

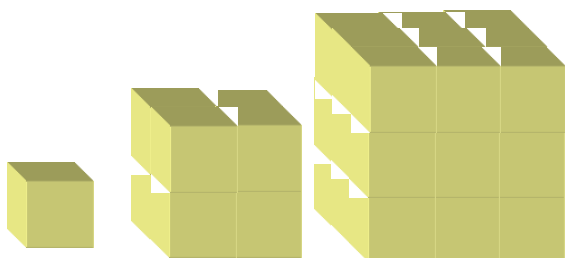
## Painted Cubes

Some wooden cubes are stuck together in a line and painted



- How many faces of the cubes will need painting when four are stuck together?

Starting with one cube, then two cubes, then three cubes and so on find a pattern in the number of faces that need painting when different numbers of cubes are stuck together in a line



Investigate cubes which are stuck together to make larger cubes.

How many will have

3 faces painted

2 faces painted

1 face painted

0 faces painted ?

## Learning and Teaching Objectives

- Organise the recording of results in a systematic manner
- Describe a rule of a pattern or relationship in words or symbols
- Predict the next few terms in a sequence to test the rule

## Painted Cubes Solution

No. of cubes in a line	1	2	3	4	5	6	7	8	9	10
No. of painted faces	6	10	14	18	22	26	30	34	38	42

size of large cube	3 painted faces	2 painted faces	1 painted face	0 painted faces
1 cube				
8 cubes	8	-	-	-
27 cubes	8	12	6 (1 per face)	1
64 cubes	8	24	24 (4 per face)	8
125 cubes	8	36	54 (9 per face)	27