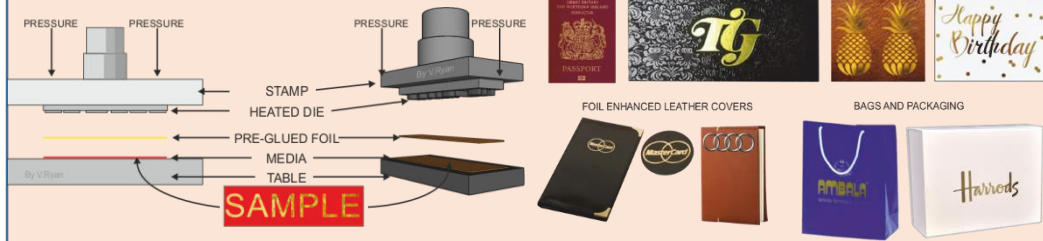


# Y8 Knowledge Organiser - Graphics

## Foil Blocking

In its simplest form, Foil Block Printing (sometimes called Hot Foil Stamping) is where a pre-glued metallic foil, is pressed by a heated die, into the surface of a material. This is a permanent way of applying a quality finish to materials, such as card, for packaging. This process can also be used to apply a finish to other materials including leather.

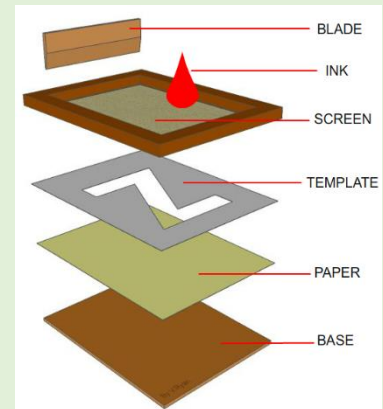


## Ultra Violet Varnishes

Special varnishes dry almost straight away if they are exposed to ultra violet light. (UV light). The varnish is sprayed on to the paper / card in the same way as other varnishes. However, after spraying the card passes underneath UV lights which dries the varnish almost instantaneously. One disadvantage is that this type of machinery is expensive to purchase. However, it produces an excellent gloss finish to the card / paper.

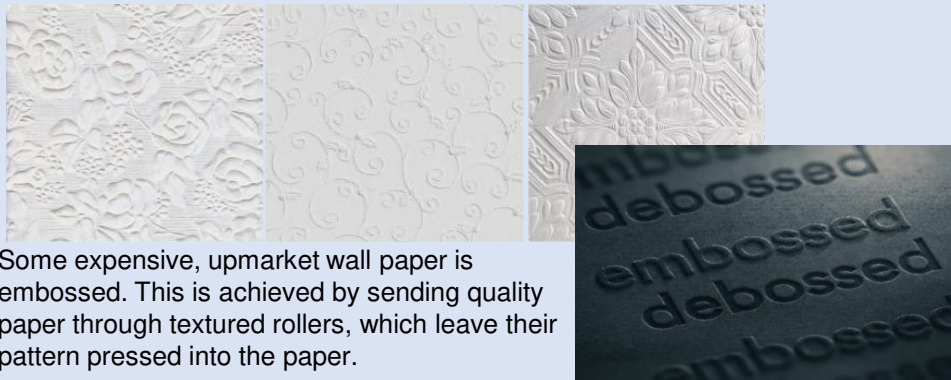
## Screen Printing

Screen printing is in common use today as it is relatively cheap and a variety of colours can be used. Good examples are seen on T-shirts and posters. In industry this technique is used to produce thousands of screen printed items, even on packaging. The equipment required for this technique are shown below.



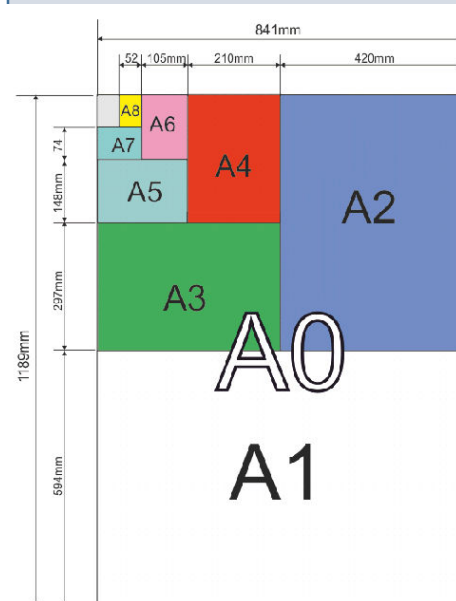
## Embossing

Embossing involves raising areas of a card surface above the level of the rest.



Some expensive, upmarket wall paper is embossed. This is achieved by sending quality paper through textured rollers, which leave their pattern pressed into the paper.

## Stock paper sizes



## Measuring paper and card weight and thickness.

The mass per unit area of paper / card is measured in grams per square metre (g/m<sup>2</sup>). This is called grammage, although most people refer to it as weight. Office copier paper is usually 80g/m<sup>2</sup> (80gsm), A4 in size and ordered in reams (packets) of 500 sheets. However, card thickness (sometimes called 'caliper') is generally measured in micrometers (microns).

## Packaging and its function.

Billions of pounds are spent on packaging food and other items each year. Sixty percent of all packaging is for food products. At the beginning of the 20th century most food was sold loose. It was weighed and measured out and placed in bags or directly into the shoppers bag to carry home.

### Protect & Preserve

To protect a product from damage or contamination by micro-organisms and air, moisture and toxins.

The product must be protected against being dropped, crushed, and the vibration it suffers during transport. Delicate products such as fruits need to be protected by a rigid package such as a laminated container.

The product must also be protected against the climate including high temperatures, humidity, light and gases in the air.

It must also be protected against micro-organisms, chemicals, soil and insects.

### Promote

Packaging is the main way products are advertised and identified. To the manufacturer the package clearly identifies the product inside and it is usually the package that the customer recognises when shopping.

Advertising is very important when a manufacturer launches a new or existing product. The package, through its colour scheme or logo, is what is normally identified by the customer.

The package will also contain important information including ingredients and 'sell by date'.

### Transport

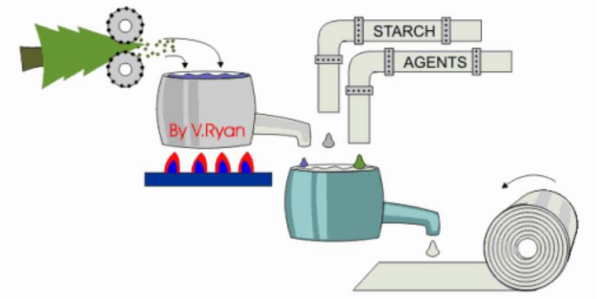
A package should be designed to make it easy to transport, move and lift. A regular shaped package (such as a cuboid) can be stacked without too much space between each package being wasted. This means that more packages can be transported in a container or a lorry. Unusually shaped packages can lead to space being wasted and this can be costly if thousands of the same package are transported.



## Manufacture of Paper and Board.

Most materials used for packaging are paper /card based. Card and paper are made from wood pulp and waste paper. When paper is examined through a microscope the fibres that form the material can be seen. The fibres are made from cellulose which is extracted from the wood pulp and recycled waste paper.

Wood pulp is the raw material and this comes from both coniferous and deciduous trees. Other chemicals are added until the correct texture / thickness is reached.



Chemicals / ingredients such as starch and bonding agents are added. The pulp is poured over a fine mesh and the water escapes leaving the cellulose fibres behind. This forms the paper.



The wood chips are boiled in water to form a thick wood pulp.



A tree is cut down and the trunk is fed into a chipping machine where it is cut into very small pieces.