

Cubed aliens

We have discovered a new planet, called 'Cube'.

This planet is full of strange creatures.

All creatures start off on day 1 as one cube:



On day 2, they grow by one cube in any direction (except down – they can't dig down into the ground!).

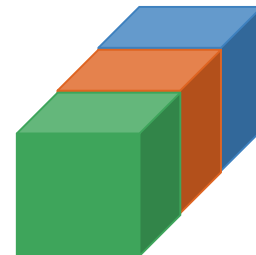
Here are three of the possible day 2 aliens.



On day 3, they grow by another cube, from their day 2 design. For example:

Your challenge

Work out how many possible 'designs' of alien creatures there could be on day 3.



Things to think about

- How many faces does a cube have?
- How many possible day 2 aliens are there?
- How many possible day 3 aliens could each day 2 alien produce?
- Can you work out the number of possible aliens without having to draw all the options?