

Spotting patterns



Looking for patterns

When trying to solve a puzzle or problem, look for patterns:

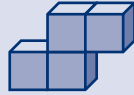
The shapes in the sequence below are made from small cubes.

1 layer



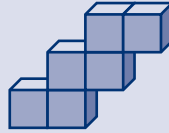
2 cubes

2 layers



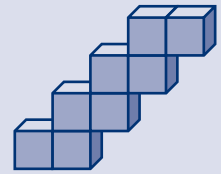
4 cubes

3 layers



6 cubes

4 layers



8 cubes

How many cubes will a shape with **10 layers** be made from?

Look for patterns in the numbers:

Layer 1	=	2 cubes
Layer 2	=	4 cubes
Layer 3	=	6 cubes
Layer 4	=	8 cubes

Do you notice that there are always twice as many cubes as there are layers?

So the shape with **10 layers** must have **20 cubes**



1. How many cubes will **Shape 10** be made from?

Shape 1



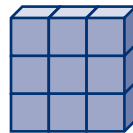
3 cubes

Shape 2



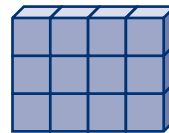
6 cubes

Shape 3



_____ cubes

Shape 4



_____ cubes

...Shape 10?

_____ cubes



2. How many dots will **Pattern 10** be made from?

Pattern 1



4 dots

Pattern 2



8 dots

Pattern 3



_____ dots

Pattern 4



_____ dots

...Pattern 10?

_____ dots



3. Make up a set of shapes made from dots and work out how many dots will be in the **10th** shape.

