# Unit 1.3 Storage; Lesson 2

1 byte per character + 10% for overheads

# Activity 2

## Calculating File Sizes - Low

Estimate the file size of each of the following files:

1) A text file that contains 10000 characters.

Text = 1 byte per character.

Integer = 4 bytes

Real = 4 bytes

Date = 8 bytes

2) A database has 6 fields and 200 records:

* CDNumber, a text field with 6 characters
* Title, a text field with max. 20 characters
* Artist, a text field with max. 15 characters
* DatePublished
* NumberOfTracks, an integer field
* TotalLength, a real field

Number of pixels \* bytes per pixels \* 1.1

3) An image is 2030 x 1000 pixels in size. It has 65536 colours (2 bytes each).

4) A sound file has 4 bytes per sample. It takes 100 samples per second, over 1 channel and is 2 minutes 30 seconds long (you need to convert the minutes into seconds).

bytesPerSample \* samplesPerSecond \* channels \* duration

# Calculating File Sizes - Harder

Estimate the file size of each of the following files:

1) A text file that contains 10000 characters. Give your answer in KB

2) A database has 6 fields and 200 records. Give your answer in KB

* CDNumber, a text field with 6 characters
* Title, a text field with max. 20 characters
* Artist, a text field with max. 15 characters
* DatePublished
* NumberOfTracks, an integer field
* TotalLength, a real field

3) An image is 2030 x 1000 pixels in size. It has 65536 colours. Give your answer in GB.

4) A sound file has 4 bytes per sample. It takes 100 samples per second, over 1 channel and is 2 minutes 30 seconds long. Give your answer in KB.

**Extension Activity:** Try calculating all of the above using 1,024 bytes in 1 KB… (you may use a calculator!)