

### Papers & Boards

- Papers and boards are made from natural fibres (cellulose), usually sourced from wood
- Paper is characterised by weight
- The weight is measured in grams per square metre (GSM)
- Understanding the different types of paper available will help you select the right material for the job
- A heavy duty paper available in a range of thicknesses and strengths
- Board is measured in microns –1000 microns equal 1mm
- Corrugated board is made up of one or two outer flat layers and a corrugated layer
- Solid white board is a high quality board with a bright white finish
- Weights range from 200gsm – 500gsm
- Duplex board is made up of two layers
- The exterior will have a wax coating to provide a moisture barrier and give it a glossy sheen

### Timbers

- Natural wood is categorised as either hardwood or soft-wood
- A useful and versatile material, wood is:
- Aesthetically pleasing
- A good insulator
- Durable and tough
- Softwood comes from coniferous trees
- Hardwood is sourced from deciduous trees
- It has a closer grain, making it more dense and hardwearing
- Consider the different properties of timber when selecting your material
- Strength – the amount of load or compression it can withstand
- Toughness – absorption of energy through shock before splitting
- Elasticity - will it return to shape after being compressed?
- Hardness – how resistant is the surface? Will it survive scratches, knocks and abrasion?



### Textile

- Textiles can be manufactured to exhibit a variety of properties depending on the blend of fibres
- Categories include:
- Natural fibres
- Synthetic fibres
- Blended and mixed fibres
- Woven and non-woven fabrics
- Knitted textiles

Fabrics are categorised into natural fabrics and synthetic fabrics based on their raw materials

Wool	Cotton	Silk
Felt	Polyester	Elastane (Lycra®)
Polycotton	Nylon	

### Polymers

- For more than 50 years, the global production and consumption of plastic has continued to rise
- Polymers are mostly synthetic materials
- They are usually derived from finite resources such as coal, natural gas or crude oil

Thermoforming	Thermosetting
Also known as thermoplastics, when heated the plastic becomes soft and flexible	Also known as thermosets, this plastic cannot be reformed once set in to shape
Thermoplastics can be remoulded without affecting the material's physical properties	Thermosets have strong chemical bonds between the molecules, which do not separate on heating
<ul style="list-style-type: none"> <li>•Plastics can be formed using a variety of processes</li> <li>•Blow moulding – forming hollow plastic items</li> <li>•Extrusion – creating objects with a cross section profile</li> <li>•Injection moulding – injecting softened plastic into a mould</li> <li>•Vacuum forming - sheet of softened plastic forced onto a mould</li> </ul>	

### Metals and Alloys

- Metals have been essential in the development of civilisation
- The word 'metal' comes from the ancient Greek word 'metallon' which means to mine, excavate or extract from the ground
- The Earth's crust contains many types of rock
- Metallic minerals are found naturally in rock or ore
- Ore is obtained by mining and the metals within it are extracted
- Some metals exist as oxides
- Metals such as copper, iron and zinc are oxides. These are heated with carbon to extract the metal
- Electrolysis is used to extract metals such as aluminium
- Ferrous metals contain iron and may rust
- Iron and steel can corrode – this is known as rust
- Rust is a compound called iron oxide and is formed when iron and oxygen react in the presence of moisture or water
- Metals are rarely used in their pure form. Alloys are made by combining two or more elements

## Key Words

- **Media/Medium** - The materials and tools used by an artist to create a piece of art.
- **Technique** - The skill in which an artist uses tools and materials to create a piece of art.
- **Abstract** - A piece of art which is not realistic. It uses shapes colours and textures.
- **Style** - The technique an artist uses to expressive their individual character of there work.
- **Composition** - The arrangement and layout of artwork/ objects.
- **Highlight** - The bright or reflective area within a drawing/ painting where direct light meets the surface of the object or person.
- **Shadow, shade, shading** - The tonal and darker areas within a drawing/painting where there is less light on the object or person.
- **Texture** - The feel, appearance or the tactile quality of the work of art
- **Mark making** - Mark making is used to create texture within a piece of art by drawing lines and patterns.
- **Collage** - A piece of art made by using a variety of materials such as paper/ newspaper/photographs which are cut out, rearranged and glued on a surface.

## The Colour Wheel



There are different categories of colours based on the **colour wheel**: primary, secondary, tertiary, warm, cool and complimentary

**Primary Colours:** Red, yellow and blue  
In traditional colour theory (used in paint and pigments), primary colours are the 3 pigment colours that cannot be mixed or formed by any combination of other colours. All other colours are derived from these 3 hues.

**Secondary Colours:** Green, orange and purple  
These are the colours formed by mixing the primary colours.

**Tertiary Colours:** Yellow-orange, red-orange, red-purple, blue-purple, blue-green & yellow-green  
These are the colours formed by mixing a primary and a secondary colour. That's why the hue is a two word name, such as blue-green, red-violet, and yellow-orange.

## Colour & Value

Colour is light reflected from a surface. There are 3 qualities hue, value and intensity.

Value is one of the seven elements of art. Value deals with the lightness or darkness of a colour. Since we see objects and understand objects because of how dark or light they are, value is incredible important to art.

## Elements of Art

**SHAPE:** Shape encloses a two dimensional area. Geometric or organic.



**FORM:** Form encloses a three-dimensional area. It's the three-dimensional analogue of shape.



**LINE:** The edge of a shape or form or the direction followed by anything in motion.



**COLOR:** Light reflected from a surface. Three distinct qualities: Hue, Value, Intensity.



**VALUE:** Shadows/shades from lightness to darkness.



**SPACE:** The area between and around objects. Positive, negative, or three-dimensional.



**TEXTURE:** The surface quality of an object that we sense through touch.



## Tints and Shades

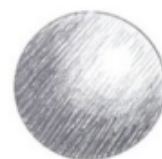
When dealing with pure colour (hue), value can be affected by adding white or black to a colour. Adding white to a colour produces a tint...



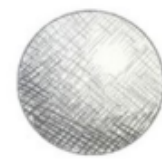
Adding black to a colour produces a shade...



## Shading Techniques



Hatching with parallel lines is the same as cross hatching, except you are making all the lines go in the same direction.



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Creating shades by "smudging" the applied shade. This is done by pressing and smearing the applied graphite with your finger, a soft cloth or a "stump".



Creating shades through a series of dots. Building up more dots closer together results in darker shading.