Whatever you were told at school, the Primary Colours are not Red, Blue and Yellow!

Actually there are two types of primary colours - **additive** and **subtractive**.

Additive Primary Colours

Additive primary colours are used when we are dealing with mixing **emitted light**. The additive primary colours are red, green and blue. Nearly all colours can be produced by mixing these three colours. An example of their use is on a computer monitor, where varying intensities of red, green and blue light are used to create the colours we see. If full intensity red, green, and blue are mixed we get **white light**.

Subtractive Primary Colours

Subtractive primary colours are used when we are dealing with **reflected light**. Because of this we use them when we are mixing paints or inks. The subtractive primary colours are cyan, magenta and yellow. A printer, for example, mixes these three colours to produce different colours on the paper. If we mix full intensity cyan, magenta and yellow, we get **black**.

The confusion

Some people are probably now saying "but I was always told that the primary colours were red, blue and yellow". Well I'm afraid you've been lied to - they are not, but let me explain why.

The confusion normally arises early in school when you are very young and are using paint or crayons. If you need to create a colour that you do not have, then of course you *should* mix the right proportions of the subtractive primary colours - cyan, magenta and yellow.

However, it is very rare that you will find cyan or magenta paint or crayons amongst the selection given to a young child, so your teacher helpfully advises you to use red as an approximation to magenta, and blue as an approximation to cyan.

And that's it, from that moment on a young child believes that they can mix red, yellow, and blue to make any colour, and that they therefore must be primary colours. As this concept is instilled in them from such an early age, it is often very difficult to convince them otherwise.

Just to add a bit of confusion to the terminology, the secondary colours of emitted light are the primary colours of reflected light. This can often confuse people into thinking that CMY are just secondaries, when in fact they are primaries.