

Number Bases

Number bases tell us what system we're counting in

“Normal” numbers (0-9) are **base 10** - there are 10 numbers that we can count with

The technical definition of a **number base** is “the number of digits or combination of digits that a system of counting uses to represent numbers”

Number Bases

Decimal - Base 10:

10 numbers available to use - 0, 1, 2 ... 9

Total numbers possible with 1 digit = **10**

Highest number with 1 digit = **9**

Range of numbers possible with 1 digit: **0 to 9**

Number Bases

Binary - Base 2:

2 numbers available to use - 0 and 1

Total numbers possible with 1 digit = **2**

Highest number with 1 digit = **1**

Range of numbers possible with 1 digit: **0 to 1**

Number Bases - Summary

Hexadecimal - Base 16:

16 numbers available to use - 0, 1, 2 ... 9, A, B, C, D, E, F

Total numbers possible with 1 digit = **16**

Highest number with 1 digit = **15 (F)**

Range of numbers possible with 1 digit: **0 to 15**