Big Pedal 2021

Amazing air investigation

Level two

Objectives

To learn which modes of transport produce the most air pollution.

To discover what is causing air pollution around your school or in your local area.

To make and test a prediction about the levels of air pollution in two different locations.

Session plan

Ask the students to consider which modes of transport produce the most air pollution. Share information on how much carbon dioxide is emitted by various modes of transport (see graphic ranking modes of transport from most to least sustainable).

Ask students to think of two locations for a transport count. They need to pick one location they think will have cleaner air and one they think will have dirtier air.

Ask them to make predictions about what modes of transport they might see people using in each location. And which location is likely to have higher levels of air pollution.

Chose a time period for both the mode of transport counts (eg five mins).

Take the students out to the locations following your school's safe field trip guidelines. Please follow local coronavirus guidance.

Students will use the tally chart to record how people pass by in that time.

Return to the classroom. Ask students to look at their tallies and the emissions information on their worksheet. Discuss which location looks like it had the cleanest/dirtiest air? Ask how that compares to their predictions.

At home adaptation: For students completing this activity indoors, videos are available of traffic passing two different locations (one rural, one urban).

www.youtube.com/watch?v=9PEu7a1QK_M

www.youtube.com/watch?v=cMQJQEPbzOM

Time needed
30 mins (indoor)
60 mins (outdoor)

Resources needed
Pencil and paper, device to watch video (indoor)

Solo/Group activity
Solo at home
Group in class

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Amazing air investigation

Level two worksheet

Can you predict which location will have the most air pollution, based on the different transport people are using?

How did your observations compare with your predictions?

Who passed by?	Location A	Location B
Person walking, jogging, running, scooting or using a wheelchair		
Person cycling		
Car or van		
Bus		
Other large vehicle (eg tractor, lorry)		

What's the best way to get to school?

Walking   Cycling   Train   Bus   Car share   Drive and park

Most sustainable ⟶ **Least sustainable**

Cars emit 0.30 kilograms of CO2/ mile.
Buses emit 0.18 kilograms of CO2/mile per passenger.
Trains emit 0.08 kilograms of CO2/mile per passenger.

Source: Department of Transport, 2020