PHYSICS

COLOUR MIXER

Brief summary of activity:

This puzzle has two parts.

In the first the user is presented with three overlapping discs of colour (red, green and blue) representing the way colours are made from light. A target colour is given which the pupil has to mix by altering the intensity of the three coloured discs.

In the first the user is presented with three overlapping 'splodges' of colour (cyan, yellow and magenta) representing the way colours are made when printed. A target colour is given which the pupil has to mix by altering the intensity of the three coloured 'splodges'.

Specific Curriculum Area:

Year 8 — Unit 8K: Light, Section 11: How can we change colour?

Assessment method:

The pupil could record the 100% of each of the three colours used to make each target colour. The answers could then be compared to the actual answer.

Differentiation:

There is no differentiation within this task. Although a 'hint' facility can be used to direct the pupil towards the solution. More able pupils could remove the discs or 'splodges' thereby leaving only the central overlapping target area.

Learning objectives:

Children should learn: how coloured objects appear in white light and in different colours of light; to use scientific knowledge and understanding to explain observations

Use of Activity in a lesson:

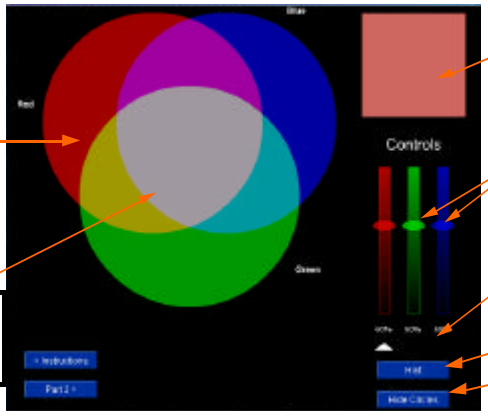
This task could be set as a homework activity, assuming Internet access is possible. Alternatively, the teacher could demonstrate the task to the class (via an Interactive Whiteboard) and the pupils could then repeat the first level as shown by the teacher, thereafter trying levels on their own.

Hints and tips for teachers:

1. Tell pupils not to get frustrated if they do not succeed until having had many attempts— encourage trial and error.
2. If possible, try to choose the colour (red, green or blue) which is most like the target colour and choose 100% of that colour. Then add other colours to see how the colour changes.
3. Use the 'hint' facility to help you reach the target colour.

URL:

Part 1



Target colour

Colour discs

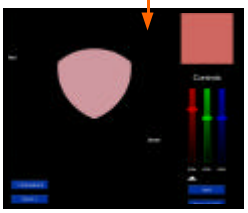
Move these sliders to change the % of each colour

The % of each colour selected is shown here

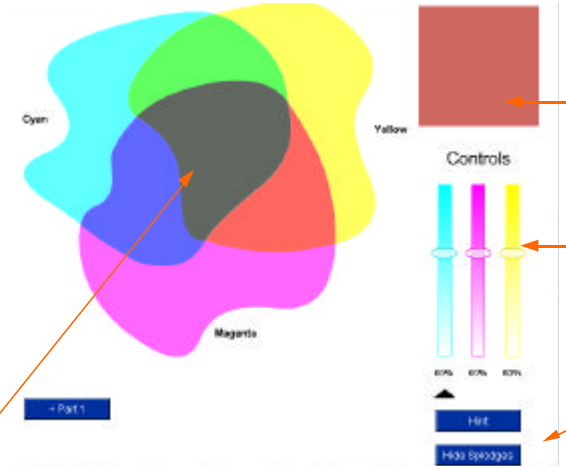
Overlapping area showing target colour

Clicking here will generate a window that will guide the user towards the correct solution

Clicking here removes the colour discs, to leave the overlapping area, as shown:



Part 2



Target colour

Controls as in Part 1 above.

Overlapping area

Clicking here removes the colour 'splodges', to leave the overlapping area, as shown:

Troubleshooting:

The 'hint' facility will guide the user towards the target colour if difficulties are encountered.

Remember that Part 1 deals with mixing LIGHT and Part 2 deals with mixing INK or PAINT.

Other links:

http://www.standards.dfes.gov.uk/schemes2/secondary_science/sci08k/08kq9b