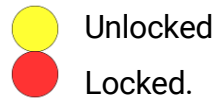
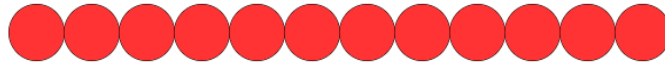




There are 12 unlocked doors in a corridor. A hotel porter comes along and locks them all.



Every 2nd door is then changed. (locked if unlocked or vice versa)

Then every 3rd door is changed.

Then every 4th door is changed.

Then every 5th door is changed.

Finally, every 6th door is changed.

Which doors are now locked?



What happens if you continue with doors 7 through to 12?

What do you notice about the doors which are locked?

What other patterns can you spot?

What if you extend to 25 doors or 100 doors?

Generalise to a sequences of n doors.

Space for working...