



Marvelous
Materials



ACTIVITY
Knit Bombing Version

Fabric Structures for Movement

Fashion
through science

CLOTHES ARE IMPORTANT:



**THE RIGHT
CLOTHES CAN
MAKE WORK AND
PLAY EASIER.**

WHAT MAKES CLOTHING COMFORTABLE?

Clothing comfort is determined by how easily the body can move.

Different *fabric structures* allow for movement in different ways.

Stretch fabrics make it easy to move.
(that is one reason our t-shirts & sweatpants are so comfortable!)



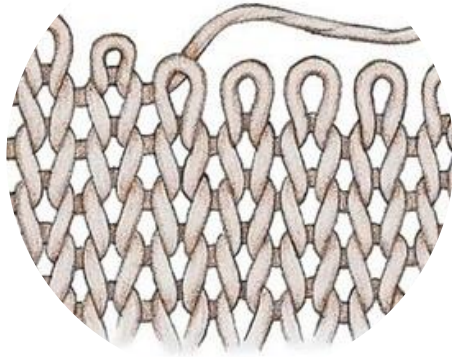
Textiles



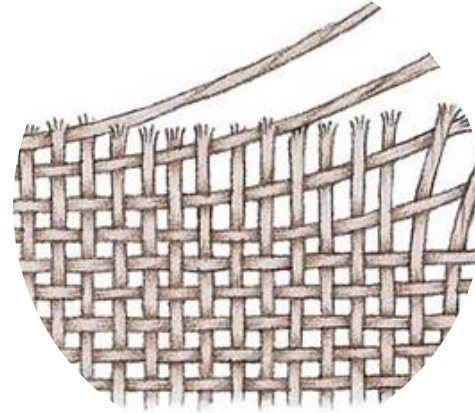
Clothing is made from textiles and other materials.

Textiles are “engineered” or designed to have special properties.

Clothing is made of textiles **STRUCTURED** like these:



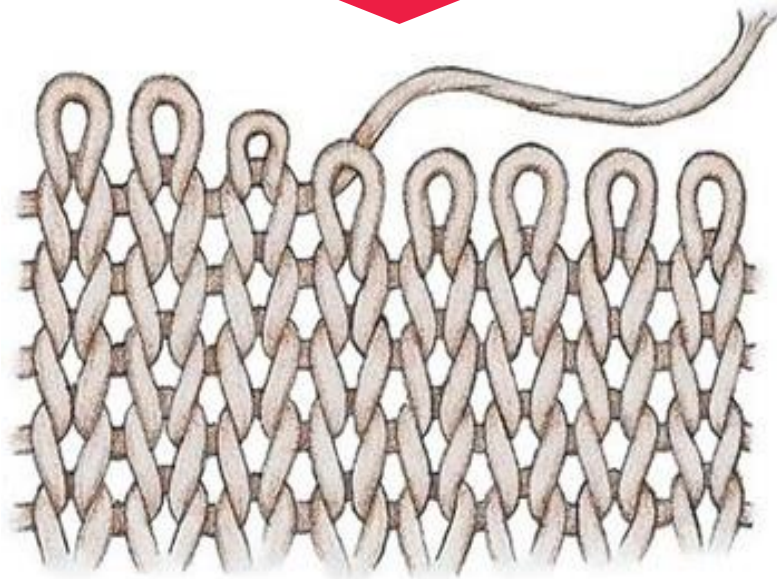
Knit textiles are made from one very long yarn, looped together!



Woven textiles are made from many yarns, interlaced

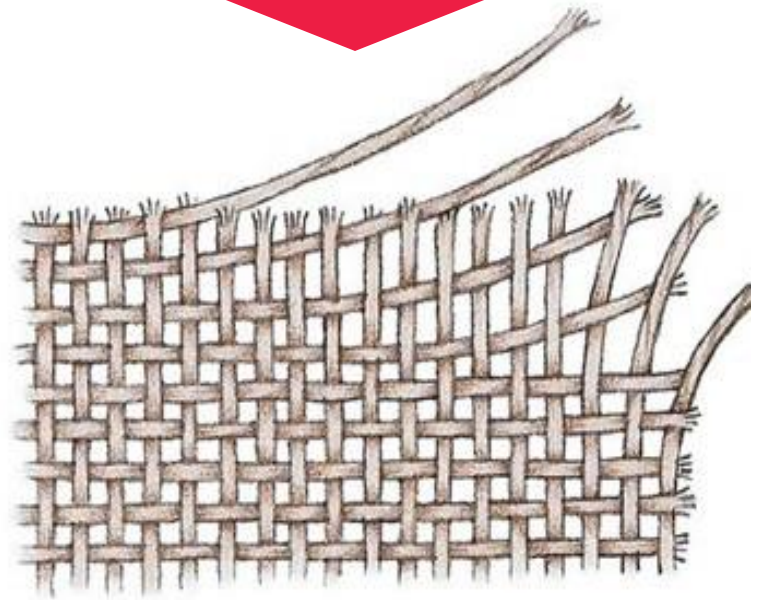
REMEMBER THE FABRIC STRUCTURES: **KNITS** and **WOVENS**?

Loops are flexible and
allow fabric to
stretch.



knit material

Interlaced yarns are
difficult to
stretch.



woven material



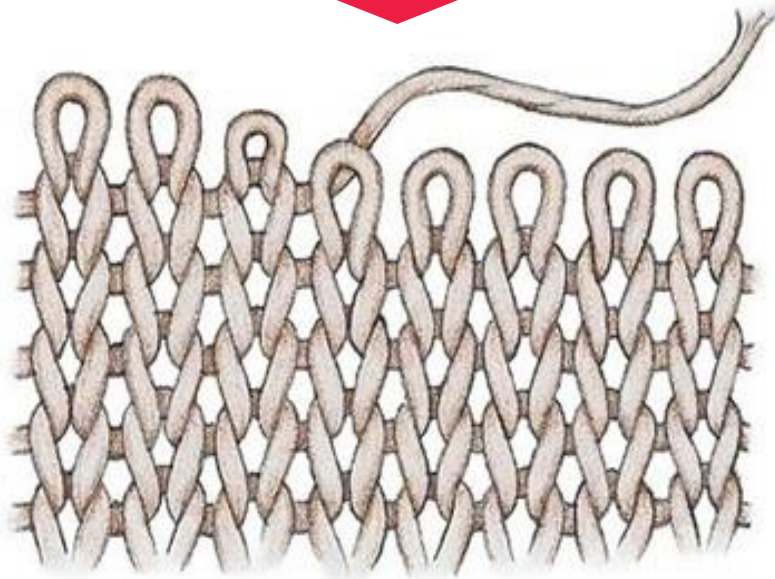
What other Textile Property Affects Mobility in Clothing? **Conformability:** how closely a material can fit to a shape



1. Fit swatches of different fabrics over a ball.
2. Fit the fabric around the ball.
3. Fasten with a rubber band.
4. Is your fabric wrinkled or does it cover the ball smoothly?

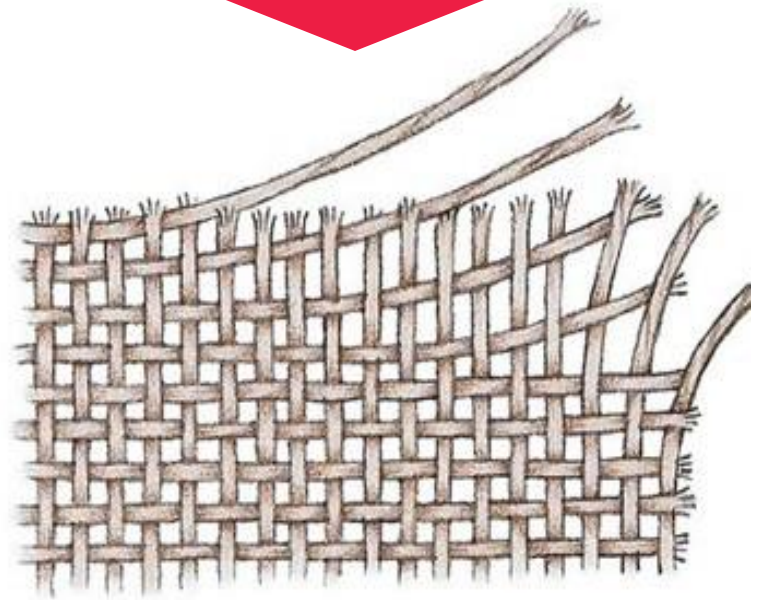
Go back to the fabric structure: **KNIT** vs. **WOVEN**

Flexible loops allow
knits to conform to
shapes



knit material

Interlaced yarns make
wovens more difficult to
mold to a shape



woven material

Try wrapping other
shapes...



Time to Knit Bomb!!!!

HOW TO KNIT BOMB

- 1 Find an object and smooth fabric around it.



- 2 Fasten the fabric to the object.
- 3 Observe what happens to the knit structure.
- 4 Take a photo of your knit bomb!



Summary



One aspect of clothing comfort is how easily the body can move while wearing the garment.

Different types of *fabric structures* move with and conform to the body in different ways.

The right clothes make work and play easier.

Image Credits

- 1: http://www.northface.com/en_US/exploration/expeditions/5-antalya-turkey/
- 2: http://vi.sualize.us/sofia_boutella_street_dance_2_photography_career_options_love_i_like_picture_FvKJ.html
- 3: <http://brownstreetbespoke.com/tag/handprinted/>
- 4: <http://www.onelittleminuteblog.com/2013/01/knit-fabric-and-selection-stretch-yourself/>
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