A3 Fact sheet – Vectors and rasters

Vector graphics

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| Vector graphics are digital images that are created using paths. A path can be a line, or many paths can be combined to form a shape. Lines and shapes can be altered, allowing vector graphics to be easily edited. |
| **Vector graphic showing fill and stroke properties** |
| **Vector graphic showing the paths** |

Raster graphics

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| Bitmap images (raster graphics) are made up of small individual squares of colour called pixels. When compared to vector paths, altering individual pixels is a much more difficult process because there are so many and they are so tiny. |
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Vector vs raster graphics

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| Vector graphics are images such as illustrations, icons, and logos. They do not use many colours because they have large areas of solid colour. Bitmap images (raster graphics) are usually real photographs that contain a great deal of detail. They use lots of colours because each tiny pixel is a slightly different shade to make the colours within blend. |
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Vector scalability

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| Vector graphics can be scaled up or down without losing any image quality because the paths and shapes they are made from are based on algorithms and formulae. The algorithms and formulae recalculate the colour and size of pixels within the paths when the graphic is resized. This keeps the edges of the graphic nice and sharp. |
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Raster scalability

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| Raster graphics lose image quality when scaled up or down because they are based on pixels only. The size and colour of the pixels is not recalculated when the graphic is resized. This makes the edges blurred. |
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