

What do you notice? Can you see a pattern?

I notice that there is a pattern. The rectangles that make up this counting stick are all the same size and they are alternating blue, yellow, blue, yellow, blue, yellow.

Is there a quick way to work out how many rectangles there would be, for a counting stick with 100 sections? Or 1000? Or...

There is a quick way to work out how many rectangles there would be for counting stick with 100 sections or 1000 sections. All you must do is split the counting stick up. For a counting stick that has 100 rectangles, split it up into 10 bits of 10 rectangles, and for a counting stick that has 1000 rectangles split it up into 100 bits which all have 10 rectangles in them. This way you can count each stick with how many rectangles there would be in total, and as they've all got the same number of rectangles in them, you can just add them up.

How can you be sure that what you have noticed will always be true?

You can be sure that what you've noticed will always be true in two ways. First, divide your counting stick into equal sections of 10. You can find out how many rectangles there are in the whole counting stick by multiplying the sections of 10. Second, you can test they're correct by counting each rectangle individually.