

Y7 Knowledge Organiser - Graphics

Thermo-chromic Inks

Thermochromic inks are those that change colour in response to changes in temperature. These inks have serious applications such as in the food industry. They can be used to indicate when a packaged food has reached the correct temperature in an oven. They are also used in forehead thermometers made from card, with thermochromic ink as a temperature sensor



Hydro-chromic Inks

Another group of inks are those that change when they make contact with water. These are called hydrochromic inks. A possible application of this type of ink is a gardeners moisture tester. Some plants only grow properly if the soil they are in has the correct water content.

A plastic moisture tester is pushed into the soil alongside the plant. If the water content of the soil is at the right level, the colour of the moisture tested should remain blue. However, if the soil loses too much water then the colour changes to yellow. If too much water is added to the soil then the colour changes to red.

This colour indication helps the gardener keep the water content of the soil at the right level and helps the plant grow to its full potential.



Photo-chromic Inks

Inks that respond to sunlight are called photochromic inks. Variations in the level of ultra violet light determine the colour they display. A possible application of this type of ink is a sunbathing monitor.



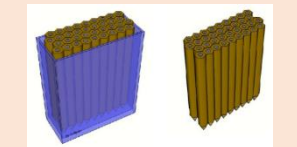
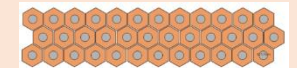
Tessalation

A typical pencil is seen below. It has an hexagonal section (six sides) and as been sharpened exposing the lead/graphite, ready for use.

The hexagonal shape has been selected for a very good reason. It allows the pencils to be stacked/ stored tightly together.

A hexagon is a very good example of a tessellation. A tessellation is a shape that is repeated over and over again without creating gaps or spaces. Tessellation is sometimes called 'tiling'.

The hexagonal pencils have been placed inside a rectangular box. This creates some empty spaces but the pencils can still be regarded as efficiently packed.



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Jock Kinneir and Margret Calvert

Margaret Calvert is best known for her work with her colleague Jock Kinneir (1957 to 1967). They designed many of the road signs that we see today, in a style that has been used widely around the world. Before the ground breaking work of Kinneir and Calvert, road signs followed a variety of styles and were not standardised, often making it perplexing for drivers.



Jock Kinneir

Margaret Calvert



REGISTERED TRADEMARK?



A trademark is a symbol/sign that identifies your products or services.

A trademark can be words or pictures or a combination of both. A fee is paid to the Intellectual Property Office, who decide whether a symbol/logo can be regarded as a protected trademark. Often trademarks are used to advertise products or services. A trademark must be distinctive and distinguish your goods from those of other traders/manufacturers. It must not be confused with other trademarks. A registered trademark is denoted by ®.

Harry Beck – The London Underground Map

Harry Beck was an Engineering Technical Draftsman and he worked for the London Underground Signals Office. He developed an interest in the way rail transport maps were graphically presented, and especially those of the London Underground. Maps of the underground were usually geographic representations, although there were attempts by map designers to simplify the route maps. But, even these were difficult to read/follow. Harry produced a schematic map/diagram. The distances and geographical layout of the stations was not correct but the order of stations and simplicity made the map much easier to understand. The map is still used today with the addition of new underground lines.



PLASTICS

Many plastics can be used for packaging. Examples are;

Polythene (high density) HDPE - a strong plastic used for buckets, bowls pipes etc...

PET (Polyethylene terephthalate) - a shatter proof plastic becoming very popular for drinks containers. It is shatter proof, light weight and 90% recyclable.

PVC - Polyvinyl Chloride - Used for soft drinks containers that are not pressurised.

WHAT IS A PATENT?



INTELLECTUAL PROPERTY

A patent protects a person or company that invents something new. If you invent a new type of pen, you should patent your design. This should prevent anyone or another company from stealing your idea, manufacturing it and making money for themselves. A patent protects your design for the first five years and then you must apply annually for the next fifteen years (twenty years in total).

Patents apply to; a scientific discovery, a literary piece of work (e.g. musical), Computer programs, new medical treatments.



WHAT IS COPYRIGHT?



Copyright aims to protect people, companies and organisations that produce creative and artistic work.

An author can claim copyright protection for his/her books or a song writer can protect his/her songs.

In order to claim copyright, it is essential that the work you are trying to protect is completely your own.

Copyright law covers many areas including; Literature, Drama, Music, Art, Layouts, Recordings, Broadcasts.

