

Lights

In the table below, write down any numbers that turn on the lights. I have completed green for you.

Colour of light	Numbers that the colour lights up on
Green	2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34, 36 ,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98,100
Blue	1,4,9,16,25, 36 ,49,64,81,100
Red	1,6,11,16,21,26,31, 36 ,41,46,51,56,61,66,71,76,81,86,91,96
Yellow	1,3,6,10,15,21,28, 36 ,45,55,66,78,91

Now you have finished the table, complete the answers in the table below:

What is the rule for switching on the blue light?	blue number = increasing of even number +1 or square number Example: $1+2+1=4$ $4+4+1=9$ $9+6+1=16.....$ Or $2 \times 2=4$ $3 \times 3=9$ $4 \times 4=16.....$
What is the rule for switching on the red light?	the numbers have 1 and 6 in the ones place AND increase by 1 ten
What is the rule for switching on the yellow light?	if you on zero, you add numbers from smallest to largest like: $0+1=1$ $1+2=3$ $3+3=6$ $6+4=10...$
What is the lowest number all of the lights will be on? What other numbers will switch on all of the lights?	36 None
What numbers do green and yellow share?	6, 10,28, 36, 66, 78
What numbers do red and blue share?	1, 16, 36, 81

If you have finished all of these, enter your work [here](#) then try the [earlier lights challenge](#). You can show your working out below.

Colour of light	Numbers that the colour lights up on
Green	1, 3, 5, 7,9,11,13, 15 ,
Blue	5, 10, 15

Red	10, 11, 12, 13, 14, 15
Yellow	1, 2, 3, 4, 5, 6, 7, 8, 9,10, 11, 12, 13,14, 15 ,