What are digital graphics?

Digital graphics are images that have been taken or created electronically.
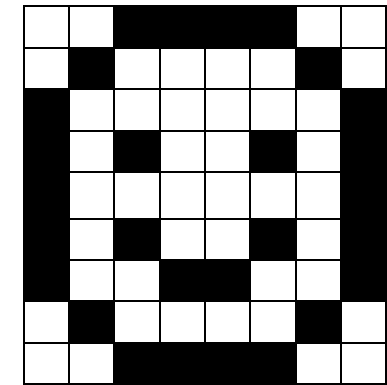
They can be either a **bitmap** or **vector** graphic.

Bitmaps

Bitmap graphics are made up of tiny little squares called **pixels**.

Each pixel is stored as a data value which represents each colour. These data values are made up of 1's and 0's – a number system that computers use called **binary.**
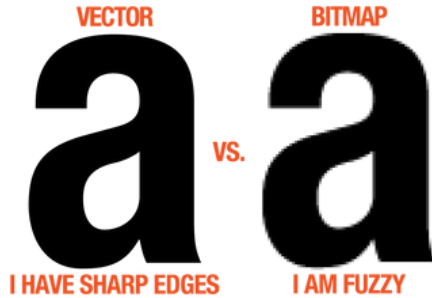
0	0	1	1	1	1	0	0
0	1	0	0	0	0	1	0
1	0	0	0	0	0	0	1
1	0	1	0	0	1	0	1
1	0	0	0	0	0	0	1
1	0	1	0	0	1	0	1
1	0	0	1	1	0	0	1
0	1	0	0	0	0	1	0
0	0	1	1	1	1	0	0

Vector Images

A vector image uses geometrical formulas to represent image as a shape or object.

They can be resized without losing quality and so are often used for company or product logos.

VECTOR ... BITMAP
I HAVE SHARP EDGES ... I AM FUZZY

TOPIC 4 DIGITAL GRAPHICS

Key Words

Graphic	Bitmap	Vector
Pixel	Binary	Logo

Editing Bitmaps

In order to edit bitmap images we can use **Image Manipulation** software.

Adobe Photoshop is an example of image manipulation software and can be used to edit individual pixels.

Typical editing techniques include:
- Photo Extraction
- Red eye removal
- Colour splash effect
- Clipping mask

Editing Vectors

In order to edit vector images we can use **Illustration** software.

Adobe Illustrator is an example of illustration software and can be used to edit individual objects or shapes as well as create new ones.

	Bitmap	Vector
What are they made up of?	Pixels of different colour	Objects and shapes
What can be edited?	Individual pixels	Individual objects and shapes
What is the file size?	Large, computer stores details of every pixel	Small, computer only stores details of objects
What happens when they are resized?	Lose quality	Do not lose quality
What do they look like?	Photos	Cartoons / Logos
File types	.bmp, .jpeg, .gif, .png	.svg, .xml

Media Type	Common Formats
Bitmap images	.bmp, .jpg, .gif
Vector images	.svg, .eps, .xml
Letters	.doc, .pdf
Presentation	.ppt, .pps
Video	.mov, .avi, .mp4
Web pages	.html, .css, .js
Audio	.mp3, .aac, .wav