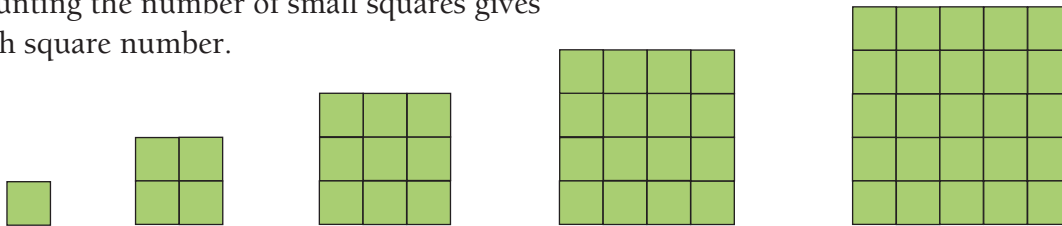


Puzzling Patterns

You need counters square tiles a classmate

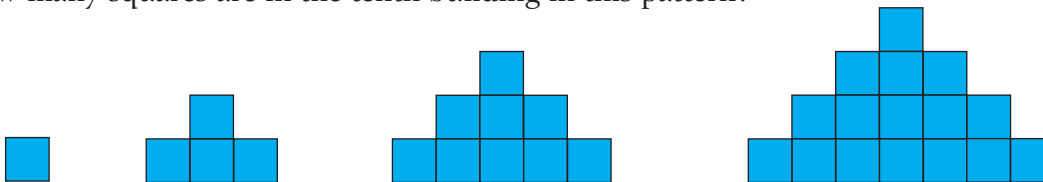
Activity One

1. Here is a pattern of squares.
Counting the number of small squares gives each square number.



What is the tenth square number? Show how you worked out your answer.

2. How many squares are in the tenth building in this pattern?

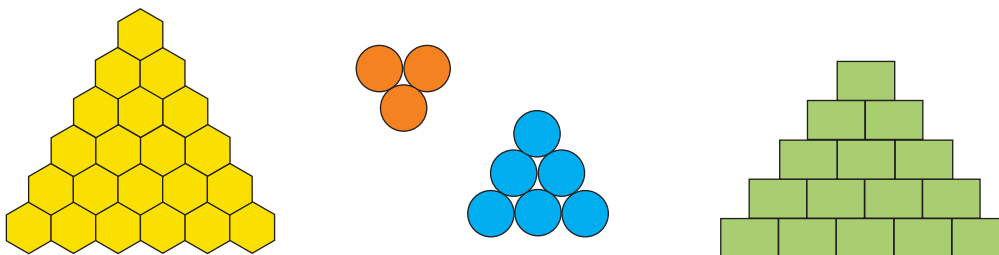


3. What do you notice about the answers to questions 1 and 2?
Explain why this happens.



Activity Two

1. Why is 10 a triangular number?
2. a. Use these pictures to help you find some other triangular numbers.



- b. Can you see a pattern for triangular numbers? What do you think this pattern is?
3. Do you think one is a triangular number? Discuss this with a classmate.
4. What is the tenth triangular number?

Activity Three

- a. Make a table like this showing the square numbers and triangular numbers in order up to the sixth number:
b. What patterns can you find?

Square numbers	1	4	...
Triangular numbers	1	3	...