

# How Many Binary Numbers?

These are all the possible 2 bit binary numbers

$$1 \ 1 = 3 \quad 1 \ 0 = 2 \quad 0 \ 1 = 1 \quad 0 \ 0 = 0$$

1. Write down a list of all the possible 3 bit binary numbers
2. How many possible 2 bit numbers are there? .....
3. How many possible 3 bit numbers are there? .....
4. Predict how many possible 4 bit numbers there will be.
5. Now check your prediction. Were you right? Do you see the pattern?
6. How many possible 5 bit numbers are there? .....
7. How many possible 6 bit numbers are there? .....
8. How many possible 7 bit numbers are there? .....
9. How many possible 8 bit numbers are there? .....