Sugar Guzzlers

It was recently reported that an average New Zealand child guzzles almost 6Kg of sugar a year in sweetened drinks. Is this true?

Problem ?

Plan



Write a problem to solve in the form of a question that will need data to answer. For example, Is the typical amount of sugar students in your class drink in a year likely to be 6Kg?

Discuss these questions in your group:

- 1. How would you answer the question now, before you gather the data? Justify your answer.
- 2. Can you remember all the drinks you have had this year? What other way could you work out how many drinks you have in a year?
- 3. What do you typically drink in one day? Were your drinks yesterday typical of what you usually drink in a day?
- 4. How would you go about gathering data to answer your question? Who would you survey? How many people would you ask? What drinks would you include?
- 5. How would you go about using the data you collect to work out the typical amount of sugar a student drinks? How would you measure the amount of sugar in each drink?
- 6. Write down your plan. Remember to include the reasons why you think this is a good plan.

Here is a table based on the 2005 CensusAtSchool database a statistician might use to record the data you collect. Each row represents one person's drinks.



Carry out your survey or ask your teacher for a data set.





Analysis



Have a look at the data you have collected. Write the answers to these questions in your books.

- 1. What do you notice? Write down five pieces of information from your data.
- 2. Find your row in the table. Is the amount you drink typical?
- 3. Are there any students who stand out because they drink a lot or a little of one kind of drink?
- 4. What is the most common drink? What is the least popular drink? Draw a graph that shows the popularity of each type of drink.
- 5. Which student drinks the most? Which student drinks the least? Draw a graph to show how many drinks each student drinks in a day. Can you show this in a more summarised way?
- 6. What would you predict the typical amount of sugar a student drinks in one day to be now?
- 7. Draw a graph or graphs to show the number of drinks each student drinks in a day. Can you show this in a more summarised way?
- 8. How would you describe the spread of the data?
- 9. What is the 'average' number of drinks for the students in your sample? Give a reason you why you think this.

Here is some information about the amount of sugar in g for one cup or glass of each type of drink. One teaspoon of sugar weighs about 4g.

- 10. Why do you think the amount of sugar per cup of Tea/Coffee and Hot Chocolate/Milo columns are incomplete? What will you do about this?
- 11. How are you going to use this table to work out the typical amount of sugar a student drinks in a year?
- 12. In a table (see below), record the amount of sugar each student drinks in a year.
- 13. Draw a graph of this information. You may have to draw several graphs to show all the information.

	Water	Fruit juice	Cordial	Fizzy drink	Diet fizzy drink	Sports drink	Milk -not flavoured	Smoothie or shake	Tea or coffee	Hot Chocolate or Milo	Other	TOTAL yesterday	TOTAL for year
Sugar in grams	0	26	25	27	0	24	11*	22	0+_	10+_**	20***		
student												g	kg

- 14. Is the amount of sugar you consume in drinks typical? Are you in the middle clump, the middle of the range?
- 15. How would you describe the spread of the data?
- 16. What is the 'average' amount of sugar a student drinks in a year? Give a reason you why you think this.

In your books record your thoughts about your graphs using these sentence starters:

I noticed that...

I wondered if... (What do you wish you had information on?)

Conclusion



In your books answer the question in the problem section: Is the amount of sugar drunk in a year by an typical student in your class or CensusAtSchool likely to be 6kg?

Remember to give reasons based on what you found out in your investigation.