

# Binary Bits and Bytes

Each binary digit (0 or 1) is called a **bit**

8 bits is called a **Byte**

4 bits is half a byte and is called a **nibble**

1 **bit** is a single binary digit (a 0 or a 1)

The number of bits in a number is called the **word length**

# Binary Bits and Bytes

A bit	1
A nibble	1011
A byte	10110110

1. State the largest decimal number which can be represented by a nibble
2. Write down the range of numbers which can be represented by a single Byte
3. How many different numbers can be represented using 8 bits?

# Binary Bits and Bytes

1 Byte (8 bits) can make any number from 0 to 255

- 255 is the highest number that can be made using 1 Byte
- 0 is the lowest number that can be made using 1 Byte
- Any number between 0 and 255 can be made using 1 Byte - this is 256 different numbers

# Bigger Bytes

Larger units of information are used to express the file sizes of data files stored on computers

This makes it a lot easier to write the numbers down and to talk about them

- 4 Megabytes is a lot easier than 4,000,000 Bytes (or 32,000,000 bits)

# Bigger Bytes

1 **bit** is a single binary digit

1 **Byte** is 8 bits

**kilobyte**

**Megabyte**

**Gigabyte**

**Terabyte**

# Bigger Bytes

1 **bit** is a single binary digit

1 **Byte** is 8 bits

**kilobyte** is 1000 Bytes = 1kB

**Megabyte** is 1000 kiloBytes = 1000000 B = 1MB

**Gigabyte**

**Terabyte**

# Bigger Bytes

1 **bit** is a single binary digit

1 **Byte** is 8 bits

**kilobyte** is 1000 Bytes = 1**kB**

**Megabyte** is 1000 kilobytes = 1**MB**

**Gigabyte** is 1000 megabytes = 1**GB**

**Terabyte** is 1000 gigabytes = 1**TB**