Knowledge Organiser - Year 8 Textiles

Product Analysis

A is for	**Aesthetics**
C is for	**Cost**
C is for	**Customer**
E is for	**Environment**
S is for	**Size**
S is for	**Safety**
F is for	**Function**
M is for	**Material**
M is for	**Manufacturing**

Fabric Properties

Fabric properties are the characteristics of a specific fabric. The properties of a woven fabric are very different to a knitted fabric. We need to understand how fabric behaves and performs to pick the most suitable fabric for the end use. Key properties are: **weight, drape, strength, breathability, durability, softness.**
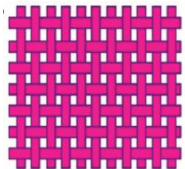
Fabric Construction

Fabric is made by weaving or knitting yarns together.

Knitted
The yarns are knitted together in loops to create a stretchy fabric.

Woven
The yarns are interlaced at right angles creating a strong, stable fabric.

Construction Techniques

Plain Seam
A seam is the method of joining two pieces of fabric together with a line of stitching. Marking out **your seam allowance (1.5cms)** is vital.

Fabric is right sides together

Wrong Side Of Fabric   Seam
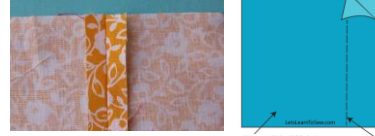
Double folded hem
A finishing method where the raw edge of the fabric is folded under and stitched in place. **Tacking** is key to an accurate finish.

-fold edge and press

Patch Pocket
A pocket made from a separate piece of fabric and sewn onto the outside of a garment.

Waistband   Leg hem

Centre front/centre back seam   Inside leg seam

Functions of sewing machine parts

Needle	Creates stitching by piercing through the fabric and taking the upper thread and joining it with the lower thread.
Foot Pedal	Controls the machine. The harder you press, the faster the machine will go.
Presser Foot	Holds the fabric in place whilst sewing.
Presser Foot Lever	Lifts and lowers the presser foot.
Hand Wheel	Lifts and lowers the needle. Used to turn corners by lowering the needle into the fabric to make it the pivot point.
Spool Pin	Holds the upper thread in place.
Bobbin	Holds the lower thread on the sewing machine.
Reverse Sewing Button	Reverses the needle to reinforce your stitching at the beginning and end of your stitch line.

CAD & CAM
Many textile and fashion designers use specialised forms of technology such as **computer-aided design** (CAD) and **computer-aided manufacture** (CAM) to speed up the production process, reduce waste, and reduce labour costs overall.

Production Systems – Batch Production

Batch production is a technique used in manufacturing, in which the object in question is created **stage by stage** over a series of **workstations.**

It is manufacturing **set quantities** of **identical** textile products to order in a range of **standard sizes**.

The quantity of products can vary from a set of four cushions made by a designer-maker, to 20,000 jumpers made for a department store.

Workers repeat tasks so can go quicker therefore produce more.

Each batch is completed before the next batch is started.

This system is used for fashion and seasonal items which are regularly changed and aren't required in continual large quantities.

Maths in Textiles - Tolerance in textiles is the amount of acceptable variation from the specified measurement from which you can cut out pattern pieces, add **components** or sew seams. It is measured in + or – mm (millimetres)

When a product is made in a batch, it is often far cheaper per product than making just one.

Example
Assume the cost of 1 m^2 of fabric costs £6.00, and it takes 100 mm × 200 mm of fabric to make one pocket.

Therefore, one pocket **not** made as part of a batch = £6.00
However, a producer could work out the number of pockets that could be cut out from a 1 m^2 of fabric.
$$1,000 \text{ mm} \div 100 \text{mm} = 10$$
$$1,000 \text{ m} \div 200 \text{ mm} = 50$$
$$10 \times 5 = 50$$
Therefore, **50 pockets** could be cut from the fabric.
Batch of 50 pockets = 6 ÷ 50
= 0.12
One pocket = **12p** (in batch)