

Knitting

Knitting is one of the oldest methods of fabric construction and still accounts for 35% of commercial fabric production. Creating a human knitting machine allows you to explore:

- The history of knitting
- The nature of materials used
- The nature and design limitations/possibilities of the fabric produced
- An understanding of the construction of the fabric.

In essence, it is frame knitting (also called French Knitting or Corking) but replacing hooks or pins with people!

French Knitting is a good way of producing a knitted cord or rope. Many older people will have fond memories from their childhood of French Knitting or corking as it is known in the North of England. The wool is worked on a 'doll' which consists of a cylinder with four or more nails or pegs at the top, traditionally a cotton reel was used but now purpose made 'doll's can be bought from most craft shops.

Human Knitting Machine Workshop

Exploring fabrics

- Leather
- Felted
- Knitted
- Woven
- Plastic

What are their different properties? Are they stretchy? Strong? Soft? Transparent? What noise do they make? Will they tear or cut easily?



Focussing on Knitting

Why Knitting? Durable, economical, has elasticity.

The difference between threads that are inherently elastic and fabrics that are elastic because of construction.

Exercise I

Using loops of elastic tape, work with 2 other people to stretch the tape into different shapes:

- Triangle
- Square using your heads

- Rectangle using your feet
- Pentagon Star

Exercise 2

Using a fabric that is elastic in both construction and nature (lycra), as a group stretch the fabric over heads and bodies to create a spiky creature or multi-headed monster.

Exercise 3

Using a magnify glass, examine the construction of knitted fabric looking for lines or stitches.

Exercise 4

The human knitting machine, please see below.

Exercise 5

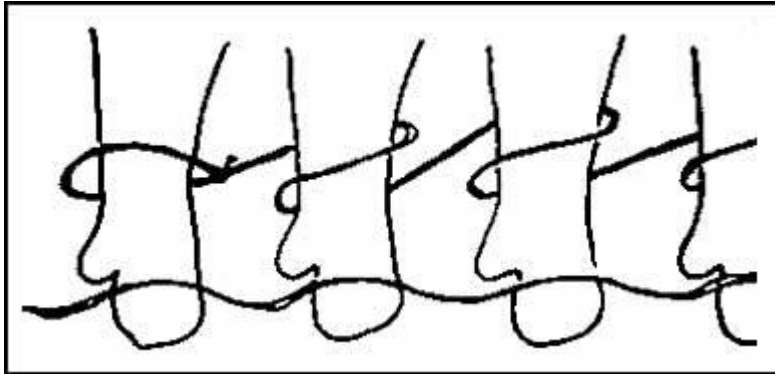
Bouncing sponge and hard balls on the knitted web. Stretching the web into different 2 and 3 dimensional shapes. Relaxing and stretching the web.

Instructions for creating a human knitting machine

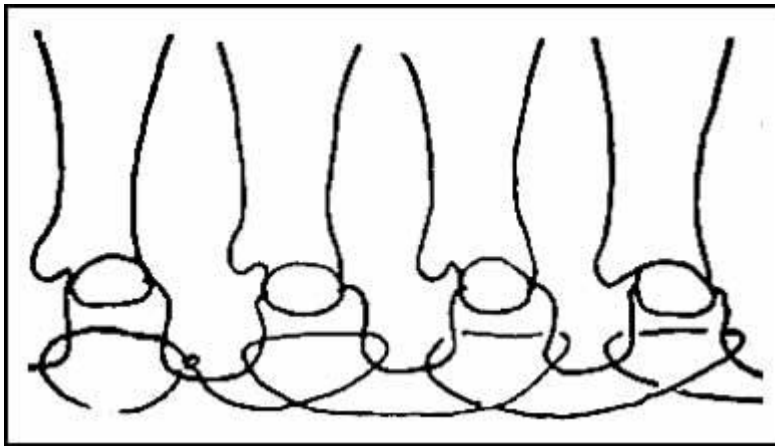
You can use any thread or string to knit with but thick, soft elastic threads are best. The whole exercise will take about 20 minutes so make sure that everyone is able to stand or sit for this long. You can produce the knitting in a straight line or a circle; the circle best represents commercial manufacture where all knitting is done on circular machines.

1. Stand people in a circle all facing the same direction.
2. Everyone raises his or her right hand to waist height in a circle
3. Fasten a fixed loop of the thread around the wrist of the first person and then continue around the circle looping the thread under and over each person's right wrist.
4. This is the difficult bit. When you reach the first person, place the thread in the palm of each person's hand, they then close their fingers around the thread and lift the loop on their wrist over the one in their hand. The thread in their hand is then moved to their wrist ready for the next stitch.
5. Repeat 4 until your knitting is as long as you want it.
6. To finish, unwind enough thread to go around the circle and cut it off the ball of the thread. Pass this end through each wrist loop in turn; this prevents the knitting from unravelling.

1st row



2nd row



Building a textile structure workshop

Materials:

- Bamboo canes
- Plastic hazard tape
- Masking tape
- Thread, ribbon or wool

Exercise I - Wrapping the Canes

Now we are going to be a 'machine' that winds the hazard tape around the canes. First, we fasten the hazard tape onto the end of the cane using masking tape, this will look a bit like a whip. Now, with a child at each end we turn the cane, this winds the tape onto the cane. With a third child guiding the tape it will cover the tape evenly and quickly. Now that we know how to do it we can have a whole factory of machines wrapping canes. To make the exercise even more like a factory you can make the sounds of the machines as they wrap the canes.

Exercise 2 - Building the Structure

You will need 24 canes to make the structure depicted on the film. Use 20 of them to make 5 squares; taping the corners together with masking tape. Tape a small cross brace into the corners of each square. Take one of these squares and use the remaining 4 canes to make a square based pyramid. Will you fit inside the pyramid?

Now we build a cube base onto the bottom of the pyramid. Hold the square base of the pyramid vertical resting one edge on the ground. Fasten one of the squares onto this edge, then rotate the structure 90 degrees until the next edge rests on the ground, fasten the next square onto the edge of the pyramid and fasten these two squares together where they meet. Repeat this will all four sides and then rotate the structure onto its new base.

Exercise 3 - Creating a web within the structure

The web can be made of any fairly strong thread, ribbon or wool. Fasten one end of the thread to the structure and then following the directions from the participants pass the thread back and forth to create a web. When you feel that the web is dense enough the participants can try to pass through the structure without touching the threads.

French Knitting Instructions

Pass the end of the wool through the doll from top to bottom so that 10cm hangs below the bottom of the doll

Using the wool between the doll and the ball, wind the wool once around each peg in turn

When you reach your first peg again, continue but instead of winding the wool around the peg just place it above the previous loop and using a crochet hook or bodkin lift the bottom loop up and over the wool you have just laid there. This will form another loop and release the first loop into the centre of the doll

Continue around the doll in the same direction knitting as you go, it will help keep the tension even if you keep giving the bottom thread a gentle pull.

When your cord is as long as you want, cast off by cutting the wool and passing the cut end through the loops thus preventing the knitting unravelling.

