

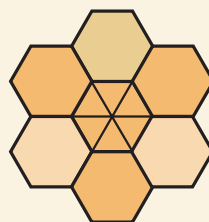
Planning Paths

You need ✓ a classmate

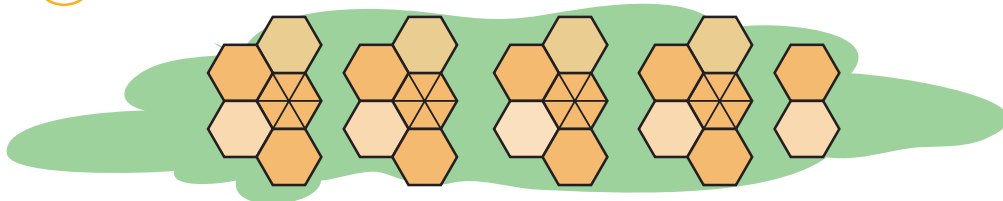
✓ pattern blocks (optional)

Activity

Kalila is designing paths to go round her house. She chooses a flower pattern that uses hexagonal and triangular tiles. Each flower has $4 + 2$ hexagons and 6 triangles.



1. Kalila draws a diagram to show how her pattern works:



a. Use her diagram to help you complete the rest of this table:

Number of flowers	Number of hexagonal tiles	Number of triangular tiles
1	$4 + 2 = 6$	6
2	$4 + 4 + 2 = 10$	$6 + 6 = 12$
3		
4		
5		
12		
20		

That's a lot of adding!

b. Find a quicker way to work out the number of each sort of tile for:

- i. a 12-flower pattern ii. a 20-flower pattern.

c. How can Kalila use these short cuts to work out how many tiles to order for any number of flowers?

2. Use these short cuts to find out how many tiles to order for:

- a. the short path by the back door (8 flowers)
 b. a 16-flower path to the letter box
 c. a 100-flower path along the fence.

Investigation

1. Make up your own repeating pattern and work out the short cut. Give a classmate your pattern and see if they find the same short cut.

2. Is there more than one short cut to describe your pattern?

