


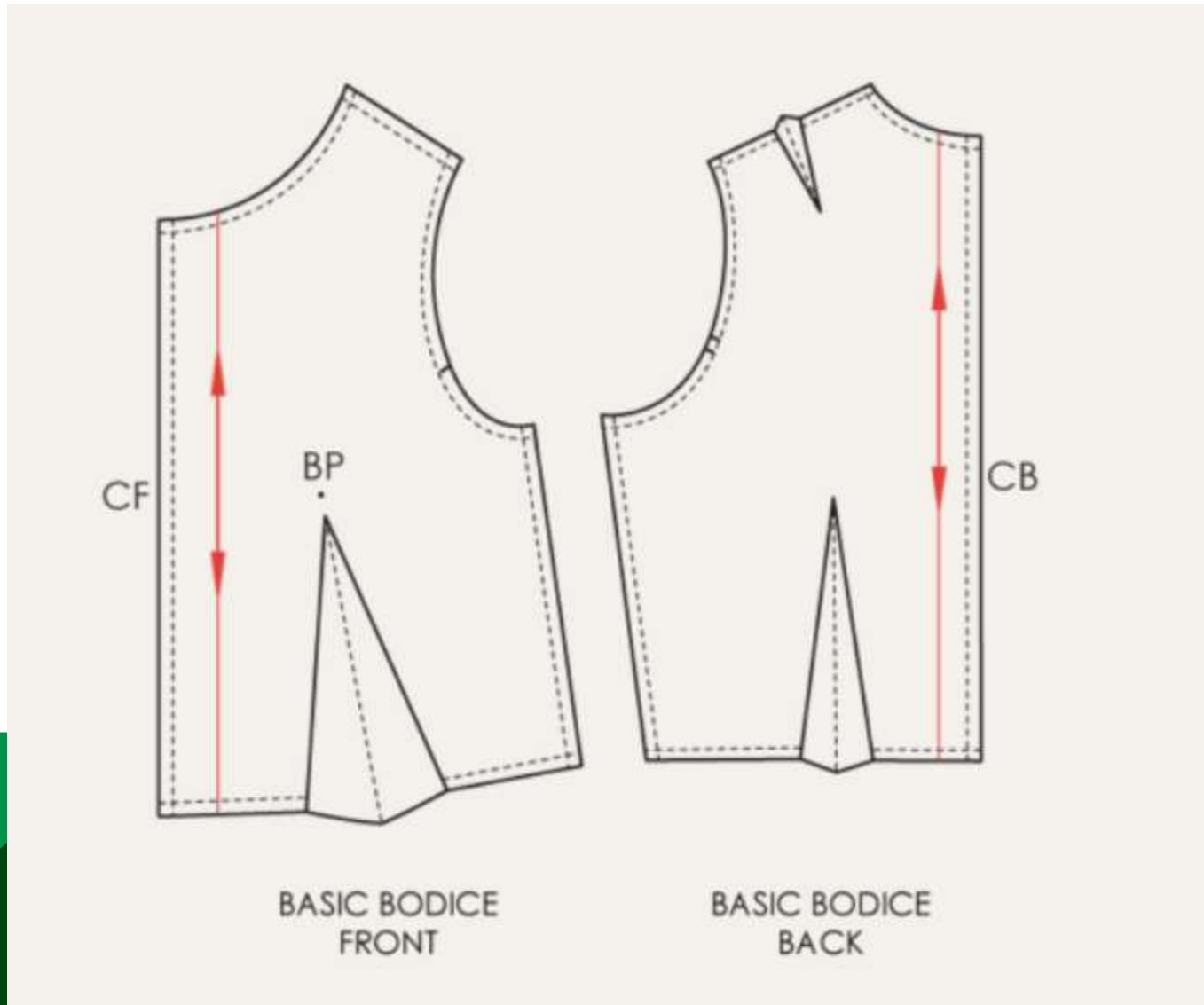
TEXTILE BASICS

BIAS AND GRAIN LINE

HOW DO WE NOTICE GRAIN LINES

- grain lines are generally unnoticed
 - grain lines appear if a garment is sewn together incorrectly
 - grain lines also appear when we want create a certain effect in a garment.
 - Also grain lines can be ignored when trying to get a certain effect for example lining up stripes or using opposing stripes (vertical on one side and horizontal on the other).
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VISUALIZING GRAIN LINES (RED VERTICAL LINES IN THE IMAGE BELOW)



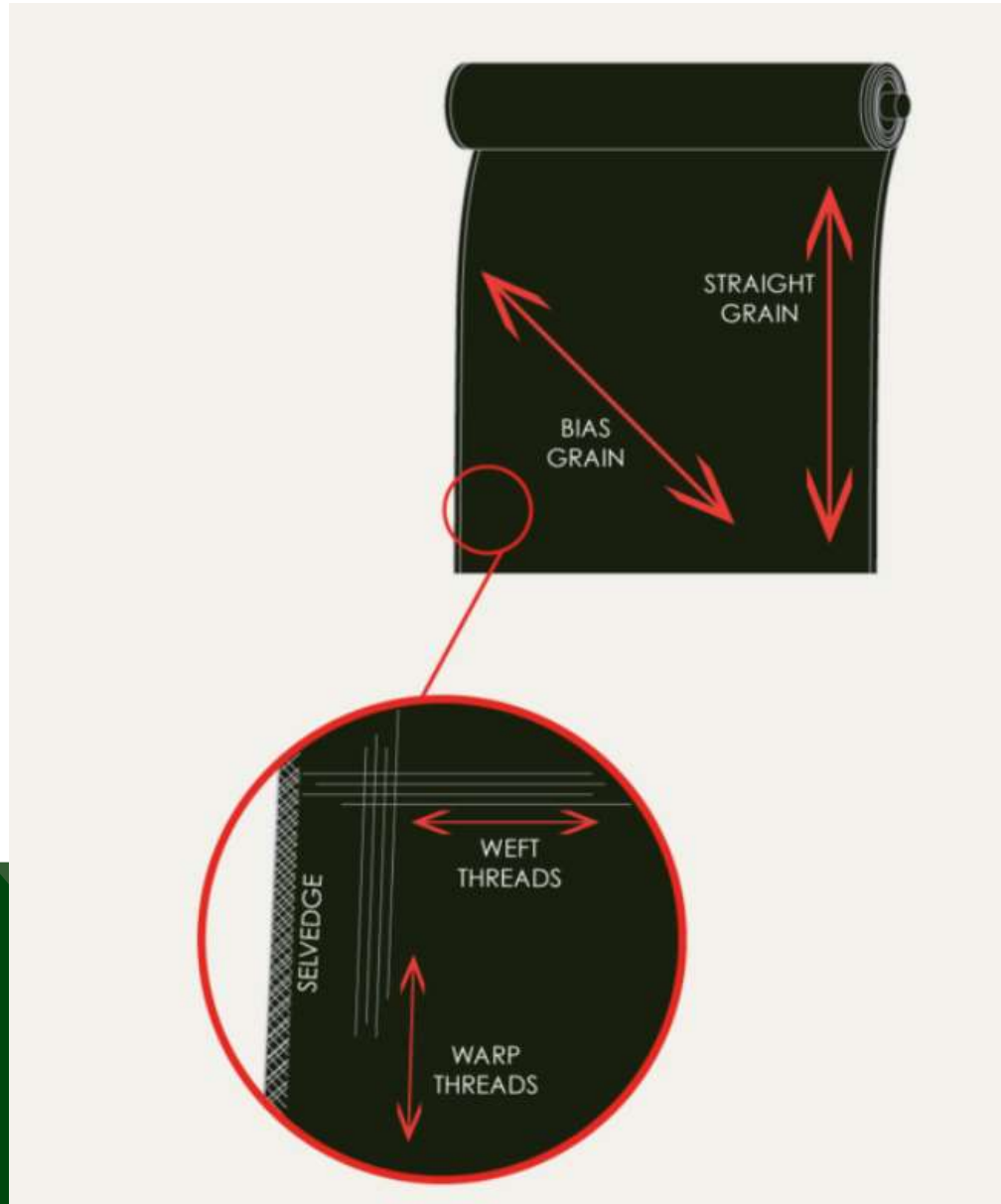
WHAT IS A GRAIN LINE?

- When fashion designers and pattern makers talk about grain lines they are referring to the way that a pattern is cut out when it is laid out on a piece of fabric.
- Basically, fabric is woven from thread going in two different directions and it is sometimes easiest to remember that fabric is built on tiny squares of threads which criss-cross each other.

WARP AND WEFT

- The warp thread runs up and down while the weft thread runs right to left (You can rhyme weft with left to remember which one is which).
- The reason why these threads are important to grain lines is that they each react in different ways.
- The warp thread is generally the stronger of the two and is the least likely to stretch out of shape.
- So for example on the straight front placket of a shirt, you don't want it to go out of shape so if you align it with the strongest threads then it will hold it's shape better.

VISUALIZING WARP AND WEFT



WHAT IS STRAIGHT GRAIN?

- The straight grain is the grain used most often in garments.

WHAT IS STRAIGHT GRAIN?

- The straight grain generally runs up centre front and centre back of garments and up through the centre of sleeves and pant legs.

WHAT IS STRAIGHT GRAIN?

- In situations where a garment is cut slightly off grain this may cause sleeves or pant legs to twist around the body.

WHAT HAPPENS WHEN STRAIGHT GRAIN IS NOT FOLLOWED?

- You often see this as a problem in cheap t-shirts because the fabric weave does not hold a solid grid pattern, making the fabric hard to cut correctly and causing the garment to be made up out of pieces which are off grain.

HOW TO MAKE WAISTBANDS KEEP THEIR SHAPE.

- On areas such as waistbands which hold tension, you want the strongest thread to run around the body so you would cut your waistband patterns following the straight grain, ie parallel to the selvedge.
- The selvedge is the band of more tightly woven fabric that runs up either side of the fabric meterage. If you imagine the fabric being woven on a loom then these are the edges where the thread turns back on itself to begin weaving the next row.

CUTTING ON A BIAS

- In contrast to the straight grain you can also design garments which use the grain on a 45 degree angle, this is called a bias cut.
- This effectively means that of that tiny weave of fabric you are going diagonally across the squares and making the fabric much more unstable.

CUTTING ON A BIAS

- **But while unstable sounds like a negative it can sometimes be what you need for a garment.**
- **It creates the ideal flexibility for creating bias cut dresses where you need the fabric to mould better to the body and will probably allow for less darts.**

THE IMPORTANCE OF GRAIN LINES

- You always need to be careful of how different grain lines affect each other when they meet at seams though, as sometimes seams can stretch when cut at a strange angle or on different grains to each other and this can cause puckering.

TYPES OF FABRIC

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- The types of fabric include manmade and natural

TYPES OF FABRIC

MANMADE

- **Acetate**
- **Chiffon**
- **Acrylic**
- **Organza**
- **Lastex**
- **Nylon**
- **Velvet**
- **Polyester**
- **Taffeta**
- **Denim**
- **Rayon**
- **Spandex**
- **Georgette**
- **Viscose**
- **Polypropylene**
- **Satin**

NATURAL

- **Cotton**
- **Silk**
- **Linen**
- **Wool**
- **Leather**
- **Ramie**
- **Hemp**
- **Jute**

PROPERTIES

MANMADE

- **Completely inorganic or the combination of organic and chemicals**
- **They have a variety of properties**
 - Can wick away moisture
 - Fast drying
 - Light weigh
 - Sheer
 - Strong
 - Tough
 - Some can imitate natural fabrics

NATURAL

- **Created from natural fibers**
 - Animal coats
 - Cocoons of silkworms
 - Plant seeds, leaves or stems
- **Breathable**
- **Durable**
- **Soft**
- **Best choice for all**

MANMADE FABRIC EXAMPLES

SATIN



CHIFFON



MANMADE FABRIC EXAMPLES

SPANDEX



DENIM



NATURAL FABRIC EXAMPLES

COTTON



WOOL



NATURAL FABRIC EXAMPLES

SILK



JUTE



ANSWER THE FOLLOWING QUESTIONS AND HAND IN (YOU CAN WORK IN GROUPS)

MANMADE FABRICS

- **How are they different from natural fibers?**
- **What is a problem with manmade fabrics?**

NATURAL FABRICS

- **What is a challenge with natural fabrics?**
- **Can people have an allergic reaction to natural fibers?**

HAND SEWING

WHAT IS HAND SEWING?

- **Hand sewing is the process of sewing clothing and other items by hand.**
- **This means without the use of a sewing machine.**

WHY IS IT IMPORTANT TO KNOW HOW TO HAND SEW?

- It allows you to repair your own clothing.
- It allows you to wear your clothing for a longer time.

WHEN A GARMENT IS NO LONGER REPARABLE, WHAT CAN WE DO?

- 1. We can use it as rags**
- 2. It can be used as scraps to make something else.**
- 3. It can be used to patch another garment.**

REFERENCES

- A Basic Explanation of Grain Lines: <http://www.thecuttingclass.com/grainlines/>
- Type of Fabrics: <http://www.textileschool.com/articles/330/type-of-fabrics>