



## ENTERTAINMENT AND COMMUNICATION



### Let chemistry entertain you!!!

**Musical Instruments** – The nylon strings of a guitar.... the synthetic polymer keys of a piano... The piano itself being high gloss polyester...the nylon skin of a tambourine, friction drum and other percussion instruments, chemistry is present.

<http://www.cefic.org/templates/shwNewsFull.asp?HID=1&NSID=527&NID=1>

**CDs, DVDs** – These little gems who entertain us so much have a polycarbonate base which makes them extremely strong and cheap to produce. The chemistry continues with a thin aluminium layer and they are topped with a thin film of lacquer.

**Mobile phones** – Chemistry creates the electronic circuitry within mobile phones. The cases are made of plastic making them lighter (90%), smaller and more portable. They are also made of very tough plastics.

**Photography** – Whether digital or classical photography, chemistry plays a large part in obtaining an image to record momentous moments in our lives. Film photography requires chemicals to produce the film in the first place and then to develop it, more chemicals are needed. Digital photography also requires chemistry primarily in the material which the cameras are made from and following this in the inkjet printing process.

<http://wwwchem.csustan.edu/chem2500/labs/photolab.htm>

**Love** – The Chemistry of Love, a topic close to the heart of most people. The chemicals in the brain, oxytocin in women, vasopression in men are responsible for that loving feeling. The chemical reactions in the human body trigger off the release of 'happy chemicals' such as endorphins and serotonin. All these chemicals are responsible for that feeling of true love...

<http://www.romancestuck.com/articles/chemistryoflove.htm>

[http://news.bbc.co.uk/2/hi/uk\\_news/scotland/3479397.stm](http://news.bbc.co.uk/2/hi/uk_news/scotland/3479397.stm)

**Art** – Paint and ink colours come from pigments from natural inorganic materials or synthetic organic materials.  $\text{TiO}_2$  is the most common white pigment in paint. Chemistry also plays a huge part in ensuring that 'old masters' will be seen for many generations to come. These chemical techniques can also be used to detect forgeries and fakes and to reveal hidden masterpieces.

<http://www.rsc.org/conferencesandevents/rscevents/chemistryweek/2003/dreamofvirgin.asp>

**Newspapers** – In order to print the newspapers/magazines which we rely on every day for information, chemistry is required. The ink is made up of carbon black or solid synthetic pigments dispersed in oil with resins and solvents.

**Computers** – The circuitry, silicon chips, outer casing, circuit boards – all of these rely on chemistry with chemistry contributing 12% of the value of material inputs into computers.

<http://www.abiquim.org.br/english/youandthechemistry/gui07.htm>



## ENTERTAINMENT AND COMMUNICATION



### Useful RSC resources

#### Chemistry of Art

Outstanding resources pack containing a range of cross-curricular activities demonstrating the close relationship between art and chemistry.

The pack contains prints of ten paintings from the National Gallery in London, and a booklet containing historical information about each painting. Three other booklets are included - a guide to using the pack, a booklet of six experiments for pre-16 students and a booklet of information for post-16 students. The latter discusses the chemistry of vision, the reasons for colour defectiveness, colour mixing and the scientific reasons for the colour of objects.



For further information about purchasing this pack and to access selected sections please visit [http://www.chemsoc.org/networks/learnnet/chem\\_art.htm](http://www.chemsoc.org/networks/learnnet/chem_art.htm)

#### Contemporary chemistry for schools and colleges



An excellent resource comprising of a book and a CD-ROM which contain useful information about the chemistry of entertainment. One of the subject areas covered is:

**Fireworks** – What is a firework? What is it in fireworks that cause the colours? What is gunpowder and how can we investigate it? All these questions and more are answered with a range of worksheets, quizzes and experiments.

For information about ordering this resource please visit the web site:  
<http://www.rsc.org/publishing/books/0854043829.asp>

#### Cutting Edge Chemistry

Another teaching resource providing a picture of cutting edge chemistry at the beginning of the 21<sup>st</sup> Century. Topics covered related to the entertainment topic are 'new science from new materials' and 'the world of liquid crystals'. To access selected parts of this publication or to purchase it please visit:

[http://www.chemsoc.org/networks/learnnet/cutting\\_edge.htm](http://www.chemsoc.org/networks/learnnet/cutting_edge.htm)

Examples from these publications are included in this section of the pack.