How we see colours represented in real life compared to a digital system is different. RGB stands for the three main colours that are used digitally - Red Green Blue. RGB is nothing more than the acronym to help describe how we see digital colours and images. To go further, we need to go back a little and look at binary code to better explain RGB.

Binary Code

Binary code is what we call the language that is spoken by computers. And it's not made up of letters like we use in the English language, it's made up of just two digits - 0 and 1's. Together those 0 and 1's can make up different combinations. Just like the English language, the same letters can make up different words. How many words can you make from the letters: N L F I T Y T?

It's called binary code only uses two numbers. On any device you use, when you press a character (a letter or symbol), the digital system doesn't recognise it as the letter or symbol, it recognizes it as a sequence of 0 and 1's. The sequence of 0 and 1's will be made up of 8 bits. The word 'bit' is a combination of the word binary and digit and refers to one of the digits either the 0 or 1.

The connection between RGB, pixels and binary

Have you ever zoomed in on a picture and noticed that the image starts to look blurry? There's a reason for that! You're no longer looking at the whole image but tiny individual squares. A digital image is made up of pixels (squares). Within each pixel there are rectangles that are made up of three colours – red green and blue. All digital imagery is made from those three colours. The change in colour will depend on the value of the red green and blue. If you wanted to create black, all the values (the red, green and blue) will be set at 0. If you wanted to create white the red, green and blue's value will be set at 255. The lower the numbers are darker colours, high numbers are brighter colours. The three colour combinations can make millions of colours! The value of the RGB is stored in a digital system as a bit. The black we spoke about before will be stored as 00000000. To store white – all the values (found in red green and blue) are stored as 11111111. As the colours change so do the 0 and 1s represented in red, green and blue.

Click on the images to watch these videos that further explain Binary and RGB

Video Source: Crash Course Computing

Video Source: Code.org