

# IMPACTS AND POLLUTION

## Activity IP04

### Theme

Demonstration (D) and Class activity (CA). The students investigate how much traffic there is in the area and discusses the effects of traffic on the local environment.

### Objectives

Raising awareness of pollution and safety issues associated with road traffic. Asking students to think about the impacts of traffic on their locality.

### Curricular Strands

SESE, Science and Geography–  
Environmental awareness and care

### Skills

Questioning, observing, predicting, investigating, estimating and analysing

### Time

20 minutes introduction; 30 minute investigation

### Links to Green Schools

Effects of local traffic in school grounds; Energy use

# Car counting

## SURVEYING TRAFFIC IN YOUR AREA

### WHAT YOU NEED

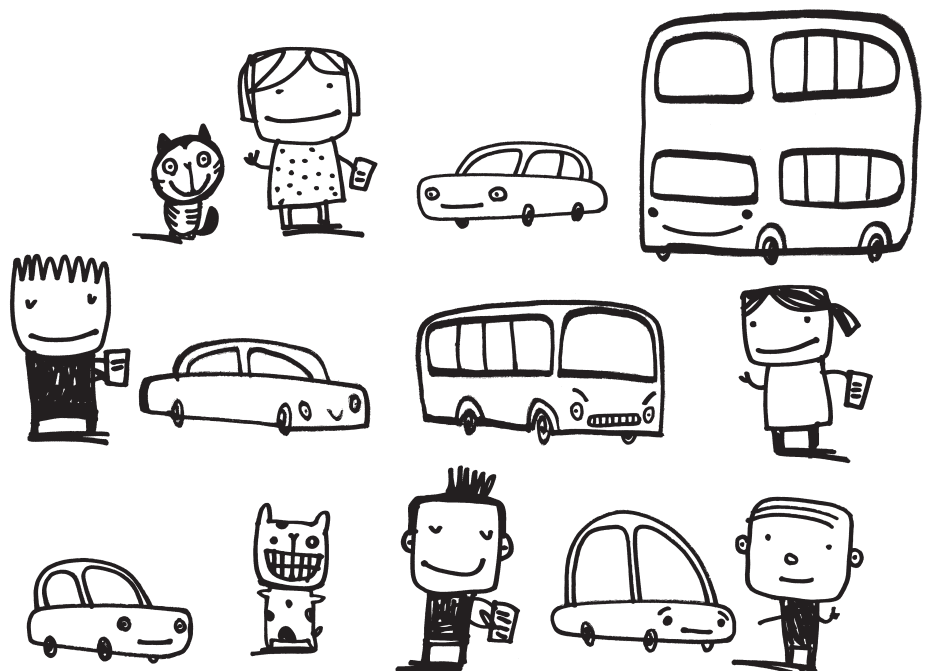
- Four disposable cameras
- Copies of the table attached
- Graph paper

### WHAT YOU DO

- 1 Put the word 'traffic' on the board. Brainstorm what traffic is with the class: buses, cars, lorries, vans, truck, bicycles and pedestrian traffic. Discuss how heavy traffic can cause noise and air pollution in local areas. Most vehicles are fuelled by petrol or diesel: when these fuels burn, the car releases the gases through the exhaust pipe at the back of the car. Many of these gases are harmful to the environment and our health.
- 2 Discuss with the class what it is like to walk down a street in the local town or village in heavy traffic.

- 3 As well as causing pollution, cars and heavy traffic can make the areas where we live less safe to walk and play. However, we need cars to get around and we need trucks to transport goods from factories to shops.

- 4 The students are going to investigate how people in their class travel to school, if routes to school are safe and how many cars travel on roads near the schools.



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- 5 Ask the students to design a table to show how everyone in their class travels to school.
- 6 Each group can record how the children in their group travel to school. Is it by car or bus? Does anyone walk or cycle? Do many share lifts with other students?
- 7 All of this information can then be collated and presented on a bar chart to display in the classroom.
- 8 To carry out a survey of their route to school, students could look at the routes they take to school as they travel on an agreed day or conduct surveys in teams with supervision. At the simplest level, the class could look at the roads in the immediate vicinity of the school. Safety should be paramount.
- 9 Give each group a disposable camera. Explain to students that they should take photos of different parts of their route when they come to school. They should include places where traffic is heavy; where it feels unsafe (e.g. at crossroads, or where they get out of the car or bus); where it feels safe (e.g. pedestrian lights, or near lollipop ladies/ lollipop men); where it is difficult/easy to see traffic clearly; and where they see dangerous behaviour by other cars, buses, pedestrians and cyclists. The students can brainstorm together to discover more ideas for suitable photos.
- 10 The photos can be developed and displayed along side a map of the streets in the local area (tying in to the mapping activities in the Environmental Care pack). Students can, based on their own knowledge and the evidence of the surveys and photos, identify danger spots on routes to school.
- 11 This results of the project could be displayed in the school corridor or brought to other classes and incorporated with a road safety talk, which could be given by students. Students could send a copy of their work and a letter to the local council and ask them to address the safety issues on their school routes.
- 12 Students may wish to carry out a traffic count, recording the number of cars passing the school gates.
- 13 Before carrying out the investigation students should decide at what time(s) they will carry out the traffic count, whether they are going to count buses, cars and lorries separately, how are they going to count, and where will they position themselves (safety should be the most important consideration).
- 14 For example, carry out a count at lunchtime or when infant classes finish school; when recording traffic, record a bus as B, a car as C, and a truck as T; record this information on paper; have two people counting in the same area and compare results; position students in safe locations at the school gates, or where they can see the road passing the school yard.
- 15 Students can then present the information on graphs to display in their class and school.

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### Questions

- 1 A typical car emits about 170g of carbon dioxide for every kilometre it travels. Calculate how many tonnes of carbon dioxide are emitted in one hour in a one kilometre stretch of road outside the school using the results of the traffic counts.

### Go further

- 1 Having discussed the effect of cars on their environment, students could start an awareness campaign to promote walking to school—could a 'walking bus' system work? (see <http://www.dto.ie/srts.htm> for an example from Donabate, Co. Dublin.) The students could also identify safe cycling routes.
- 2 The Catulator on this website shows students how their travel to school contributes to their overall environmental impact.