Felting, Knitting and Crocheting
Wovens, Knits & Nonwovens
Wovens

- woven on a loom
- consists of vertical (warp) and horizontal (weft) threads that cross each other
- stretches on the bias (diagonal)
Knits

- flexible
- can be constructed to size (hats or socks)
- warp knit (machine): lace, lingerie, tricot, hard to unravel
- weft knit: can be unraveled horizontally, cheaper to produce
Nonwovens

- long strands of fiber that are bonded together via heat, mechanical, chemical, or solvent treatment
- eg: filters, geotextiles, diapers, insulation, medical equipment (surgical gowns)
The Burn Test

*make sure you have water close by in a metal container and are in a well-ventilated area*

- **Cellulose** (cotton, hemp, linen, rayon, bamboo): lights quickly, smell like burnt paper, ash is light grey
- **Protein** (silk, wool, cashmere, alpaca, etc): burns slowly, smell like burnt hair, ash is dark and brittle
- **Synthetics** (nylon, polyester, acrylic): can burn and shrink quickly, may form plastic drip, black smoke

Resource
Felting

Process of creating objects using bonding fibers.
sheep

angora goats (mohair)

angora rabbit

beaver
Wet Felting

Using water and soap to create felted objects. **Tutorial**
Felting

- earliest examples found in 6000 BCE, origins primarily in Europe and Asia
- used for insulation and protection

making a robe for Bakhitari shepherds (Iran)
Horse saddle cover, Siberia, 300 BCE
Felt Makers-Terelj, Mongolia

https://www.youtube.com/watch?v=J1H2LepsF4I
Yurts!
Felting other objects!
Russian valenki
Fulling (boiled wool): felting a knitted or woven object after it is made

Fulling of woven cloth à la 10th century English methods using human urine

https://www.youtube.com/watch?v=cdJVqPQXG9I
Needle Felting

- 19th c. industrial felting machines used rows of sharp barbed needles
- 1980’s became tool for home crafting

https://www.youtube.com/watch?v=sDz5J4l-ETO
http://www.feltcrafts.com/new-machines.html
Jule Waibel, industrial felt seats steam folded
DEMO: Wet and Dry Felting
Knit vs. Crochet

Creating interlocking loops using a continuous strand of yarn
socks, made in Egypt in the fourth or fifth century

3rd century sock, Egypt using naalbinding technique (one needle knitting)
Nålebinding still practiced in Peru, Scandinavian countries, Balkans

https://www.youtube.com/watch?v=527c5ayqrik
- ~10th century, Egypt
- knitted Khufic (Arabic) blessings in pattern
- cotton yarn
• 1275, Spain: liturgical gloves
• considered luxury items reserved for royalty or wealthy
• by 1400’s, demand rose and knitting guilds and cottage industries established
• knowledge of technique spread

Secret History of Knitting
British sailors, WWI

Estonian socks
Unraveling for material reuse
Stocking Frame

- 1589, Nottingham England: William Lee
- imitates handiwork of hand knitters
Circular sock machine

Flatbed knitting machine
History of Sock Manufacturing

https://www.youtube.com/watch?v=u40IM5V1Zg8
Bolivian women knitting high tech medical products. Nit Occlud device which was designed by cardiologist Franz Freudenthal and is used to treat heat problems in children. Device remains folded as it travels through blood vessels.

https://www.youtube.com/watch?v=dHDDQVB2SnE
OpenKnit - Gerard Rubio

SOURCE: OPENKNIT.ORG

https://makezine.com/2014/02/20/openknit-an-open-source-knitting-machine/
https://vimeo.com/86987828
Kniterate: the Digital Knitting Machine

$7,699.00 $7,499.00

Until February 19, 2019
(Only 45 available for 18 more days)

Crochet origins are unknown, although it is speculated that it most likely developed from Chinese needlework referred to as tambouring, which reached Europe around 1700.

re-creation of first crochet pattern from 1823

19th century crocheted lace developed in Ireland as substitute to expensive true lace. Irish lace was taught widely as famine relief. 12,000 women were working in crochet by 1857 in Ireland.
One of eight scarves Queen Victoria crocheted for presentation to members of her forces fighting in South Africa. This is the scarf awarded to Private R.R. Thompson on display at the Canadian War Museum.
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