

# Demonstration Colour Mixing

Code: OPCM400



## Primary Colours

The primary colours are red, green and blue and when all three are projected onto a white screen produce white light. If you arrange the pattern so that the three discs partially overlap you can produce the standard colour mixing pattern with white in the middle, the three secondary colours, yellow, magenta (a sort of pink) and cyan (turquoise).

## Secondary Colours

Project the red colour onto a white screen/wall. Throw a shadow using an opaque ruler and note the shadow colour. Draw a ray diagram to explain why the shadow is formed. (remember light travels in straight lines)

Now bring up the green colour and ensure that the two light discs overlap. Using the ruler, once again cast a shadow. What are the differences between two colours and a single colour? You may see different colour shadows – not just black. These are called secondary colours. Once again draw a ray diagram to explain what is happening.

Finally, introduce the blue colour and once again draw a ray diagram. (This is quite difficult). You should now be able to fill in the chart below with the secondary colours

Red + Green =

Red + Blue =

Green + Blue =

## Complimentary Colours

Complimentary colours are two colours which add to make white. Complimentary colours are one primary and one secondary. Can you write down three sets of complimentary colours?

## Colour Filters

Collect together some clear sweet wrappers and try looking at the coloured lights through them. If you can get hold of red, green and blue, so much the better. Try to explain what happens when you view, say, a blue light through a red wrapper compared with viewing a blue light through the same wrapper. If you have access to proper colour filters then use these as well.