being clean and how we can protect ourselves from air pollution.</p> <p>If appropriate, spend some time discussing the health risks surrounding air pollution. Students could spend time researching the common pollutants (particulate matter, nitrogen oxide, etc.).</p>	<p>Resource: Discussion questions slideshow</p> <p>Note: Some students may find the information on slide 3 upsetting. If you don't wish to share the health risks, the Level 1 & 2 slideshow does not have this slide.</p>
60 mins	<p>In this part of the lesson, students will explore and collect data on the sources of pollution in and around the school.</p> <p>Challenge the students to collect data to identify when their fellow students are at the highest risk of exposure to air pollution. They should decide what they want to measure and how they will do so.</p>	<p>Optional: Observe the impact of air pollution in nature with the lichen observation activity</p>



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60 mins	<p>They should consider:</p> <ul style="list-style-type: none"> • Different locations to study • What locations are like at different times of day • Number of pollution sources • How long vehicles spend idling in/near to their chosen areas <p>They may also find the following information about sources of pollution useful:</p> <table border="1"> <thead> <tr> <th>Higher</th><th>Medium</th><th>Lower</th></tr> </thead> <tbody> <tr> <td>Lorry</td><td>Car (petrol/diesel)</td><td>Motorbike</td></tr> <tr> <td>Bus</td><td>Taxi</td><td>Scooter</td></tr> <tr> <td>Diesel train</td><td></td><td>Hybrid car</td></tr> </tbody> </table> <p>Students should choose the best way to present their results to support their conclusion of when and where students are at the highest risk.</p>	Higher	Medium	Lower	Lorry	Car (petrol/diesel)	Motorbike	Bus	Taxi	Scooter	Diesel train		Hybrid car	
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30 mins	<p>Share the dystopian future scenario challenge with the students.</p> <p>In groups, encourage students to create their own Bad Air Day plan. They will need to consider the different areas of risk, the actions that can be taken to reduce the risk and who could be responsible for each part of the plan.</p> <p>When students have completed their Bad Air Day plans, remind them that air pollution is also a health risk in 2021 and that we should think about the best ways to avoid and reduce air pollution. Get students to review their plans and select all of the actions that could benefit members of the school community today. Share these actions with the whole group.</p>	<p>Resources: Dystopian future scenario and Bad Air Day plan</p> <p>Optional: Encourage everyone in the group to make a pledge using one of our pledge cards</p>												
Ongoing	<p>Explain that on 17 June, schools across the UK will be taking part in Clean Air Day. Students, teachers, parents and the local community will be taking action to reduce and avoid air pollution.</p> <p>Encourage students to think of creative and interesting ways to get every member of the school community to make a pledge and take action on Clean Air Day. Select a specific target for the day, e.g. no idling vehicles at the school gate or 75% of students walking to school. Then design a campaign to help your whole school reach that target, you can use the resources on the Clean Air Day website to help you.</p>	<p>Optional: Use all of the resources from our website to prepare for 17 June</p>												

