

Air Quality Survey

Green-Schools Travel



Aim

To investigate air quality in and around the immediate vicinity of the school grounds. To consider the possible causes of air pollution and its effects on the local environment and student's health.

Objective

Students will be introduced to the idea of air pollution and particulate matter. They will investigate the effects of air pollution on their health and why clean air is important to us all. This lesson plan is suitable for children aged between 10-18 years.

What you will need

- four white tiles or postcards (a toilet roll holder can also be used)
- petroleum jelly
- sticky tape
- Glue
- magnifying glass

What to do

1. Discuss in class what air pollution is and what it is made up of. Discuss what particulate matter is, the type of particulate matter and how it can affect your health.
2. Before you start the experiment ask the class to predict where they think the air quality is the worst around the vicinity of the school.
3. Students should smear the tiles or postcards with Vaseline and place them at four locations around the school. The students should decide where the best locations would be i.e. school gate, zebra crossing etc.
4. The site locations should be safe from tampering, not too near the ground and away from direct contact with rain.

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What to do (continued)

5. Leave the tiles or postcards for approximately two days to get the best results.
6. The experiment can be compared with traffic flow measurements to draw conclusions about the relationship between traffic and air quality.
7. Collect the samples after the prescribed time and analyse the results using a magnifying glass.
8. Record the results for the different site locations on a graph and discuss the findings in relation to particulate matter found.
9. To end discuss the benefits of walking, cycling, public transport and car pooling as a solution to air pollution.

Extension activities

- You may be able to measure carbon monoxide concentrations in the air if you use a meter. The Environmental Health Officer from the Council may be able to provide one. The best way to gauge the levels of carbon monoxide is to hold the meter 1.5 m above the ground, while standing close to the kerb and facing the sensor out towards the road. The concentrations can vary rapidly so take the readings at frequent intervals.
- Take a look at the [Green-Schools Air Quality Toolkit](#), this contains lots of information and worksheets specific to air quality in schools.
- Invite your class to create their own ['Biome for Clean Air'](#)

Websites of interest

- This activity links to Sustainable Development Goal (SDG) 3 – Health and Wellbeing. For further information on this SDG click [here](#).
- A great deal of work is underway to measure and improve air quality in Ireland. Visit the ['GLOBE'](#) project or www.epa.ie for further information.