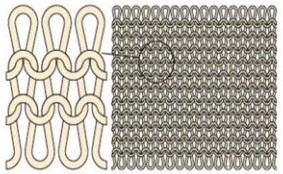
KNOWLEDGE ORGANISER
Year 8 TEXTILES - TOTE BAG THEORY

1. Knitted Fabrics



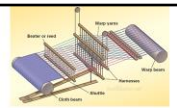
- are made from a series of yarn **loops** that interlink together
- can be made by **machine** or by **hand**
- **stretch** easily and lose shape
- are **warm** to wear, as the loops trap air
- can **unravel** if the yarn is cut.

Knitted products include **stretchy** casual clothing, such as T-shirts, vests, leggings, and also **warm** clothing, such as hats and gloves.

Would this be good for a bag? Why?

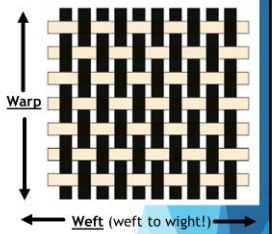
Video: Circular Knitting machine (1 min 20 sec)

2. Woven Fabrics



Weaving is done on a loom, with warp and weft yarns:

- **Weft** yarns run across the **width** of the fabric.
- **Warp** yarns run along the **length** of the fabric.
- Weft yarns **interlace** with warp yarns in an 'over-under-over-under' configuration.



Woven fabrics are **strong** and **stable**.
They **don't stretch** but will **fray** if cut.

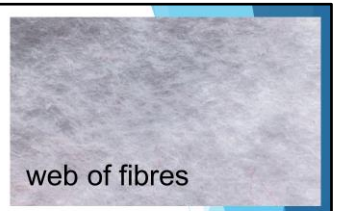
Woven products typically include smart trousers, shirts, dresses, skirts, carriers and bed clothes.

Would this be good for a bag? Why?

Video: Commercial Weaving on Loom (2 min 20 sec)

3. Bonded Fabrics (non-woven)

Bonded fabrics are made by applying pressure and heat directly onto a **web** of fibres, sticking them together. They are:



- quite **cheap** to make
- not strong and **easily torn**
- ideal for **disposable** products
- often used to **reinforce** other fabrics.

Products made from bonded fabrics include:

- face masks
- protective suits
- cleaning cloths.

Would this be good for a bag? Why?

Video: Non-woven fabric production (30 sec)

Fibre Properties - 5 min challenge - fill in any missing words . . .

Fibre (natural & synthetic)	Source	Properties / Characteristics	Example Products
Cotton	cotton plant	Creases, absorbant, strong, breatheable	furnishings, bedsheets, clothing, sewing threads
Linen	flax plant	Lumpy, absorbant, strong, breatheable	summer clothing, soft furnishings, table linen
Silk	silk worm cocoon	Shiny, sheer, warm	Luxury clothing and lingerie, soft furnishings
Wool	sheep, llama, goat	Warm, absorbant, shrinks	Coats, jackets, jumpers, socks, blankets, carpets
Polyester	petroleum	Versatile, strong, not absorbent, thermo-plastic (melts)	Used in all clothing and furnishings
Nylon	petro-chemicals	Elastic, strong, not absorbent, thermo-plastic (melts)	Clothing, carpets, tents, ropes
Acrylic	petroleum	Insulator, strong, not absorbent, thermo-plastic (melts)	Knitwear, fake fur, upholstery

Let's do some analysis . . .

Discuss these research images. Identify if any specifications have been met. (2 mins)

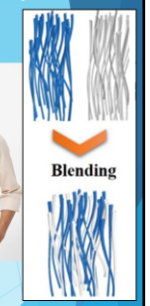
Now just look at the **LOGO** designs. The process is **HEAT TRANSFER PRINTING**

- Which are personalised?
- Which stand out best?
- Which size is best?
- Which would be the most expensive? Why?

1. Blended Fibres (Enhancing Fibres)

- Fibres (hairs) are the raw materials of textiles. Each type has its own **characteristics** or **properties**, e.g:
  - cotton fibre is absorbent and cool to wear
  - polyester fibre is not absorbent but strong

Blending or mixing fibres combines the best properties of each. Brilliant!



- **Polyester cotton** is a blended fibre (50% / 50%). It will be cool to wear (like cotton), but will dry more quickly, (like polyester) because it absorbs less water.
- Many shirts, bags & bed sheets are made from '**polycotton**'. It is also cheaper than 100% cotton.

2. Combined Fabrics (Enhancing Fabrics)

Textile fabrics can be **combined** to improve their qualities.

Laminated (bonded) fabrics are where two or more fabrics are glued together to create a **layered** material

Compared to plain fabrics, laminated fabrics have **combined** properties (greater strength, durability or waterproofing.

They are great for outdoor clothing, sanitary products like cloth nappies, mattress protectors, bibs, wet bags and tablecloths.

Can you think of any other products?

A neoprene mouse mat. A thin, blue knitted fabric is laminated to a black rubber fabric (neoprene). This feels soft to your hand but is non-slip underneath. ***Combined properties!!***

What is GORTEX?

What are HEMS?

You know that a SEAM is where two pieces of fabric are sewn together, right? So what are HEMS?

Hems are found along the edges of fabric products, e.g: at the bottom of trouser legs or skirts, along the top edge of a bag, or at the ends of cuffs. Look at yours now. Can you see that the fabric edge is folded under twice and sewn in place? This stops the edges from fraying and looking untidy.

Sometimes the hem has MACHINE TOP STITCHING which is visible like on jeans. Hems can also be stitched invisibly on the inside. What do you have?

You will sew a hem along the top edge only of your bag, and also of your pocket if you have one.