Way to Go

Activity One

Room 2 students from Akarana School mark where they live on a street map and then measure the distance from their home to school.
They graph the distances on a histogram like this:

Distance to School (Auckland)

(Histogram: x-axis "Distance (kilometres)" from 0 to 6; y-axis "Number of students" from 0 to 9. Bars: 0–1 = 3, 1–2 = 8, 2–3 = 6, 4–5 = 2, 5–6 = 1.)
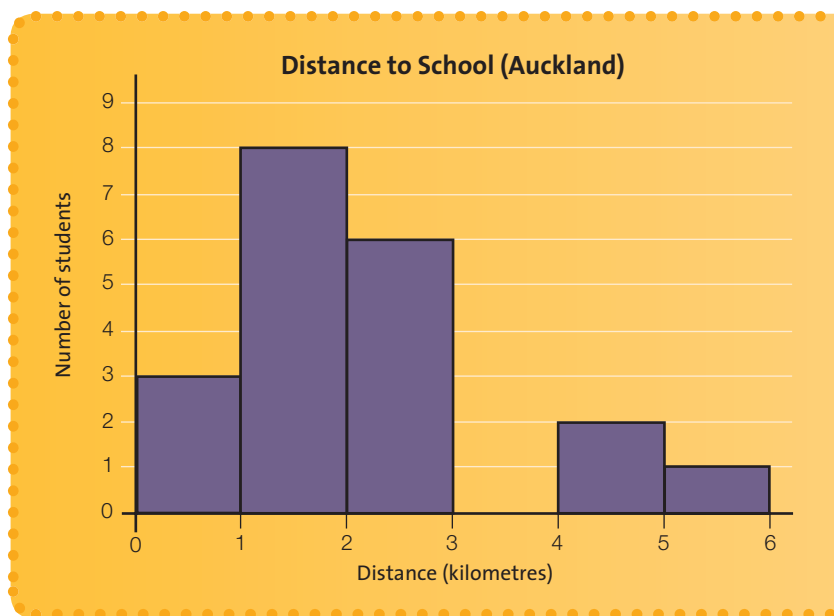
They then ask a class in rural Otago to do the same exercise.
Here is the data the Otago class send back:

| Distance (km)	Number of students
0–2	0
2–4	2
4–6	4
6–8	3
8–10	3
10–12	3
12–14	8
14–16	4
16+	3

I live exactly 4 kilometres from school, so I'm in the 4–6 kilometre row, not the 2–4.

1. Draw a histogram, like the one drawn by the Room 2 students, that shows the home-to-school distance for the students from the rural Otago class.

2. a. In what ways are the two graphs different?

   b. What might account for these differences?

3. Compare the distance scales for the two graphs. Should they be the same?

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Activity Two

Everyone in your class needs to do this exercise, using a local street or district map. Work in pairs for questions **2** and **3**.

1. Mark where you live on the map. Using either a piece of string and a ruler or a narrow strip of thin card marked with the scale, measure the distance from your home to school. Pool your data with everyone else's.

2. Draw a histogram (similar to the ones for **Activity One**) to show this data. What does this graph tell you?

3. Compare this histogram with those for the Auckland and rural Otago schools' data. Which histogram is yours most like? What does this tell you?
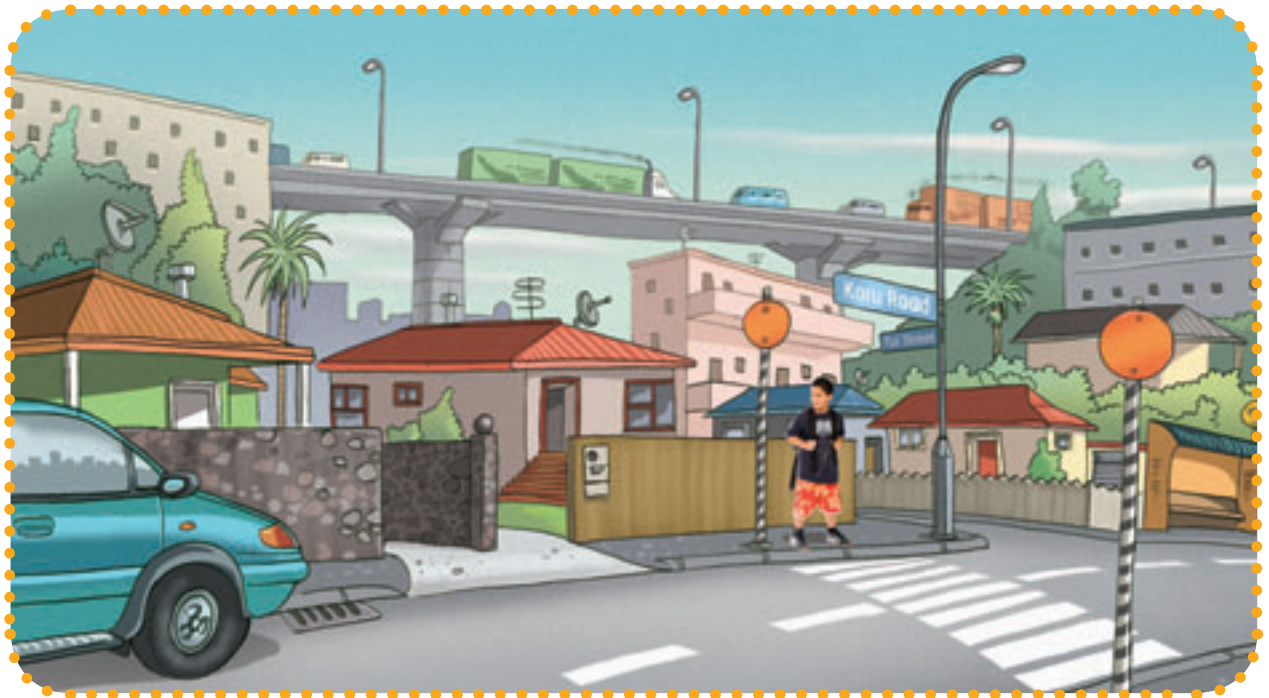
Focus   Graphing continuous data and interpreting the results