Demonstrate your understanding of binary representations.

If you have two bulbs, you can make four different combinations:

| 0 | 0 | | 0 | 1 | | 1 | 0 | | 1 | 1 |
| OFF | OFF | | OFF | ON | | ON | OFF | | ON | ON |

Work out how many combinations of 0s and 1s you can make with a group of:

Three light bulbs — the first combination has been given to help you get started

0 0 0

Answer: ....

Four light bulbs

Answer: ....