

Textiles: Toolbelt

THE 6 R'S OF SUSTAINABILITY

1. RETHINK

Ask ourselves the question: "Do I really need this?"

2. REFUSE

Say NO to single use plastics and other non-sustainable materials

3. REDUCE

Make decisions that decrease waste

4. REUSE

Consider what can be used again

5. RECYCLE

Turn old products into new materials

6. RETHINK

Re-examine our habits and needs to find sustainable alternatives.

Natural Fibres



Man-made Fibres



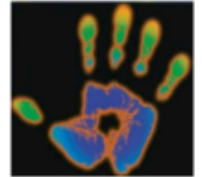
SMART Material	Property
Hydrochromic Ink	Changes colour with water
Thermochromic Pigment/ Paint	Changes colour with heat
Photochromic Material/ Dye	Changes colour with light
SMA - Shape Memory Alloy	Changes shape with heat
Phosphorescent Material	Glow in the dark
QTC – Quantum Tunnelling Composite	Soft Electrical Switch
Polymorph	A thermoplastic use for prototyping which can be reheated and reused

Thermochromic pigments are added to plastics and react to specific temperatures. One use is enhancing the safety of a baby's bowl.

Hydrochromic paint is added to the charger socket of the Apple iPhone so Apple knows when there has been water damage which voids the warranty.

Phosphorescent Materials absorb day light, store it and release it during periods of darkness. This has been extensively used for safety lighting, signage, watch faces and those glow in the dark stars kids have on their bedroom ceilings.

Thermochromic paints can be added to any surface like these mugs or a textiles or card based product to react to heat.



Textiles & their working properties

Absorbency - soaks up water/sweat

Strength - strong, doesn't break easily

Elasticity - has some stretch

Warming/cooling - traps air/air flows through

Flammability - ability to catch fire

Durability - hard wearing

Crease resistance - does not crease

Comfort - soft against skin

Drape - hangs well

Water repellent - ability to repel water

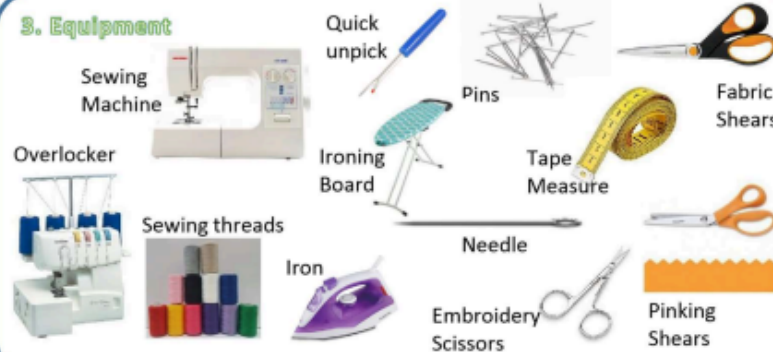
Shrink resistance - will not shrink when washed

Thermoplastic - will soften when heated and can be heat-set into new shapes that it will maintain when cooled (synthetic fibres)

Lightweight - not heavy/dense

Texture - smooth or coarse

3. Equipment



4. Key Terminology

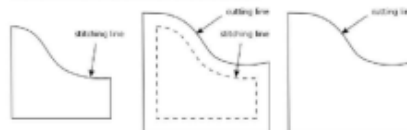
Pattern

This is the term given to a paper template to aid in the cutting out of fabric for accurate construction.



Seam Allowance

This is usually a 1cm 'border' around your pattern to allow for construction to be the correct size.



Right Side

This is the 'correct' side of the fabric that you wish to see.

Wrong Side

This is the side of the fabric that you do not wish to see.



Pressing

This is the term given when ironing your product; e.g. press your seams open, would refer to when an open seam is sewn and they need to be pressed outwards to give a flat finish.

QTC (Quantum Tunnelling Composite) is a simple soft switch material that allows an electrical current to flow when compressed. We can use it in children's toys or in many textiles products such as the jacket right >



Photochromic pigments react to changes in light. One example is reaction lenses where they darken with sunlight.

