



You have a stick of seven interlocking cubes. You cannot change the order of the cubes.



You break off a bit of it leaving it in two pieces.

Here is one of the ways in which you can do it:



Here is another way you can do it:



In how many different ways can it be done?

Now try with a stick of eight cubes:



What about with a stick of six cubes? What do you notice?

Now predict how many ways there will be with five cubes.

Try it! Were you right?

How many ways with 20 cubes?

Will your noticing always be true? Can you create an argument that would convince mathematicians?