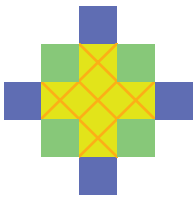
Design Day

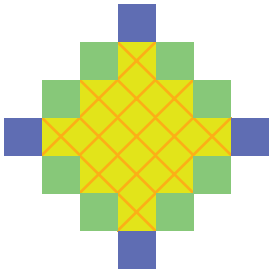
ACTIVITY

You need: square dot paper

1. George's class is investigating designs based on patiki patterns used in weaving. George paints blue and green squares around the edges of his designs.



George's first design

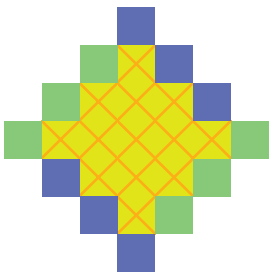


George's second design

a. Draw George's third design on square dot paper.
b. George predicts that he will paint 4 x 5 + 4 squares around the edge of the fifth design. Explain how he made this prediction.
c. Use George's rule to predict the number of squares to paint for the twentieth design.
d. Complete the table. Show your calculations using George's rule.

Design	Number of painted squares
1st	
2nd	
3rd	
5th	4 x 5 + 4 = 24
37th	
100th	

2. Kelly paints the squares around the edges of her designs like this:



Kelly's second design

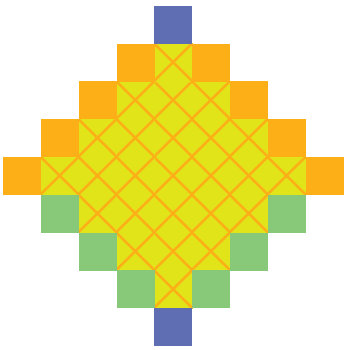
a. Draw Kelly's first design on square dot paper.
b. Kelly predicts that 4 x 6 squares will need to be painted in the fifth design. Explain her reasoning.

c. Use Kelly's rule to predict the number of squares to paint in her twelfth design.

d. Complete the table.
Show your calculations using Kelly's rule.

Design	Number of painted squares
7th	
8th	
	64
47th	
126th	
	800

3. George now decides to paint the squares blue, orange, and green.



George's new third design

a. Draw George's new second design on dotted paper.

b. Devise a rule, based on George's designs with 3 colours, for the number of squares to paint in the hundredth design.

c. Complete the table.
Show your calculations using the rule.

Design	Number of painted squares
5th	
9th	
20th	
37th	
89th	