Trend Task: **Bridge**

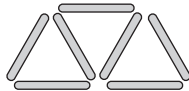|			
Approach:	Station	**Year:**	8
Focus:	Algebraic reasoning; patterns		
Resources:	16 iceblock sticks; answer booklet		

NEMP Access Task

Questions / instructions:

This is a picture of a bridge.
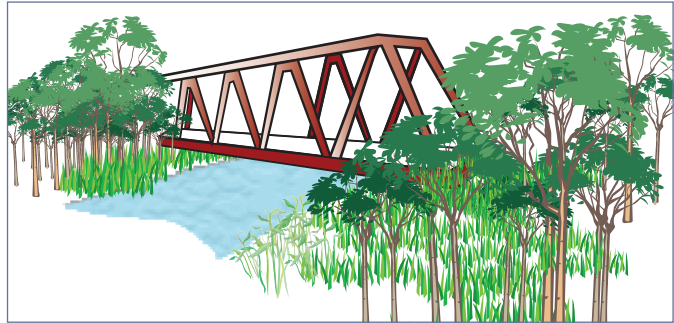
With 3 sticks I can make this section of a bridge:

With 7 sticks I can make 3 sections of a bridge:

	% response 2009 ('05) year 8		% response 2009 ('05) year 8
1. Use the sticks to make 5 sections of a bridge. Draw it here.			
5 sections shown	78 (71)		
some sections shown	9 (11)		
2. How many sticks would you need to make 11 sections of a bridge? 23	35 (45)		
3. How did you work that out?			
clear description of general strategy	36 (30)		
vague description of general strategy	21 (24)		
drew the picture and counted	20 (22)		
4. How many sticks would you need to make 100 sections of a bridge? 201	12 (16)		
5 How did you work that out?		**Total Score:** 9–10	9 (11)
		7–8	18 (14)
clear description using equation	21 (17)	5–6	27 (28)
clear description using words	13 (16)	3–4	24 (22)
vague description of appropriate strategy	18 (20)	0–2	22 (25)

Subgroup Analyses:

Year 8

Score Range	Boys	Girls	Pakeha	Māori	Pasifika
9 – 10	7 %	10 %	11 %	4 %	0 %
7 – 8	16 %	22 %	20 %	19 %	13 %
5 – 6	27 %	26 %	26 %	25 %	31 %
3 – 4	23 %	26 %	21 %	33 %	31 %
0 – 2	27 %	16 %	22 %	19 %	25 %
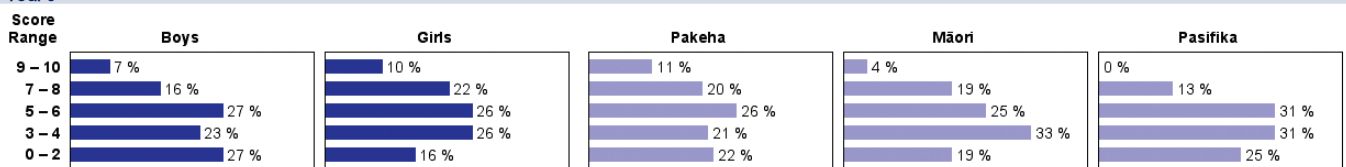
Commentary:

Performance on this task was very similar in 2005 and 2009. Girls scored significantly higher than boys. Differences between Pakeha, Māori and Pasifika students were quite small, on average, although few Pasifika students scored highly.