General

Numeracy with Knitting

Background

Knitting can be used to aid understanding of the concepts of perimeter, area, speed, and pattern. 3D objects can be made, following basic patterns and charts, which require similar skills to those needed in computer programming. Stitches can be used to create illusions, and pieces can be stitched together to make models of organs, puzzles, and much more.

You will need...

- ✓ a ball of yarn with needles of a suitable size
- ✓ a measuring tape
- ✓ scissors
- ✓ a timer
- ✓ a simple charted pattern
- ✓ knitting graph paper

Follow these steps

1. Teach the students to cast on, knit, and bind off.
2. Once they are comfortable, get them to predict how long it will take them to knit one row, five rows, ten rows. Time them. Students should work out their stitch rate.
3. Get students to predict how many rows they need to make a square, get them to accurately measure the cast on edge of their knitting and see if their prediction is correct. Introduce the purl stitch to create texture. Once a square is knitted bind it off. These squares can be sewn together to make blankets for charity donation.
4. Small baby hats can be knitted to introduce shaping using decreases.
5. Introduce a picture of a simple charted pattern, and a knitted representation of the chart. Distribute knitting graph paper and allow students to make their own designs using two colours. Distribute yarn and allow students to reproduce their charts.
6. Illusion knitting is done using a chart, allow student to design a shape or work they would like to have in the illusion. This is achieved by alternating knit and purl stitches across two rows. Allow them to experiment to create their own illusions, and have some to hand to use as examples.

So what happened?

Students understand timing, speed, perimeter and area. They see that a knitted stitch is not a square, so their cast on number is not the same as their rows needed. This introduces the idea of gauging, and can be useful in scaling for garment design.

Creating a chart and reproducing it in their knitting allows students to see input and output, key skills for programming.

What next?

1. Knitted models of body organs, microbes and proteins for Biology
2. Resistors and planets for Physics
3. Periodic table of elements for Chemistry