Getting to School

Purpose:

The purpose of this activity is to engage students in carrying out a statistical investigation (using the PPDAC cycle: problem, plan, data, analysis, conclusion) that leads them to tell a class story.

Achievement Objectives:

S2-1: Conduct investigations using the statistical enquiry cycle: posing and answering questions; gathering, sorting, and displaying category and whole-number data; communicating findings based on the data.

Description of mathematics:

In readiness for this investigation, the students should have familiarity with each of the stages of the PPDAC cycle.

- problem - posing a question to investigate
- plan - planning an investigation
- data - collecting and recording whole number and category data
- analysis - sorting data, including frequency plots
- conclusion - making summary statements from data displays

This activity may be carried out with guidance, or by allowing the student to manage their investigation independently. Students could be encouraged to read beyond the data. The approach should be chosen in sympathy with students' skills and depth of understanding.

Activity:

A teacher wondered how her class **usually** travelled to and from school each day. Carry out an investigation to find out how the students in your class arrived at school today.

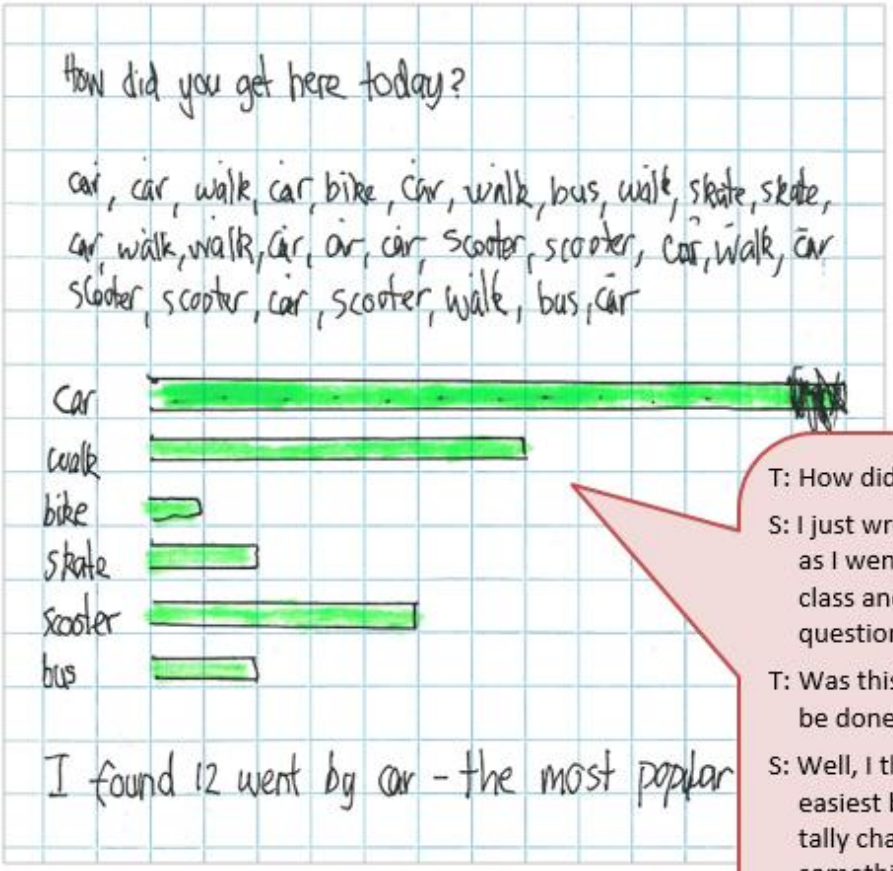
1. Pose a question to investigate.
2. Collect data from your class.
3. Display your data.
4. What did you find out?

The procedural approach

The student is able to carry out a statistical investigation, following the PPDAC cycle, that allows them to tell a story about the class.

Prompts from the teacher could be:

1. What do you want to find out?
2. What question(s) will you ask?
3. Who will you ask?
4. How will you record your data?
5. Collect data from your class.
6. Display your data in a table or a graph.
7. What did you find out?



T: How did you record this data?

S: I just wrote down the answers as I went past everyone in the class and asked them my question.

T: Was this the best way it could be done?

S: Well, I thought it was the easiest but maybe if I had a tally chart or a table or something it would have been easier to do the graph. I had to check my counting up all the time.

The conceptual approach

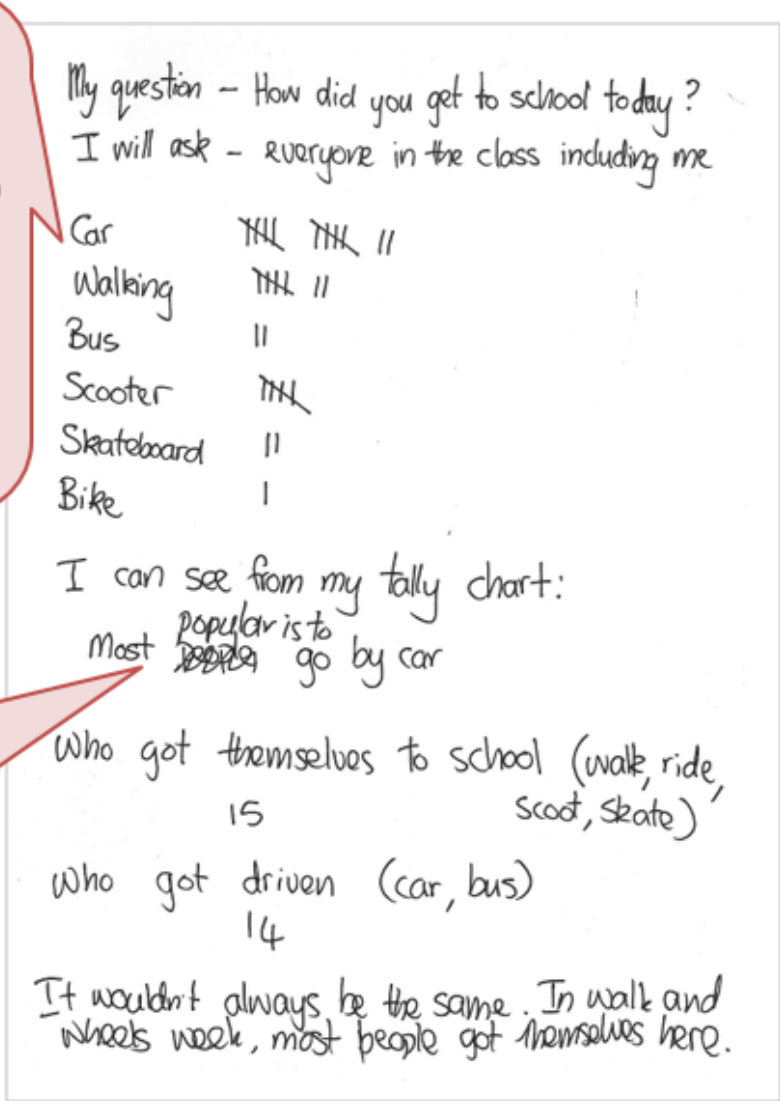
The student is able to carry out a statistical investigation, following the PPDAC cycle, that allows them to make an informed comment about the class.

Prompts from the teacher could be:

1. Pose a question to investigate.
2. Collect data from your class.
3. Display your data.
4. What did you find out?
5. Would the results of your investigation be the same if you asked about getting home? ...or asked on a different day?

T: I am interested in how you have grouped your data.

S: Oh, well, it's who uses their legs, so that's walking and scootering and stuff, and then everyone else is sitting down while an adult gets them here. Oh, maybe for a bus you have to walk too, but you are sitting down on the bus not doing anything. A bike is sitting up mostly, but you are peddling yourself to school.



T: Tell me about this change you made here.

S: I was going to say most, but it's not half the people in the class who go by car, so that's why I had to say it another way.